

Documents

Abdel Salam, F.W.^a, El-Khabeary, H.^a, Ahmed, M.M.^b, Abdel Reheem, A.M.^a

Improvement of four anode rods ion source

(2011) *Review of Scientific Instruments*, 82 (3), art. no. 033304, .

DOI: 10.1063/1.3554637

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Abstract

In this work, an improved form of a saddle field ion source has been designed and constructed. It consists of four anode rods made from copper and two copper cathode discs. The two cathode discs are placed symmetrically on both sides of the four anode rods. The electrical discharge and output ion beam characteristics were measured at different pressures using argon gas. The optimum distance between each two anode rods was determined. Also the optimum distance between the four anode rods and any cathode disc was obtained. It was found that the optimum distance between each two anode rods equal to 6 mm, while the optimum distance between the four anode rods and any cathode disc equal to 16 mm, where a stable discharge current and maximum output ion beam current can be obtained. The effect of negative extraction voltage applied to both the extractor electrode and Faraday cup on the output ion beam current was studied. The sputter yield of copper and aluminum targets using argon ions of different energies was determined. © 2011 American Institute of Physics.

Document Type: Article

Source: Scopus

Mahmoud, S.S.^a, El-Sakhawy, E.^b, Abdel-Fatah, E.S.^c, Kelany, A.M.^b, Rizk, R.M.^b

Effects of acute low doses of Gamma-radiation on erythrocytes membrane

(2011) *Radiation and Environmental Biophysics*, 50 (1), pp. 189-198. Cited 4 times.

DOI: 10.1007/s00411-010-0333-x

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Abstract

It is believed that any dose of ionizing radiation may damage cells and that the mutated cells could develop into cancer cells. Additionally, results of research performed over the past century on the effects of low doses of ionizing radiation on biological organisms show beneficial health effects, called hormesis. Much less is known about the cellular response to low doses of ionizing radiation, such as those typical for medical diagnostic procedures, normal occupational exposures or cosmic-ray exposures at flight altitudes. Extrapolating from the effects observed at higher doses to predict changes in cells after low-dose exposure is problematic. We examined the biological effects of low doses (0.01-0.3 Gy) of γ -radiation on the membrane characteristics of erythrocytes of albino rats and carried out osmotic fragility tests and Fourier transform infrared spectroscopy (FTIR). Our results indicate that the lowest three doses in the investigated radiation range, i.e., 0.01, 0.025 and 0.05 Gy, resulted in positive effects on the erythrocyte membranes, while a dose of 0.1 Gy appeared to represent the limiting threshold dose of those positive effects. Doses higher than 0.1 Gy were associated with the denaturation of erythrocyte proteins. © 2010 Springer-Verlag.

Document Type: Article

Source: Scopus

Abd El-Rahman, M.^a, El-Khadragy, M.F.^a, Abd-El Hay, H.^b, Gab-Allah, D.M.^b

Effect of some cement components on ion contents in different brain areas of adult male albino mice

(2011) *Journal of Hazardous Materials*, 186 (2-3), pp. 1527-1540. Cited 1 time.

DOI: 10.1016/j.jhazmat.2010.12.019

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Abstract

The aim of this study is to investigate the chronic effect of some cement components on the content of ions in different brain areas in adult male albino mice. It is clear that chronic intraperitoneal administration of 0.0013mg/g aluminum ion caused a significant increase in aluminum, calcium and sodium ions and significant decrease in iron ions, the chronic intraperitoneal administration of 0.00065mg/g iron caused a significant increase in iron, calcium, and sodium ions but No significant change in potassium and aluminum ions. Chronic intraperitoneal administration of 0.0013mg/g silicon caused no significant change in calcium, potassium, sodium, aluminum and iron. Chronic intraperitoneal administration of 0.0013mg/g aluminum, 0.0013mg/g silicon and 0.00065mg/g iron, respectively, - using separating time interval 30min between each - caused a higher elevation in calcium, sodium, aluminum and iron concentrations than the elevation in other groups and no significant change in potassium ions. This may be due to the elevation in glutamate which leads to increase in the intracellular of calcium concentration and the inhibition of membrane-bound Na⁺, K⁺, Ca²⁺ ATPase activity which lead to cellular alterations and may be death. So long-term exposure to cement components as environmental pollutants may lead to neurodegenerative diseases. © 2010 Elsevier B.V.

Author Keywords

Aluminum; Brain; Cement; Ion contents; Iron; Silicon

Document Type: Article

Source: Scopus

Mosa, T.E.^a, Shehatta, A.S.^c, Khayyal, A.A.^a, Sel-Mezayen, H.A.^b, Abo-Zeid, M.M.^c

High serum levels of endothelial adhesion molecules E-selectin, ICAM-1 and VCAM in fatty liver patients (2011) *Asian Journal of Biochemistry*, 6 (2), pp. 160-170.

DOI: 10.3923/ajb.2011.160.170

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Abstract

This search aims to find a correlation between adhesion molecules and fatty liver patients. Raised serum levels of endothelial-leukocyte adhesion molecule-1 (E-selectin), intercellular adhesion molecule-1 (ICAM-1) and circulating vascular cell adhesion molecule-1 (VCAM-1) have been observed mainly in patients with infections, inflammatory and fatty liver disease. Non-Alcoholic Fatty Liver Disease (NAFLD) was diagnosed by persistently elevated ALT and ultrasonographic bright liver with no other liver disease. A study was carried out to analyze whether fatty liver patients with increasing cholesterol and triglycerides is related to the serum levels of E-selectin, ICAM-1 and VCAM-1. Ninety serum samples from NAFLD patients were classified to four groups. The results showed that ALT and AST were significantly higher in fatty liver patients with high TG and cholesterol (group 1), compared to controls (92.16±31.197 vs. 33.56±8.322, p<0.001) for AST and (76.8±28.872 vs. 29.32±6.479, p<0.001) for ALT. While no significant difference was observed between ALT levels of fatty liver (with normal TG and cholesterol) and controls (32.36±7.745 vs. 29.32±6.479, p = 0.05). Positive E-selectin samples were found in 88% of patients in group (1), 90% in group (2), 100% in group (3) and 32% in group (4). These values were significantly higher than those in healthy individuals (p<0.0001). High ICAM-1 level was found in 80% in-group (1), 75% in-group (2), 100% in group (3) and 80% in group (4). Level of ICAM-1 in group (1) was extremely significant compared to group (2) (465.44±56.501 vs. 407.48±32.686 p<0.0001 ES). The values of VCAM-1 in group (1) were significantly higher than those in healthy individuals (p<0.0001) and positive VCAM-1 samples were found in 72% in group (1), 35% in group (2), 40% in group (3) and 0% in group (4). In conclusion, there was a significant increase in circulating levels of ICAM-1, VCAM-1 and E-selectin in NAFLD compared to healthy control subjects and it may be used to comprehensively using the ability of circulating VCAM-1, E-selectin and ICAM-1 to predict fatty liver disease and evaluated the relationship between circulating adhesion molecules and fatty liver. © 2011 Academic Journals Inc.

Author Keywords

Adhesion molecule; E-selectin; Fatty liver; NAFLD

Document Type: Article

Source: Scopus

Ebaid, A.^a, Khaled, S.M.^{b c}

New types of exact solutions for nonlinear Schrödinger equation with cubic nonlinearity

(2011) *Journal of Computational and Applied Mathematics*, 235 (8), pp. 1984-1992. Cited 14 times.

DOI: 10.1016/j.cam.2010.09.024

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Abstract

Although, many exact solutions were obtained for the cubic Schrödinger equation by many researchers, we obtained in this research not only more exact solutions but also new types of exact solutions in terms of Jacobi-elliptic functions and Weierstrass-elliptic function. © 2010 Elsevier B.V. All rights reserved.

Author Keywords

Improved F-expansion method; Jacobi-elliptic functions; Nonlinear equations; Schrödinger equation; Weierstrass-elliptic function

Document Type: Article

Source: Scopus

Abdelaziz, D.H.^{a,b}, Gavrilin, M.A.^a, Akhter, A.^a, Caution, K.^a, Kotrange, S.^a, Khweek, A.A.^a, Abdulrahman, B.A.^{a,b}, Grandhi, J.^a, Hassan, Z.A.^b, Marsh, C.^a, Wewers, M.D.^a, Amer, A.O.^a

Apoptosis-associated speck-like protein (ASC) controls Legionella pneumophila infection in human monocytes (2011) *Journal of Biological Chemistry*, 286 (5), pp. 3203-3208. Cited 34 times.

DOI: 10.1074/jbc.M110.197681

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Abstract

The ability of *Legionella pneumophila* to cause pneumonia is determined by its capability to evade the immune system and grow within human monocytes and their derived macrophages. Human monocytes efficiently activate caspase-1 in response to *Salmonella* but not to *L. pneumophila*. The molecular mechanism for the lack of inflammasome activation during *L. pneumophila* infection is unknown. Evaluation of the expression of several inflammasome components in human monocytes during *L. pneumophila* infection revealed that the expression of the apoptosis-associated speck-like protein (ASC) and the NOD-like receptor NLRC4 are significantly down-regulated in human monocytes. Exogenous expression of ASC maintained the protein level constant during *L. pneumophila* infection and conveyed caspase-1 activation and restricted the growth of the pathogen. Further depletion of ASC with siRNA was accompanied with improved NF-κB activation and enhanced *L. pneumophila* growth. Therefore, our data demonstrate that *L. pneumophila* manipulates ASC levels to evade inflammasome activation and grow in human monocytes. By targeting ASC, *L. pneumophila* modulates the inflammasome, the apoptosome, and NF-κB pathway simultaneously. © 2011 by The American Society for Biochemistry and Molecular Biology, Inc.

Document Type: Article

Source: Scopus

Mansour, H.F.^a, Heffernan, S.^b

Environmental aspects on dyeing silk fabric with *sticta coronata* lichen using ultrasonic energy and mild mordants

(2011) *Clean Technologies and Environmental Policy*, 13 (1), pp. 207-213. Cited 5 times.

DOI: 10.1007/s10098-010-0296-2

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^b School of Design, College of Creative Arts, Massey University, Wellington, New Zealand

Abstract

Alluded to the current collaboration of the environmental technology, this article focused on the ultrasonic efficiency for dyeing silk fabric with *sticta coronata* lichen in the presence of alum and catechu mild mordants. The spectrophotometer studies on the dye uptake and fixation have been demonstrated, as well as, the influence of mordants and their combination on the colorimetric properties and light fastness. The results indicated that *sticta coronata* dye had a good substantivity to silk fabric with brilliant lilac color. The pre-mordanting process exhibited a significant effect on the color strength, hue, and light fastness depending on the mordant type and concentration. The use of ultrasonic energy is found to have a significant improvement in the dye uptake representing the sonication efficiency in textile dyeing. © 2010 Springer-Verlag.

Author KeywordsAlum; Catechu; Silk dyeing; *Sticta coronata*; Ultrasonic**Document Type:** Conference Paper**Source:** ScopusEid, E.I.^a, Gomaa, A.G.^b, Gomaa, M.E.^c**Heat transfer characteristics from an array of thin strips pin fins due to their exposures to a single downward jet impingement**(2011) *Heat and Mass Transfer/Waerme- und Stoffuebertragung*, 47 (2), pp. 211-221.**DOI:** 10.1007/s00231-010-0708-1^a Mechanical Department, Faculty of Industrial Education, Suez Canal University, Suez, Egypt^b Refrigeration and Air Conditioning Department, Faculty of Industrial Education, Helwan University, Cairo, Egypt^c Technology Department, Specialized Studies Academy, Workers University, Ismailia, Egypt**Abstract**

This paper investigates the heat transfer characteristics from thin strips pin fins due to their exposure to a single circular downward air jet impingement. Five aluminum specimens were considered; each one has a rectangular base of 84 mm × 78 mm and it has an array of about 300 thin strips pin fins. A test rig consists mainly of air compressor; nozzle and protractor mechanism was setup. Experiments were done to find out the effects of attack angle, Reynolds number, nozzle-to-target spacing, lateral pitch and parallel pitch among the fins on the heat transfer characteristics. Empirical correlations were deduced to describe the experimental data. A CFD-numerical model was introduced to monitor the flow characteristics on a scale of more details than that possible in the experimental work. The comparison among the results of the present work and those by the literature shows about 50% improvement in heat transfer characteristics rather than the single jet impingement onto flat plates, cylindrical surfaces, ribbed walls and multiple jets impingement onto flat plates. © 2010 Springer-Verlag.

Document Type: Article**Source:** ScopusAbdel-Moneim, A.E.^a, Dkhil, M.A.^b, Al-Quraishy, S.^b**The potential role of flaxseed oil on lead acetate induced kidney injure in adult male albino rats**(2011) *African Journal of Biotechnology*, 10 (8), pp. 1436-1451. Cited 11 times.^a Department of Zoology and Entomology, Faculty of Science, Helwan University, Egypt^b Department of Zoology, College of Science, King Saud University, Riyadh, Saudi Arabia**Abstract**

Lead (Pb +2) intoxication may initiate many disorders in humans and animals. This study investigated the role of flaxseed oil in protecting rats against Pb +2 exposures. The results showed that the administration of flaxseed oil efficiently protected albino rats against the Pb +2 caused injury, as revealed by some improvement in the histological structure of kidney as well as the restoration of the body weights loss of Pb +2 treated animals. At the same time, flaxseed oil decreased the levels of serum creatinine, blood urea nitrogen, uric acid, lipid peroxidation and nitric oxide production with concomitant elevation in glutathione, catalase, superoxide dismutase, glutathione reductase, glutathione-S-transferase and glutathione peroxidase activities. Thus, this study suggests the possibility of flaxseed oil usefulness in limiting toxicant induced by environmental heavy metals © 2011 Academic Journals.

Author Keywords

Albino rat; Flaxseed oil; Kidney; Lead

Document Type: Article**Source:** ScopusDkhil, M.^{a b}, Abdel-Baki, A.A.^{a c}, Delić, D.^d, Wunderlich, F.^{a d}, Sies, H.^{a e}, Al-Quraishy, S.^a**Eimeria papillata: Upregulation of specific miRNA-species in the mouse jejunum**(2011) *Experimental Parasitology*, 127 (2), pp. 581-586. Cited 11 times.**DOI:** 10.1016/j.exppara.2010.11.002^a Department of Zoology, College of Science, King Saud University, Riyadh 11451, Saudi Arabia

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^e Department of Biochemistry and Molecular Biology, Heinrich Heine University, 40225 Duesseldorf, Germany

Abstract

Increasing evidence indicates miRNAs as critical regulators of gene expression, but little information is available for miRNAs in intestinal diseases. Here, we investigated intestinal infections of male Balb/c mice with the coccidian parasite *Eimeria papillata*. On day 4 after oral infection, mice were shedding 3150 ± 430 oocysts per gram feces. This was associated with a low inflammatory response of the jejunum of mice evidenced by histology, non-response of IL-1 β mRNA, even slight downregulation of IL-6 mRNA, only slight increases in iNOS mRNA, nitrate/nitrate, malondialdehyde, and a small decrease in glutathione, respectively. Only IFN γ mRNA was strongly induced. Using miRNA microarray technology, there were significantly upregulated the four miRNA species miR-1959, MCMV-miR-M23-1-5P, miR-203, and miR-21 out of 634 miRNAs, which was also confirmed by quantitative RT-PCR. Our data provide evidence that *E. papillata* parasites are able to induce specific miRNA species in their host target organ. © 2010 Elsevier Inc.

Author Keywords

Eimeria papillata; Jejunum; MiRNA; Mouse

Document Type: Article

Source: Scopus

El-Refaie, S.

Stress analysis for externally confined concrete columns with FRP

(2011) *Journal of Engineering and Applied Science*, 58 (1), pp. 43-62.

Civil Engineering Department, Faculty of Engineering at El-Matara, Helwan University, Egypt

Abstract

External confinement of concrete short columns has proved to be an effective means in enhancing both strength and ductility. Stress-strain models for confined columns. found in the literature are developed based on a limited number of experimental data and hence lack a generality to practical applications. Over 100 test results are used to examine the credibility of various models developed by other researchers. It is found that only the axial strength of confined columns can be reasonably predicted using the ACI 440. A finite element model using ABAQUS for both circular and non-circular confined columns is developed in order to give better understanding of the structural mechanics of confined short columns. Accordingly, simple but efficient bilinear closed form stress-strain model for confined columns is developed. The model is checked against experimental results and ABAQUS outputs and it is found to reasonably predict both strength and strain capacities. The stress-strain curve predicted from ABAQUS at column centerline is the closest curve to that obtained from experiments. The peak stress and strain at column corner from ABAQUS are greater than those at both centerline and mid-side. Comparatively, stresses and strains obtained from ABAQUS at mid-side of the column are lesser than those achieved at column centerline.

Author Keywords

Columns; Confined; FRP; Reinforced concrete; Strength; Stress

Document Type: Article

Source: Scopus

Mahmoud, S.^a, Jankowski, R.^b

Modified linear viscoelastic model of earthquake-induced structural pounding

(2011) *Iranian Journal of Science and Technology, Transaction B: Engineering*, 35 (1), pp. 51-62. Cited 15 times.

^a Faculty of Eng. at Matara, Helwan University, 11718 Cairo, Egypt

^b Gdansk University of Technology, Faculty of Civil and Environmental Engineering, ul. Narutowicza 11/12, 80-233 Gdansk, Poland

Abstract

In recent times, earthquake-induced structural pounding has been intensively studied through the use of different impact force models. The numerical results obtained from the previous studies indicate that the linear viscoelastic model is relatively simple and accurate in modeling pounding-involved behavior of structures during earthquakes. The only shortcoming of the model is a negative value of the pounding force occurring just before separation, which has no physical explanation. The aim of the present paper is to verify the effectiveness of the modified linear viscoelastic model, in which the damping term is activated only during the approach period of collision, therefore

overcoming this disadvantage. First, the analytical formula between the impact damping ratio and the coefficient of restitution is reassessed in order to satisfy the relation between the post-impact and the prior-impact relative velocities. Then, the performance of the model is checked in a number of comparative analyses, including numerical simulation of poundinginvolved response, as well as comparison with the results of the impact experiment and shaking table experiments concerning pounding between two steel towers excited by harmonic waves. The final outcome of this study demonstrates that the results obtained through the modified linear viscoelastic model without the tension force are comparably similar to those found by using the linear viscoelastic model. © Shiraz University.

Author Keywords

Coefficient of restitution; Earthquakes; Impact damping ratio; Structural pounding; Viscoelastic model

Document Type: Article

Source: Scopus

Hamdy, A.A.^a, El-Refai, A.F.^a, Sallam, L.A.R.^a, Osman, M.E.^b, Om Kalthoum, H.K.^b, Mohamed, M.A.^a

Seed stage manipulation as a tool for improving rapamycin production by *Streptomyces hygroscopicus* ATCC 29253

(2011) *Australian Journal of Basic and Applied Sciences*, 5 (2), pp. 1-7.

^a Natural and Microbial Products Chemistry Department, National Research Center, Cairo, Egypt

^b Botany and Microbiology Department, Faculty of Science, Helwan University, Cairo, Egypt

Abstract

Adopting standard fermentation process, the effect of different seed culture preparations on rapamycin production by *Streptomyces hygroscopicus* ATCC 29253 was realized. Concerning the type of cultivation medium, starch casein broth adjusted at pH 7 or 8 afforded the best formulation for seed culture. Rising pH to 9 was accompanied with sharp depletion in rapamycin titer. It was also found that 5 days old inoculum was the best suited. Four-fold increase in rapamycin yield was attained by rising cell count in seed culture from 25.8×10^2 to 25.8×10^6 c.f.u./flask. The study proposed growth morphology, instead of growth quantity, to be the proper approach for understanding the role of cell count in controlling microbial activity of seed culture. Growth morphology at different cell counts was depicted and its correlation to microbial activity was postulated. Effect of inoculum size has been also clarified where the highest rapamycin yield was attained at inoculum size of 6%. A typical fermentation with the developed optimal seed culture revealed that rapamycin yield was accelerated from 39.53 to 89.20 mg/l together with reduction of the incubation period to five days.

Author Keywords

Growth morphology; Rapamycin; Seed culture parameters; *Streptomyces hygroscopicus*

Document Type: Article

Source: Scopus

Gomaa, A.M.

On the solution sets of four-point boundary value problems for nonconvex differential inclusions

(2011) *International Journal of Geometric Methods in Modern Physics*, 8 (1), pp. 23-37. Cited 3 times.

DOI: 10.1142/S021988781100494X

Mathematics Department, Faculty of Science, Helwan University, Cairo, Egypt

Abstract

We consider the multivalued problem $\dot{u}(t) \in F(t, u(t), \dot{u}(t))$ under four boundary conditions $u(0) = x_0$, $u(\eta) = u(\theta) = u(T)$ where $0 < \eta < \theta < T$ and for F is a multifunctions from $[0, T] \times \mathbb{R}^n \times \mathbb{R}^n$ to the nonempty compact subsets of \mathbb{R}^n not necessary convex. We give a lemma which is useful in the study of four boundary problems for the differential equations and the differential inclusions. Further we have results that improve earlier theorems. © 2011 World Scientific Publishing Company.

Author Keywords

Differential inclusions; four-point boundary value problems; Green functions; second derivatives; solution sets

Document Type: Article

Source: Scopus

Sayed, S.G.^{a b}, Yang, Y.^{a c}, Xu, J.^c

BTAC: A busy tone based cooperative MAC protocol for wireless local area networks

(2011) *Mobile Networks and Applications*, 16 (1), pp. 4-16. Cited 5 times.

DOI: 10.1007/s11036-010-0267-1

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Abstract

Cooperative communications has been actively studied as an effective approach to achieve multi-user/spatial diversity gains and better overall system performance by coordinating multiple users in a dynamic wireless network to share their resources and capabilities. Based on the concept of cooperative communications, this paper proposes and analyzes a Busy Tone based cooperative Medium Access Control (MAC) protocol, namely BTAC, for multi-rate Wireless Local Area Networks (WLANs). A cross-layer Markov chain model is then developed to evaluate the performance of BTAC under dynamic wireless channel conditions. Analytical and simulation results show our BTAC protocol is simple, robust, fully compatible with the IEEE 802.11b standard and can achieve better throughput and delay performance than the standard Distributed Coordination Function (DCF) protocol and the recently-proposed CoopMAC protocol. © 2010 Springer Science+Business Media, LLC.

Author Keywords

cooperative communications; IEEE 802.11; medium access control; wireless local area network

Document Type: Article

Source: Scopus

Ibrahim, N.A.^a, El-Zairy, W.M.^b, El-Zairy, M.R.^b, Eid, B.M.^a, Ghazal, H.A.^b

A smart approach for enhancing dyeing and functional finishing properties of cotton cellulose/polyamide-6 fabric blend

(2011) *Carbohydrate Polymers*, 83 (3), pp. 1068-1074. Cited 5 times.

DOI: 10.1016/j.carbpol.2010.08.053

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^b Faculty of Applied Arts, Printing, Dyeing and Finishing Dept., Helwan Univ., Cairo, Egypt

Abstract

Polyamide-6/cotton fabric blend was modified by chemical treatments using citric acid (30 g/L) as a crosslinker, an acrylate binder (10 g/L), Na-hypophosphite (6 g/L) as a catalyst in the presence of basic dye or pigment colorant (15 g/L) employing a pad-dry-cure technique (wet-pickup 80%, 80 °C/5 min and 180 °C/2 min respectively). Combined modifying and dyeing of the treated fabric samples resulted in a significant improvement in the extent of coloration along with a remarkable improvement in the imparted functional properties namely UV-B protection and antibacterial function. The change in K/S value as well as in the fastness properties ratings of the obtained dyeings along with variation in their functional properties depend on the ester-crosslinker/catalyst concentration, type and concentration of the coloring agent as well as thermo-fixation temperature. Mode of interaction was reported, and surface modification was also confirmed by SEM analysis. © 2010 Elsevier Ltd. All rights reserved.

Author Keywords

Basic dyeing; Functional finishing; Modification; Pigment dyeing; Polyamide/cotton blend

Document Type: Article

Source: Scopus

Ebaid, H.^{a b}, Dkhil, M.A.^{a c}, Zahran, W.S.^b, El Feki, M.A.^b, Gabry, M.S.^c

Role of *Nigella sativa* in ameliorating chloramphenicol induced tissue damage in rats

(2011) *Journal of Medicinal Plants Research*, 5 (2), pp. 280-288. Cited 5 times.

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Abstract

Nigella sativa ascribed to have many medicinal properties. The study aimed to investigate whether *N. sativa* oil could

decrease the side effects induced by the antibiotic, chloramphenicol. Rats were assigned into the following: The control group (first group); the second and the third groups which were orally administrated chloramphenicol for 21 days at a dose of 86 mg/kg body weight. Then the third group was treated with *N. sativa* oil for 30 days at a dose of 13.5 mg/ 150 g; the fourth group was synergistically administrated both chloramphenicol and *N. sativa* for 21 days. Administration of *N. sativa* oil was extended to 30 days more in this group. There was a decrease in erythrocyte, hemoglobin and hematocrit with a progressive increase of leukocyte count in drug treated group. A decrease in neutrophils and lymphocyte with an increase in nucleated immature red cells as well as myeloblasts and myelocytes. On the other hand, *N. sativa* showed a time dependent improvement in blood parameters. A gradual decrease in the counts of immature stages was realized with the administration of *N. sativa*. Pathological changes in spleen included splenomegaly, lymphocytic depletion, enlargement of the marginal zone, wide trabeculae, reticular cells, pyknotic nuclei and cells in different stages of megakaryopoiesis. A marked depletion in cortical lymphocytes, disturbed lobular pattern, increased reticuloepithelial cells and dilated blood vessels in the thymus of group 2. *N. sativa* showed only a slight improvement of the damaged spleen tissues, while a time dependent repair in thymic tissue and both the cellular and humoral immunity was observed. In conclusion, *N. sativa* had an obvious protective effect and decreased the side effects of chloramphenicol. © 2011 Academic Journals.

Author Keywords

Chloramphenicol; *Nigella sativa*; Pathological changes

Document Type: Article

Source: Scopus

Dkhil, M.A.^{a b}, Abdel-Baki, A.S.^{a c}, Wunderlich, F.^{a d}, Sies, H.^{a e}, Al-Quraishy, S.^a

Anticoccidial and antiinflammatory activity of garlic in murine *Eimeria papillata* infections (2011) *Veterinary Parasitology*, 175 (1-2), pp. 66-72. Cited 28 times.

DOI: 10.1016/j.vetpar.2010.09.009

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Abstract

Coccidiosis with the protozoan parasite *Eimeria* as the infectious agent causes enormous economic losses, particularly in poultry farms. Here, we investigated the effects of garlic on the outcome of coccidiosis caused by *Eimeria papillata* in male Balb/c mice. The data showed that mice infected with *E. papillata* revealed an output of 3260 ± 680 oocysts per gram faeces on day 4 p.i.. This output is significantly decreased to 1820 ± 415 oocysts in garlic-treated mice. Infection also induced inflammation and injury of the liver. This was evidenced (i) as increases in inflammatory cellular infiltrations, dilated sinusoids, and vacuolated hepatocytes, (ii) as increased mRNA levels of inducible nitric oxide synthase (iNOS) and of the cytokines interferon gamma (IFN-γ), and interleukin-6 (IL-6), (iii) as increased plasma levels of alanine and aspartate aminotransferases, alkaline phosphatase, γ-glutamyl transferase and total bilirubin, (iv) as increased production of nitric oxide derived products (nitrite/nitrate) and malondialdehyde, and (v) as lowered glutathione levels and decreased activities of catalase and superoxide dismutase, respectively. All these infection-induced parameters were significantly less altered during garlic treatment. In particular, garlic counteracted the *E. papillata*-induced loss of glutathione and the activities of catalase and superoxide dismutase. Our data indicated that garlic treatment significantly attenuated inflammation and injury of the liver induced by *E. papillata* infections. © 2010 Elsevier B.V.

Author Keywords

Anti-inflammatory activity; Anticoccidium; Coccidiosis; Garlic

Document Type: Article

Source: Scopus

Youns, M.^{a b c}, Efferth, T.^b, Hoheisel, J.D.^a

Transcript profiling identifies novel key players mediating the growth inhibitory effect of NS-398 on human pancreatic cancer cells (2011) *European Journal of Pharmacology*, 650 (1), pp. 170-177. Cited 10 times.

DOI: 10.1016/j.ejphar.2010.10.026

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Abstract

Pancreatic cancer is one of the most aggressive human malignancies with an increasing incidence worldwide. Despite an increase in the number of systemic treatments available for pancreatic cancer, the impact of therapy on the clinical course of the disease has been modest, underscoring an urgent need for new therapeutic options. Although selective cyclooxygenase-2 inhibitors have been demonstrated to have cancer-preventive effects, the mechanism of their effects is not clearly known. Moreover, there have been no unbiased studies to identify novel molecular targets of NS-398 regarding pancreatic cancer. Here we undertook a gene expression profiling study to identify novel molecular targets modulating the growth inhibitory effects of NS-398 on pancreatic cancer cell lines. Our mRNA-based gene expression results showed that the growth inhibitory effect of NS-398 was accompanied with an activation of G1/S and G2/M cell cycle regulation, P53 signalling, apoptotic, aryl hydrocarbon receptor and death receptor signalling pathways. Moreover, we reported, for the first time, that the growth inhibitory effect of NS-398 is mediated by down-regulation of RRM2, CTGF, MCM2 and PCNA and up-regulation of NAG-1 in all cell lines. © 2010 Elsevier B.V. All rights reserved.

Author Keywords

Ingenuity; Microarray; NS-398; Pancreatic cancer

Document Type: Article

Source: Scopus

Mahmoud, S.^a, Jankowski, R.^b

Linear viscoelastic modelling of damage-involved structural pounding during earthquakes
(2011) *Key Engineering Materials*, 452-453, pp. 357-360.

DOI: 10.4028/www.scientific.net/KEM.452-453.357

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Abstract

Damage-involved structural pounding during earthquakes has been recently intensively studied using different impact force models. The results of the previous studies indicate that the linear viscoelastic model is relatively simple yet accurate in modelling pounding-involved behaviour of structures during earthquakes. The only shortcoming of the model is a negative value of the pounding force occurring just before separation, which does not have any physical explanation. The aim of the present paper is to verify the effectiveness of the modified linear viscoelastic model, in which damping term (related to modelling of damage effects) is activated only during the approach period of collision therefore overcoming this disadvantage. The accuracy of the model is checked in a number of comparative analyses, including the comparison with the results of impact experiments and shaking table experiments on pounding between two steel towers. The results of the study indicate that the use of the modified linear viscoelastic model leads to very similar pounding-involved responses as in the case of the linear viscoelastic model.

Author Keywords

Damage modelling; Earthquakes; Structural pounding; Viscoelastic model

Document Type: Conference Paper

Source: Scopus

Rehan, G.M.^a, Mahmoud, H.S.^b

The integration between transportation solutions, economic development and community development as an approach for sustainability - A case study of Curitiba, Brazil
(2011) *World Academy of Science, Engineering and Technology*, 73, pp. 705-711.

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^b Architectural Engineering Department, Modern Academy for Engineering and Technology, Cairo, Egypt

Abstract

Sustainability and sustainable development have been the main theme of many international conferences, such the UN Rio de Janeiro 1992 Earth Summit This was followed by the appearance of the global conferences at the late of the nineties and the early of 2000 to confirm the importance of the sustainable development.it was focused on the importance of the economic development as it is considered an effective tool in the operations of the sustainable

development. Industry plays a critical role in technological innovations and research and development activities, which are crucial for the economic and social development of any country. Transportation and mobility are an important part of urban economics and the quality of life. To analyze urban transportation and its environmental impacts, a comprehensive approach is needed. So this research aims to apply new approach for the development of the urban communities that insure the continuity and facing the deterioration. This approach aims to integrate sustainable transport solutions with economic development and community development. For that purpose we will concentrate on one of the most sustainable cities in the world (Curitiba in Brazil) which provides the world with a model in how to integrate sustainable transport considerations into business development, road infrastructure development, and local community development.

Author Keywords

Community development; Economic development sustainable development; Sustainable transport

Document Type: Article

Source: Scopus

Mohamed, H.H.^{a b}, Dillert, R.^a, Bahnemann, D.W.^a

Reaction dynamics of the transfer of stored electrons on TiO₂ nanoparticles: A stopped flow study (2011) *Journal of Photochemistry and Photobiology A: Chemistry*, 217 (1), pp. 271-274. Cited 11 times.

DOI: 10.1016/j.jphotochem.2010.09.024

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Abstract

The dynamics of the transfer of electrons from TiO₂ nanoparticles to a variety of electron acceptors have been investigated employing a simple and facile stopped flow technique. Prior to the kinetic experiments nanosized TiO₂ particles are loaded with electrons by UV (A) photolysis in the presence of methanol as a hole scavenger. As a model for possible electron transfer reactions the reduction of dissolved O₂ and H₂O₂ by stored TiO₂ electrons has been successfully studied. © 2010 Elsevier B.V.

Author Keywords

Electron transfer; Reaction dynamics; Stopped flow; TiO₂ nanoparticles

Document Type: Article

Source: Scopus

Soliman, D.M.

Entrepreneurial intention among tourism undergraduate students in Egypt (2011) *Tourism Analysis*, 16 (4), pp. 471-481.

DOI: 10.3727/108354211X13149079789052

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Abstract

This study examines entrepreneurial intention of undergraduate tourism students in Egypt and the effect of specific beliefs and subjective norms on this intention. It also investigates students' perceived motives and barriers to entrepreneurship. Although there have been many studies handling students' entrepreneurial intention, only a limited number of studies have focused on tourism students' entrepreneurial intention, and it is worth noting that from an educational perspective, investigating entrepreneurial intention of tourism students may play a role in the design of tourism curricula. Furthermore, there is a shortage of studies explicating entrepreneurial intention in the Middle East countries. Thus, the current study helps in filling this gap. A sample of undergraduate tourism students in Egypt was surveyed. Results showed that the majority of students have intention to start their own business after graduation. They perceive that lack of entrepreneurial education is their main barrier to entrepreneurship. Implications for educators and governmental bodies and succeeding research directions are highlighted. © 2011 Cognizant Comm. Corp.

Author Keywords

Entrepreneurial intention; Entrepreneurship; Tourism students

Document Type: Article

Source: Scopus

Baky, A.^a, Demers, D.^b, Yahiaoui, Y.^b, Neale^b

Nonlinear micromechanics-based finite element analysis of FRP-rapped concrete columns subjected to axial load

(2011) *Advances in FRP Composites in Civil Engineering - Proceedings of the 5th International Conference on FRP Composites in Civil Engineering, CICE 2010*, pp. 626-629.

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Abstract

In this research work, new modifications for the microplane constitutive law are first presented to precisely simulate concrete behaviour under various levels of lateral confinement pressure. A key feature of the suggested formula is to make the microplane theory valid to represent concrete behaviour under both low and high lateral confining pressures. An analysis is then carried out using two different numerical procedures. The first procedure is the use of a three-dimensional finite element analysis with the modified microplane formulations as a user-supplied subroutine into the FE commercial software ADINA to model the concrete behaviour under various stress and strain histories. Here, the sub-objective is to validate the formulated microplane approach that is proposed in the first phase of the research program. In the second analysis; the confinement behaviour is simulated using an in-house code. The code uses the proposed formulations for the microplane theory to represent the concrete characteristics to predict the stress-strain relationships of FRP-wrapped concrete columns up to failure. An accurate equation correlating the axial stiffness of the FRP laminates and the lateral strain of the concrete columns to the confining pressure is incorporated in the in-house code. The two analyses give almost the same predictions, with minor discrepancies due to some numerical aspects. An experimental program consisting of testing thirty eight concrete cylinders under various lateral confinement pressures is carried out to assess the accuracy of the numerical predictions. In the experimental program, the lateral pressure is designed to give almost the same lateral confinement behaviour as that resulting from applying FRP sheets. The numerical predictions are finally compared to experimental results for FRP-wrapped and un-wrapped concrete columns under various levels of lateral pressure. This paper gives an overview for the whole research program with a special emphasis on the theoretical part. © Tsinghua University Press, Beijing and Springer-Verlag Berlin Heidelberg 2011.

Document Type: Conference Paper

Source: Scopus

Rehan, G.M.^a, Mahmoud, H.S.^b

The Integration between Transportation Solutions, Economic Development and Community Development as an Approach for Sustainability - A Case Study of Curitiba, Brazil

(2011) *World Academy of Science, Engineering and Technology*, 73, pp. 488-494.

^a Architectural Engineering Department, Faculty of Engineering, Helwan University, Cairo, Egypt

^b Architectural Engineering Department, Modern Academy for Engineering and Technology, Cairo, Egypt

Abstract

Sustainability and sustainable development have been the main theme of many international conferences, such the UN Rio de Janeiro 1992 Earth Summit This was followed by the appearance of the global conferences at the late of the nineties and the early of 2000 to confirm the importance of the sustainable development.it was focused on the importance of the economic development as it is considered an effective tool in the operations of the sustainable development. Industry plays a critical role in technological innovations and research and development activities, which are crucial for the economic and social development of any country. Transportation and mobility are an important part or urban economics and the quality of life. To analyze urban transportation and its environmental impacts, a comprehensive approach is needed. So this research aims to apply new approach for the development of the urban communities that insure the continuity and facing the deterioration. This approach aims to integrate sustainable transport solutions with economic development and community development. For that purpose we will concentrate on one of the most sustainable cities in the world (Curitiba in Brazil) which provides the world with a model in how to integrate sustainable transport considerations into business development, road infrastructure development, and local community development.

Author Keywords

Community development; Economic development sustainable development; Sustainable transport

Document Type: Article

Source: Scopus

Ebead, U.^a, Mwafy, A.^a, Saeed, H.^b

Bonded/mechanically fastened FRP for RC beam strengthening

(2011) *ISEC 2011 - 6th International Structural Engineering and Construction Conference: Modern Methods and Advances in Structural Engineering and Construction*, pp. 601-606.

DOI: 10.3850/978-981-08-7920-4-S2-A15-cd

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^b Civil Engineering Department, Helwan University, Cairo, Egypt

Abstract

In this research work, a technique for the flexural strengthening of reinforced concrete beams is investigated. This technique utilizes a combination of the mechanically fastened (MF) and at the same time externally bonded (EB) fiber reinforced polymer (FRP) systems. It also features the use of nylon anchors to be inserted inside the concrete prior to installing the fasteners. The external bonding is achieved by injecting the predrilled holes with epoxy that is also applied around the holes and is squeezed in between the concrete and FRP. The hybrid EB/MF-FRP strengthened specimens showed higher load capacity and post-cracking stiffness than those of the corresponding MF-FRP counterparts. Extending the FRP strips for the entire beam span is necessary for achieving noticeable enhancement of the load capacity and stiffness with this hybrid EB/MF-FRP system. Using epoxy injection improved the attachment of the FRP and concrete and indeed could be used to protect the fasteners against corrosion and theft. Copyright © 2011 by Research Publishing Services.

Author Keywords

Externally bonded FRP; Fasteners; Mechanically fastened FRP; Reinforced concrete beams; Strengthening

Document Type: Conference Paper

Source: Scopus

Abdel Dayem, A.M.^a, El-Ghetany, H.H.^b, El-Taweel, G.E.^c, Kamel, M.M.^c

Thermal performance and biological evaluation of solar water disinfection systems using parabolic trough collectors

(2011) *Desalination and Water Treatment*, 36 (1-3), pp. 119-128. Cited 3 times.

DOI: 10.5004/dwt.2011.2227

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Abstract

Thermal and optical performance of solar water disinfecting systems using parabolic trough collector, PTC, have been investigated experimentally and numerically. Four PTCs systems were designed, manufactured and field tested under the same weather conditions of Cairo 30°N. The four systems were installed to be compared thermally and biologically. Each system consists of a 2-m² PTC and line-focus pipe to carry the water sample to be disinfected. In the first system (thermal system), a black painted stainless steel pipe covered by Pyrex glass envelope, to minimize the convective and radiative heat loss, is supported through the line-focus of the PTC. While in the second system (optical system) the contaminated water is used as absorber through a Pyrex glass tube, the two above processes are considered respectively in the third system. In the fourth system, a black tube including and surrounded by the contaminated water are considered as the absorber. The contaminated water is passed through the annular space between the Pyrex glass tube and the collector absorber. The experimental results indicate that the third system has better performance than the other studied systems from the biological point of view with twice area. It has the minimum biological contamination, Spore-former bacteria count, total bacterial counts and total coliforms. While the thermal system is thermally efficient, the optical system is not recommended to use alone. A numerical modeling of the systems was developed and validated by experimental data. The annual performance of the systems is presented. Under the same environmental and technical conditions the third system can be considered as the most efficient one that can produce about Million liter of clean water a year. © 2011 Desalination Publications. All rights reserved.

Author Keywords

Bacteriological examination; Numerical simulation; Optical disinfection; Parabolic trough; Thermal disinfection

Document Type: Article

Source: Scopus

Ibrahim, A.^{a c}, Zhang, F.^b, Otterstein, E.^b, Burkel, E.^b

Processing of porous Ti and Ti5Mn foams by spark plasma sintering

(2011) *Materials and Design*, 32 (1), pp. 146-153. Cited 26 times.

DOI: 10.1016/j.matdes.2010.06.019

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^c King Abdulaziz University Jeddah, B.O. 80217, Jeddah 21589, Saudi Arabia

Abstract

Titanium and its alloys are one of the best metallic biomaterials to be used for implant application. In this study, porous Ti and Ti5Mn alloy with different porosities were successfully synthesized by powder metallurgy process with the addition of NH₄HCO₃ as space holder and TiH₂ as foaming agent. The consolidation of powder was achieved by spark plasma sintering process (SPS) at 16MPa and pressureless conditions. The morphology of porous structure was investigated by using scanning electron microscopy (SEM) and X-ray micro-tomography (μ -CT). Nano-indentation tester was used to evaluate Young's modulus of the porous Ti and Ti5Mn alloy. Experimental results showed that pure Ti sample, which sintered under pressure of 16MPa, full relative density was achieved even at a relative low sintering temperature 750°C; however, in the case of pressureless condition at sintering temperature 1000°C the porosity was 53% and Young's modulus was 40GPa. The Ti5Mn alloy indicated a good pore distribution, and the porosity decreased from 56% to 21% by increasing the sintering temperature from 950°C to 1100°C. Young's modulus was increased from 35GPa to 51.83GPa with increasing of the sintering temperatures from 950°C to 1100°C. © 2010 Elsevier Ltd.

Author Keywords

Biomedical applications; Porous material; Spark plasma sintering

Document Type: Article

Source: Scopus

Abu-Zaied, M.A.^a, El-Telbani, E.M.^a, Elgemeie, G.H.^b, Nawwar, G.A.M.^a

Synthesis and in vitro anti-tumor activity of new oxadiazole thioglycosides

(2011) *European Journal of Medicinal Chemistry*, 46 (1), pp. 229-235. Cited 21 times.

DOI: 10.1016/j.ejmech.2010.11.008

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^b Chemistry Department, Faculty of Science, Helwan University, Ain-Helwan, Cairo, Egypt

Abstract

A facile, convenient and high yielding synthesis of novel thioglycosides incorporating 1,3,4-oxadiazole, triazole and/or triazine moieties from readily available starting materials has been described. The key step of this protocol is the formation of 3-isobutyl-1-phenyl-1H-pyrazole-4-carbaldehyde (3) via condensation between methyl iso-butyl ketone and phenylhydrazine followed by application of Vilsmeier-Haack reaction. 3 was converted either to 1,3,4-oxadiazole derivative or condensed with O-aminothiols to give the bases 8, 19 and 20 in good yields, respectively. The aglycons 8, 19, and 20 were coupled with different activated halosugars in the presence of basic medium. Pharmacological evaluation of compounds 8, 14, 16 and 22 in vitro against 2-cell lines MCF-7 (breast) and HEPG2 (liver) revealed them to possess high anti-tumor activities with IC₅₀ values ranging from 2.67-20.25 (μ g/mL) for breast cell line (MCF-7) and 4.62-43.6 (μ g/mL) for liver cell line (HEPG2). None of the tested compounds exhibited any toxicity in doses up to 500 mg kg⁻¹ of the animal body weight.

Author Keywords

1,3,4-Oxadiazole; 5-Fluorouracil; Anti-tumor activities; Tamoxifen; Thioglycosides; Toxicity

Document Type: Article

Source: Scopus

Ibrahim, N.A.^a, El-Badry, K.^b, Eid, B.M.^a, Hassan, T.M.^b

A new approach for biofinishing of cellulose-containing fabrics using acid cellulases

(2011) *Carbohydrate Polymers*, 83 (1), pp. 116-121. Cited 18 times.

DOI: 10.1016/j.carbpol.2010.07.025

^a National Research Centre, Textile Research Division, Dokki, Cairo, Egypt

^b Faculty of Education, Helwan University, Cairo, Egypt

Abstract

The main objective of this study is to develop a new approach for biofinishing of cellulose-containing fabrics using cellulases under pad-wet batch conditions followed by washing cycle with a high level of mechanical agitation to terminate the enzyme and to remove the weakened fuzz fibers and surface pills, i.e. biopolishing of the fiber's surface.

The effect of enzyme dosage, wet-pickup, batching time and temperature as well as type of substrate on the efficiency of enzymatic treatment as well as on the performance and dyeing properties is discussed. Experimental results revealed that padding the used substrates in a bath containing acid-cellulases (20 g/L) and nonionic wetting agent (2 g/L) to a wet-pickup 80% followed by batching at 50 °C for 18 h, and after washing under mechanical action (28 rpm, pH 9, temperature 75 °C, LR 1/20, for 30 min) could upgrade the final properties of the treated substrates especially fabric handle, drapability as well as dyeability with minimal loss in strength. The extent of improvement in the abovementioned properties is determined by the nature of the cellulose-containing fabric. SEM picture clearly shows that the surface of cellulases-treated cotton fabric appear smoother and softer than the untreated one. © 2010 Elsevier Ltd.

Author Keywords

Acid-cellulases; Cellulose-containing fabrics; Enzymatic treatment; Pad-wet batch; Washing/mechanical agitation

Document Type: Article

Source: Scopus

Elsayed, T.A.^{a b}, Elhefnawy, A.A.^c, Eldaly, A.A.^c, Ghanem, G.M.^a

Hybrid fiber reinforced polymers rebars

(2011) *Journal of Advanced Materials*, 43 (1), pp. 65-75.

^a Faculty of Engineering, Mataria, Cairo, Egypt

^b Helwan University, Cairo, Egypt

^c Housing and Building National Research Center (HBNRC), Cairo, Egypt

Abstract

Glass fiber reinforced polymer (GFRP) rebars have many advantages compared to traditional reinforcing steel such as higher strength to weight ratio, higher resistance to corrosion, as well as higher resistance to fatigue loads. One of the main disadvantages of GFRP rebars is their lack of ductility. The linear behavior of the GFRP bars up to failure makes their application difficult to compare with conventional steel bars. One solution to this difficulty is to provide ductility for FRP by using hybrid FRP reinforced bars. A pilot trial to manufacture locally hybrid FRP rebars using the pultrusion method produced rebars consisting of glass fiber combined with both carbon and aramid fibers with three different ratios for each. Tension test results showed that the locally produced hybrid FRP rebars had a semi-ductile behavior similar, to some extent, to that of conventional reinforcing steel.

Document Type: Article

Source: Scopus

Dkhil, M.A.^{a b}, Tohamy, A.^a, Gabry, M.S.^a

Chromosomal aberrations induced in bone marrow cells of mice due to the administration of the nonsteroidal anti-inflammatory drug, Piroxicam

(2011) *African Journal of Pharmacy and Pharmacology*, 5 (1), pp. 98-103. Cited 2 times.

^a Department of Zoology and Entomology, Faculty of science, Helwan University, Egypt

^b Department of Zoology, College of Science, King Saud University, Riyadh, Saudi Arabia

Abstract

Cytogenetic changes in male albino mice due to the effect of the non-steroidal anti-inflammatory drug, Piroxicam was investigated after daily intraperitoneal injection with 0.3 mg/kg body weight, for 1, 2, 3 and 4 weeks. The observed structural chromosomal aberrations were in the form of chromatid breakage, centric fusion, centromeric attenuation, ring chromosome and end to end association. At all the treatment periods used the number of cells with chromatid breakages and with total structural aberrations increased to statistically significant levels. Only after one and four weeks of treatment it was noticed that the number of cells with end to end association increased significantly. No significant changes in the mitotic indices could be detected in all mice groups. The study demonstrated that Piroxicam affects the bone marrow cells where it causes some aberrations in the chromosomes. Thus, Piroxicam should be used under strict medical control, and these serious side effects should be considered and taken in consideration when using Piroxicam in treatments. © 2011 Academic Journals.

Author Keywords

Chromosomes; Cytogenecity; Piroxicam

Document Type: Article

Source: Scopus

Shams, H.Z.^a, Mohareb, R.M.^{b c}, Helal, M.H.^a, Mahmoud, A.E.^a

Novel synthesis and antitumor evaluation of polyfunctionally substituted heterocyclic compounds derived from 2-cyano-N-(3-cyano-4,5,6,7-tetrahydrobenzo[b]thiophen-2-yl)-acetamide

(2011) *Molecules*, 16 (1), pp. 52-73. Cited 14 times.

DOI: 10.3390/molecules16010052

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^b Department of Organic Chemistry, Faculty of Pharmacy, October University for Modern Sciences and Arts, October City, Egypt

^c Department of Chemistry, Faculty of Science, Cairo University, Giza, Egypt

Abstract

The reaction of 2-amino-3-cyano-4,5,6,7-tetrahydrobenzo[b]thiophene with ethyl cyanoacetate gave 2-cyano-N-(3-cyano-4,5,6,7-tetrahydrobenzo[b]thiophen-2-yl)-acetamide. The latter was used to synthesize different heterocyclic derivatives comprising thiophene, thiazole, pyrazole, pyridine, pyrimidine, and coumarin rings. The mechanistic and synthetic pathways depended on regioselective attack and/or cyclization by the cyanoacetamido moiety in the key precursor on various chemical reagents. The competition of the reaction pathways including dipolar cyclization, dinucleophilic-bielectrophilic attack, β -attack, Gewald-type attack, and condensation reactions led to the diversity of the synthesized products. The antitumor activities of the synthesized products were studied and evaluated. Most of the compounds revealed high inhibitory effects when screened in vitro for their antiproliferative activity. Three human cancer cell lines, namely, breast adenocarcinoma (MCF-7), non-small cell lung cancer (NCI-H460) and CNS cancer (SF-268) were used in the screening tests. The simplicity of the synthetic procedures which mainly involved one-pot reactions under mild reaction conditions, the convenience of yield production and the diversity of the reactive sites in the produced systems play a valuable role for further heterocyclic transformations and further biological investigations. © 2010 by the authors.

Author Keywords

4,5,6,7-tetrahydrobenzo[b]thiophene; Antitumor; Pyrazole; Pyridine; Thiazole

Document Type: Article

Source: Scopus

Hanafi, H.A.^a, Szumlas, D.E.^{a d}, Fryauff, D.J.^{a e}, El-Hossary, S.S.^a, Singer, G.A.^b, Osman, S.G.^c, Watany, N.^a, Furman, B.D.^a, Hoel, D.F.^{a f}

Effects of ivermectin on blood-feeding phlebotomus papatasi, and the promastigote stage of Leishmania major

(2011) *Vector-Borne and Zoonotic Diseases*, 11 (1), pp. 43-52. Cited 4 times.

DOI: 10.1089/vbz.2009.0030

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^e Naval Medical Research Center, Silver Spring, MD, United States

^f Center for Medical, Agricultural, and Veterinary Entomology, Gainesville, FL, United States

Abstract

Ivermectin (IVM) is a chemically modified macrocyclic lactone of *Streptomyces avermitilis* that acts as a potent neurotoxin against many nematodes and arthropods. Little is known of IVM's effect against either blood-feeding *Phlebotomus* sand flies, or the infective promastigote stage of *Leishmania* transmitted by these flies. We injected hamsters subcutaneously with two standard IVM treatments (200 and 400 $\mu\text{g}/\text{kg}$ body weight) and allowed cohorts of *Leishmania major*-infected *Phlebotomus papatasi* to blood-feed on these animals at various posttreatment time points (4 h, 1, 2, 6, and 10 days). Infected and uninfected sand flies that bit treated and untreated hamsters served as controls. Serum levels of IVM in low- and high-dose-treated hamsters were determined at the five time points. Sand fly mortality following blood feeding was recorded at 24-h intervals and, in relation to IVM treatment, was time and dose dependent. Mortality was most rapid and greatest among infected flies that fed nearest to time of dosing. Mean survival of infected sand flies after feeding on untreated hamsters was 11.5 days, whereas that of infected sand flies that fed 4 h, 1 day, or 2 days posttreatment on high-dose-treated hamsters (400 $\mu\text{g}/\text{kg}$) was 1.6, 2.1, and 2.7 days, respectively. Infected and uninfected sand flies that blood fed 6 days following low-dose IVM treatment (200 $\mu\text{g}/\text{kg}$) still experienced significantly greater mortality ($p < 0.02$) than controls. Promastigotes dissected out of surviving flies that fed on IVM-treated hamsters showed typical motility and survival. Moreover, 21.7% of IVM-treated hamsters developed lesions after being fed upon by infected sand flies. *L. major* promastigotes appeared to be tolerant to ng/mL blood levels of IVM that caused significant mortality for up to 10 days posttreatment in blood-feeding *P.*

papatasi. © Copyright 2011, Mary Ann Liebert, Inc.

Author Keywords

Ivermectin; Leishmania major; Phlebotomus papatasi

Document Type: Article

Source: Scopus

Ebead, U.^a, Saeed, H.^b

Flexural punching shear capacities of steel strengthened slabs

(2011) *ISEC 2011 - 6th International Structural Engineering and Construction Conference: Modern Methods and Advances in Structural Engineering and Construction*, pp. 563-568.

DOI: 10.3850/978-981-08-7920-4-S2-A23-cd

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^b Civil Engineering Department, Helwan University, Cairo, Egypt

Abstract

A numerical approach is developed here to evaluate the flexural and punching shear and capacities of two-way reinforced concrete plates. Inclusively, the approach analyzes the unrehabilitated two-way plates made of normal or high strength concrete. A special concrete constitutive model of concrete is introduced that consider biaxial state of concrete in a twoway plate as well as the confinement effect of steel plates for the rehabilitated slabs. The constitutive model of concrete includes defining the concrete properties in tension including pre cracking and post cracking properties of concrete. The theoretical approach is iterative incremental in nature bywhich the deformation characteristics of a slab is evaluated at each load increment until failure. A comparison between the suggested numerical approach and some of the available data of rehabilitated and un-rehabilitated normal and high strength concrete twoway plates shows a good agreement with respect to the deformational behaviour, the ultimate capacity and the mode of failure. Copyright © 2011 by Research Publishing Services.

Author Keywords

Confinement; FRP; Reinforced concrete slabs; Steel plates; Strengthening

Document Type: Conference Paper

Source: Scopus

Daous, M.A.^a, Arafat, A.^{a b}, Al-Shareef, E.^a

Photocatalytic degradation of organic contaminants in wastewater using visible light irradiation

(2011) *11AICHE - 2011 AIChE Spring Meeting and 7th Global Congress on Process Safety, Conference Proceedings*, 8 p.

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^b Chemistry Department, Faculty of Science, Helwan University, Ain Helwan, Helwan, 17790, Egypt

Abstract

TiO₂ nanoparticles successfully anchored into three-dimensional mesoporous material (TUD-1) using a sol-gel preparation strategy were prepared and tested as photocatalysts, employing only visible light, for the treatment of wastewaters containing organic contaminants, e.g., phenol and azo dyes. The samples had mesoporous structure and only samples of high loadings of titania had anatase in very small amount. Low loading samples did not show separate phases of TiO₂. The newly developed Ti-TUD-1 photocatalysts showed excellent activity towards the removal of the organic compounds; ≤ 99% of phenol and 98% of azodyes were successfully removed from the contaminated wastewater. Moreover, the catalysts displayed remarkable stability under the relatively mild irradiation conditions used. This is an abstract of a paper presented at the 2011 AIChE Spring Meeting & 7th Global Congress on Process Safety (Chicago, IL 3/13-17/2011).

Document Type: Conference Paper

Source: Scopus

Mahfouz, M.M.A., Amin, A.M., Youssef, E.B.

Improvement the integration of Zafarana wind farm connected to egyptian unified power grid

(2011) *Proceedings of the Universities Power Engineering Conference*, 2011-January (January), art. no. 6125621, .

Electrical Power and Machines Dept., Helwan University, Egypt

Abstract

This paper presents the use of three level inverter based on a static synchronous compensator (STATCOM) to improve the integration of Zafarana wind farm to Egyptian unified power grid. Design of the proposed STATCOM is calculated based on the real recorded measurements of the voltages at the point of common coupling during one month at Zafarana station. Vector current control is used as robust control to inject reactive power required to regulate voltage with in Egyptian grid codes where under voltage is critical value developed from record results. The results show that the implementation of STATCOM will improve the performance of Zafarana wind farm. Validity of proposed system is achieved using MATLAB/SIMULINK package. © VDE VERLAG GMBH.

Author Keywords

Facts; Grid connected fixed-speed wind farm; STATCOM; Time-domain simulations; Wind turbine modeling

Document Type: Conference Paper

Source: Scopus

Nasr, M., Saad, I.E.

Formulation and evaluation of mastic gum as a compression coat for colonic delivery of 5-flurouracil (2011) *International Journal of Drug Delivery*, 3 (3), pp. 481-491.

Faculty of pharmacy, Helwan University, Cairo, Egypt

Abstract

Mastic gum has been reported to possess considerable anti-tumor activity against human colorectal cancer. The purpose of this work was to evaluate mastic gum in formulation of colon-specific 5-flurouracil delivery system for effective treatment of colorectal cancer. Compression coated tablets, containing 5-flurouracil in the core tablet coated with 200 mg of different coating materials containing various proportions of mastic gum were evaluated for their 5-flurouracil in vitro release. The results indicated that the concentrations of mastic gum, sodium chloride as well as hydroxypropyl methyl cellulose (HPMC) in the coating materials significantly modify the drug release. The coating material (F6) consisted of 60% mastic gum, 15% sodium chloride and 25% HPMC is considered as a promising formula for achieving colon targeting of 5-flurouracil. Further, gamma-scintigraphic studies were carried out in healthy male volunteers to evaluate in vivo release of F6. The results showed that tablets remained intact in stomach and small intestine, however partial and complete release of the tracer occurred in the colon. The in-vitro antitumor activity of 5-flurouracil-mastic gum combination mixed in a ratio representing their concentrations in tablets coated with F6 was carried out against colon cancer cell line using MTT assay. The results revealed that 5-flurouracil-mastic gum mixture was more effective in arresting cell growth in comparison to that shown by 5-flurouracil or mastic alone. In conclusion, this new colonic drug delivery system is potentially useful for 5-flurouracil colon targeting. However, clinical benefits of using mastic in formulation of 5-flurouracil colonic tablets need further evaluation.

Document Type: Article

Source: Scopus

Cressy, R.^a, Farag, H.^b

Do size and unobservable company factors explain stock price reversals? (2011) *Journal of Economics and Finance*, 35 (1), pp. 1-21. Cited 2 times.

DOI: 10.1007/s12197-009-9076-4

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Abstract

We use daily price data from the Egyptian stock market and a Loser portfolio of 20 IPOs from the late 1990s that experienced dramatic 1-day price falls in the period 2004 to 2007 to estimate a 2-way fixed effects model of CARs. Observable covariates are company size and turnover growth and unobservables company and period fixed effects. Our results provide evidence of significant price reversal over the first 40 post-event days. Firm size is negatively correlated with post-event CARs, consistently with the argument that small firms have a stronger tendency to price-reverse due to greater informational opacity. But permanent, unobservable company-specific factors, account for a much larger percentage of post-event variation in stock prices and indicate an underlying heterogeneity in investor responses to initial price falls not uncovered before in the literature. Strong negative company effects following a price fall are found to presage reinforcing 'long term' price falls and strong positive company effects to presage countervailing 'long term' price reversals. At the extremes these company effects are sufficiently large to suggest that a trading strategy based on them would be profitable. © 2009 Springer Science+Business Media, LLC.

Author Keywords

Fixed Effects; Price reversal; Small Firm; Unobservable

Document Type: Article

Source: Scopus

Rashad, A.E.^a, Shamroukh, A.H.^a, Sayed, H.H.^b, Awad, S.M.^b, Abdelwahed, N.A.M.^c

Some novel thiopyrimidine nucleoside analogs: Synthesis and in vitro antimicrobial evaluation
(2011) *Synthetic Communications*, 41 (5), pp. 652-661. Cited 4 times.

DOI: 10.1080/00397911003632881

^a Photochemistry Department, National Research Center, Dokki, Cairo, Egypt

^b Organic Chemistry Department, Faculty of Pharmacy, Helwan University, Cairo, Egypt

^c Department of Natural and Microbial Products, National Research Center, Cairo, Egypt

Abstract

Some new S-alkyl derivatives of indeno[1',2':4,5]thieno[2,3-d]pyrimidine 2-8 were prepared starting with pyrimidine-2(1H)-thione derivative (1). Also, treatment of compound 1 with 2,3,4,6-tetra-O-acetyl- α -D-glucopyranosyl bromide or 1-O-acetyl-2,3,5-tri-O-benzoyl- β -D-ribofuranose afforded nucleosides 9 and 12, respectively. Furthermore, deprotection of the latter blocked nucleosides was achieved in methanolic ammonia to afford the desired free S-nucleoside derivatives 10 and 13, respectively. Some prepared products were screened for antimicrobial activity, and some of them showed promising activity. © 2011 Taylor & Francis Group LLC.

Author Keywords

Acyclic and cyclic nucleosides; antimicrobial activity; indeno[2,3-d] pyrimidines; S-alkyl derivatives

Document Type: Article

Source: Scopus

Shafaa, M.W.^a, El Shazly, L.H.^b, El Shazly, A.H.^c, El Gohary, A.A.^c, El Hossary, G.G.^c

Efficacy of topically applied liposome-bound tetracycline in the treatment of dry eye model
(2011) *Veterinary Ophthalmology*, 14 (1), pp. 18-25. Cited 12 times.

DOI: 10.1111/j.1463-5224.2010.00834.x

^a Department of Physics, Faculty of Science, Helwan University, Cairo, Egypt

^b Department of Ophthalmology and Pathology, Memorial Institute of Ophthalmology, Giza, Egypt

^c Departments of Physiology and Pharmacology, Research Institute of Ophthalmology, Giza, Egypt

Abstract

Objective To evaluate the effects of liposome-bound tetracycline eye drops in a rabbit dry eye model evaluating their advantage of being less allergic, preservative free and prolonged action compared with other tear substitutes. **Procedures** New Zealand albino rabbits were equally divided into control group and dry eye induced groups. Dryness was induced in 24 eyes of 12 healthy adult male albino rabbits by instilling atropine sulfate eye drops 1% three times daily for 1 week, then animals were subdivided into four groups; group 1 (rabbits with dry eye model), groups 2, 3, and 4: rabbits with dry eye model treated for 7 days starting on 7th day of dryness induction with either tetracycline, empty liposome, or combined tetracycline with liposome as topical eye drops respectively. Schirmer (STT) test and tear break up time (TBUT) were assessed on days 0, 2, 4, 7, 9, 11, and 14. Animals were sacrificed on day 14 and histopathological examination of the cornea and conjunctiva was performed. **Results** Tear break up time and STT test values were significantly improved in groups 2, 3, 4 as compared with group 1. The histopathological examination showed normal cytoarchitecture of corneas and conjunctivae in groups 2, 3, 4 against the dryness effect that continued to affect the cornea and conjunctival epithelium in group 1. There was a significant improvement in the group treated with liposome-bound tetracycline eye drops (group 4) as compared with tetracycline alone (group 2) and empty liposome (group 3). **Conclusion** The use of liposome encapsulated tetracycline significantly improved STT and TBUT values as well as reverse surface ocular pathology. © 2011 American College of Veterinary Ophthalmologists.

Author Keywords

Dry eye; Liposomes; Rabbit model; Tetracycline

Document Type: Article

Source: Scopus

Dorrah, H.T.^a, El-Garhy, A.M.^b, El-Shimy, M.E.^c

PSO-BELBIC scheme for two-coupled distillation column process(2011) *Journal of Advanced Research*, 2 (1), pp. 73-83. Cited 10 times.**DOI:** 10.1016/j.jare.2010.08.004^a Department of Electrical Power and Machines, Faculty of Engineering, Cairo University, Giza, Egypt^b Department of Electronics, Communications and Computers, Faculty of Engineering, Helwan University, Helwan, Egypt^c King Saud University, Riyadh, Saudi Arabia**Abstract**

In the two-coupled distillation column process, keeping the tray temperatures within a specified range around their steady state values assures the specifications for top and bottom product purity. The two-coupled distillation column is a 4 Input/4 Output process. Normally, control engineers decouple the process into four independent loops. They assign a PID controller to control each loop. Tuning of conventional PID controllers is very difficult when the process is subject to external unknown factors. The paper proposes a Brain Emotional Learning Based Intelligent Controller (BELBIC) to replace conventional PID controllers. Moreover, the values of BELBIC and PID gains are optimized using a particle swarm optimization (PSO) technique with minimization of Integral Square Error (ISE) for all loops. The paper compares the performance of the proposed PSO-BELBICs with that of conventional PSO-PID controllers. PSO-BELBICs prove their usefulness in improving time domain behavior with keeping robustness for all loops. © 2010.

Author Keywords

Brain Emotional Learning Based Intelligent Controller (BELBIC); Particle Swarm Optimization (PSO); PID controller; Two-coupled distillation column

Document Type: Article**Source:** ScopusEl Awady, M.K.^a, Anany, M.A.^a, Esmat, G.^b, Zayed, N.^b, Tabll, A.A.^a, Helmy, A.^e, El Zayady, A.R.^c, Abdalla, M.S.^f, Sharada, H.M.^f, El Raziky, M.^b, El Akel, W.^b, Abdalla, S.^d, Bader El Din, N.G.^a**Single nucleotide polymorphism at exon 7 splice acceptor site of OAS1 gene determines response of hepatitis C virus patients to interferon therapy**(2011) *Journal of Gastroenterology and Hepatology (Australia)*, 26 (5), pp. 843-850. Cited 14 times.**DOI:** 10.1111/j.1440-1746.2010.06605.x^a Department of Microbial Biotechnology, National Research Center, Egypt^b Department of Tropical Medicine Gastroenterology and Liver Diseases, Kasr El Aini, Egypt^c Cairo Liver Center, Egypt^d Department of Clinical Pathology, El Sahel Teaching Hospital, Cairo, Egypt^e National Liver Institute, Shebeen El Kom, EL Monufea, Egypt^f Faculty of Sciences Helwan University, Helwan, Egypt**Abstract**

Background and Aim: Response to interferon therapy and disease progression in hepatitis C virus (HCV) infected patients differs among individuals, suggesting a possibility of a contribution of host genetic factors. 2'-5'-oligoadenylate synthetase 1 (OAS1), an important component of the innate immune system with a proven antiviral function, may therefore have a relationship with the response to interferon therapy and clinical course of HCV disease. Our aim was to determine the frequency of single nucleotide polymorphism (SNP) at exon 7 splice acceptor site (SAS) of the OAS1 gene in relation to the interferon response and status of HCV infection. **Methods:** A 203bp fragment containing exon 7 SAS was amplified in 70 HCV chronic patients and 50 healthy controls. SNP was examined using restriction fragment length polymorphism (RFLP) genotyping method. Correlations of SNP genotypes with response to interferon and clinical status of patients were statistically analyzed. **Results:** There was an increasing trend of response from AA to AG to GG genotypes ($P=0.007$). Genotype AA was associated with non-response to interferon and higher degree of liver fibrosis ($P=0.05$). Multivariate analysis showed this SNP as independent and a significant determinant of the outcome of interferon therapy (odds ratio 4.913 [95% confidence interval 1.365-8.2], $P=0.006$). **Conclusions:** This is the first study to show a significant association between the functional SNP at exon 7 SAS of OAS1 gene and the viral response to interferon in chronic HCV patients. Patients with AA genotype were associated with progressive HCV disease and viral resistance to interferon therapy. This OAS SNP is a potential biomarker to predict IFN response in chronic hepatitis C patients. © 2011 Journal of Gastroenterology and Hepatology Foundation and Blackwell Publishing Asia Pty Ltd.

Author Keywords

Hepatitis C virus; Liver fibrosis; OAS1; Response to interferon therapy; Single nucleotide polymorphism

Document Type: Article

Source: Scopus

Seliem, H.M.^a, Rizkalla, S.^b

Confinement of concrete piles with FRP

(2011) *Advances in FRP Composites in Civil Engineering - Proceedings of the 5th International Conference on FRP Composites in Civil Engineering, CICE 2010*, pp. 650-653.

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^b Lining Ding and Constructed Facilities Laboratory, North Carolina State University, Raleigh NC, United States

Abstract

Precast piles are typically reinforced with steel spiral to provide confinement for the concrete core to increase the load carrying capacity as well as ductility of the pile. Confinement is particularly critical within the top region of the pile to resist the impact forces during driving. Due to direct exposure of piles to soils and harsh minerals, corrosion of outer spiral can compromise the long-term durability of typical piles. Since carbon fiber reinforced polymer (CFRP) materials are non-corrosive, they provide a promising alternative to the spiral steel for precast piles. This paper summarizes test results of an experimental program undertaken to evaluate the performance of specially designed CFRP Grid to replace the steel spirals for piles. Seven short columns, representing a 914 mm long section at the top of a pile were tested up to failure to study the effectiveness of the proposed CFRP Grid as reinforcement for confinement. © 2011 Tsinghua University Press, Beijing and Springer-Verlag Berlin Heidelberg.

Document Type: Conference Paper

Source: Scopus

Salem, H.F.^a, Eid, K.A.M.^b, Sharaf, M.A.^c

Formulation and evaluation of silver nanoparticles as antibacterial and antifungal agents with a minimal cytotoxic effect

(2011) *International Journal of Drug Delivery*, 1 (2), pp. 293-304. Cited 9 times.

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^b Department of Chemistry, Helwan University, Ain Helwan 11795, Egypt

^c Department of Chemistry, The American University in Cairo, New Cairo, Helwan 11835, Egypt

Abstract

Preparation of non-biodegradable nanoparticles is a fast growing field, which is vital in both nanomedicine and nanotechnology applications. In this investigation, our attention will be focused on the preparation and evaluation of colloidal silver nanoparticles as antibacterial and antifungal agents. The colloidal silver nanoparticles have been prepared employing standard chemical reduction methods. The colloidal silver nanoparticles were characterized using transmission electron microscopy TEM, zeta potential, photo correlation spectroscopy PCS, and in vitro release kinetics. The particles thus obtained were spherical in shape and having an average particles size of 5-20 nm, zeta potentials of -25.5 to -38.3 mV, and the release kinetics was following zero order kinetics with r^2 0.96. The dissolution data indicates that the release of the silver nanoparticles is inversely correlated with the size of the nanoparticles i.e. the release increased with smaller particles. The results suggest that the Ag NPs would be stable in the pharmaceutical preparations and will be easily to the infection site. The colloidal silver nanoparticles were found to be very efficient antibacterial agents for different types of bacteria. The bacteria studied were namely: *E. coli*, *S. coccus*, *Salmonellae*, and *P. aeruginosa*. The associated antifungal effects were also investigated for *Aspergillus* and *Penicillium*. Cytotoxicity of the nanoparticle was studied using human fibroblast cell line. It was concluded that cytotoxicity is concentrations dependant. The results provided strong evidence that could warrant the consideration of silver nanoparticles as antibacterial and antifungal agent that could circumvent the side and passive effects of the conventional antibiotics.

Author Keywords

Antibacterial; Antifungal; Cytotoxicity; Micro-plate assay; Release kinetics; Silver nanoparticles

Document Type: Article

Source: Scopus

Shaaban, S.

Numerical optimization and experimental investigation of the aerodynamic performance of a three-stage gas-solid separator

(2011) *Chemical Engineering Research and Design*, 89 (1), pp. 29-38. Cited 3 times.

DOI: 10.1016/j.cherd.2010.04.008

Mechanical Power Engineering Department, Faculty of Engineering, Helwan University, Cairo, Egypt

Abstract

The present research investigates and optimizes the aerodynamic performance of a newly designed compact size three stage mobile gas-solid separator. This separator is designed to collect solid particles with different characteristics at a minimum pressure drop. The minimum particle diameter to be completely collected is $1\mu\text{m}$ at solid loading 20g/m^3 . The first stage of the separator is a settling chamber which is designed to collect coarse particles (particles down to particle diameter $100\mu\text{m}$). The second stage is a cyclone separator where medium to fine particles (particles down to particle diameter $15\mu\text{m}$) are to be collected. Particles escaping the cyclone separator are collected in the third stage which is a bag filter. A separator conceptual aerodynamic design is first performed to obtain overall separator dimensions. CFD simulation is used in order to optimize the separator aerodynamic performance and reduce the separator size. The separator is then constructed and experimentally investigated. Comparison between CFD results at design point and measured separator total pressure drop shows good agreement. © 2010 The Institution of Chemical Engineers.

Author Keywords

Aerodynamic; Bag filter; Cyclone; Dust collector; Gas-solid Separator; Settling chamber

Document Type: Article

Source: Scopus

Nasr, M.M.

An enhanced e-learning environment for Deaf/HOH pupils

(2010) *ICCTD 2010 - 2010 2nd International Conference on Computer Technology and Development, Proceedings*, art. no. 5646421, pp. 724-727. Cited 1 time.

DOI: 10.1109/ICCTD.2010.5646421

Faculty of Computers and Information, Helwan University, Egypt

Abstract

e-Learning is considered to be untraditional entrance to this century of technology, where disabled pupils mustn't be apart from taking the benefits of using this technology. This new technology where disabled pupils touch in their daily life by direct and indirect way, being far from this technology leads to shortage in skills and knowledge that will badly affect their life. Pupils with disabilities need to transfer skills and learn a specific lectures must not stay with bound hands waiting for the mentors for preparing the appropriate time and place to attend the lectures they need, but they can crossover all time and place obstacles by e-Learning. Disabilities or learning difficulties pupils' needs are rarely taken in consideration in developing e-learning systems. Disabled pupils often dispose of only limited reading competency, they have serious problems in dealing with learning systems. The paper presents eLearning paradigm for Deaf/HOH pupils was adopted to work Bilingual (Spoken/Sign Language). The proposed eLearning paradigm provides many learning facilities for its users according to their roles in the paradigm, supports implicit scripted collaborative task. The proposed paradigm also shows an integration of the interactive & social tools together with translation to sign language increase the usability and interactivity within virtual learning environment for disabled users. © 2010 IEEE.

Author Keywords

Collaborative learning; Disabilities; e-learning; Sign language; Virtual class room

Document Type: Conference Paper

Source: Scopus

El-Haleem, A.M.A., Ali, I.A., Ibrahim, I.I., El-Sawy, A.R.H.

Trust Model for TRIDNT trust based routing protocol

(2010) *ICCTD 2010 - 2010 2nd International Conference on Computer Technology and Development, Proceedings*, art. no. 5645954, pp. 538-544.

DOI: 10.1109/ICCTD.2010.5645954

Faculty of Engineering, Helwan University, Helwan, Egypt

Abstract

In a mobile ad-hoc network, nodes cannot rely on any fixed infrastructure for routing purposes. Rather, they have to cooperate to achieve this objective. However, performing network functions consumes energy and other resources. Therefore, some network nodes may decide against cooperating with others; selfish nodes. Also security issues are more paramount in such networks even more so than in wired networks. In particular these networks are extremely under threat to insider; malicious nodes; especially through packet dropping attacks. Selfish and malicious nodes are

termed as misbehaving nodes. Giving the selfish nodes the incentive to cooperate, while isolating the misbehaving nodes have been an active research area recently. In this paper, we introduce our Trust Model for TRIDNT (Two node-disjoint Routes scheme for Isolating Dropper Node in MANET) the reactive trust based routing Protocol, which allows some degree of node selfishness to give an incentive to the selfish nodes to declare its selfishness behavior to its neighbors, which reduce the searching time of misbehaving nodes to search for the malicious nodes only. In the proposed TRIDNT trust model, the trust among nodes is represented by trust score, which consist of direct and indirect trust, with addition of new term called the cooperation score, the trust calculation is based on the beta probability density function. TRIDNT use both DLL-ACK and end- to-end TCP-ACK as monitoring tools to monitor the behavior of routing path nodes: if the data packet successfully transmitted, then the path nodes trust value are updated positively; otherwise, if a malicious behavior is detected the path searching tool starts to identify the malicious nodes and update its trust value negatively and isolate them from the routing path and the network. We use the cooperation score to measure the unselfishness behavior of a suspect node and control the allowed selfishness behavior. Finally we calculate an accurate trust value threshold to distinguish between trustworthy or untrustworthy node. © 2010 IEEE.

Author Keywords

Ad hoc network; Network security; Trust base routing

Document Type: Conference Paper

Source: Scopus

Rafea, M.^a , Zaki, H.^a , Sultan, T.^b

Bioinformatics data mining tool using data collected from red blood cells hemolysate

(2010) *ICCTD 2010 - 2010 2nd International Conference on Computer Technology and Development, Proceedings*, art. no. 5645850, pp. 485-489.

DOI: 10.1109/ICCTD.2010.5645850

^a Central Lab of Agriculture Expert Systems (CLAES), Giza, Egypt

^b Faculty of Computers and Information, Helwan University, Cairo, Egypt

Abstract

The mathematical model described in this paper is based on a discovery of a phenomenon related to red blood cells. In this phenomenon, the hemolysate of red blood cells reacts with antibodies from the plasma of the same patient. Using proteomics approach to identify those hemolysate antigens and then build a database containing those antigens can help in diagnosis, prognosis, and treatment of disease disorders. In this paper, algorithms and a tool, based on the mathematical model and the database, are described. The tool is tested using hypothetically generated data and it achieved satisfying results as it detected the proposed diseases. © 2010 IEEE.

Author Keywords

Antigens; Bioinformatics; Data mining tool; Proteomics; Red blood cells

Document Type: Conference Paper

Source: Scopus

Khedr, A.E.^a , Aly, M.M.R.^b

An integration framework for search engine architecture to improve information retrieval quality

(2010) *ICCTD 2010 - 2010 2nd International Conference on Computer Technology and Development, Proceedings*, art. no. 5645951, pp. 506-510.

DOI: 10.1109/ICCTD.2010.5645951

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Abstract

This Study presents a smart information retrieval methodology/smart retrieval query technique that depends on the power of search engine, crawlers, full text indexing, and descriptions points for documents contents or websites as known as "An integration framework for search engine architecture to improve information retrieval quality" or smart information retrieval. The new idea for search engine architecture able to make search statement or document print that used in searching operations which depend on Boolean retrieval that uses Boolean algebra and truth table comparative technique. Search engine indexer makes indexing for documents and web sites contents which depend on the performance and quality of search engine, indexer and web crawler to produce precision, recall through crawling and indexing operations to identify folding and stemming words according to smart web query engine which has accurate crawler architecture, truth table comparative technique and search statement or document print. © 2010 IEEE.

Author Keywords

Clawers; Search document print (SDP); Search engine; Search statement print (SSP); Smart information retrieval (SIR); Truth table comparative technique (TTCT)

Document Type: Conference Paper

Source: Scopus

Nasr, M.M.

Mobile agent based paradigm for e-learning environment

(2010) *ICCTD 2010 - 2010 2nd International Conference on Computer Technology and Development, Proceedings*, art. no. 5646424, pp. 728-731. Cited 1 time.

DOI: 10.1109/ICCTD.2010.5646424

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Abstract

Mobile Agent (MA) technology is attracting more attention. Mobile Agent goes through many applications via web like auction rooms, job finder...etc. Mobile Agent technology may solve many problems for many enterprises. e-Learning attracts most recent technologies trying to model and to present the most ideal and suitable solution to covers most of the processes needed in its web-based environment. Mobile Agent enters the field of e-Learning to facilitate the mechanism with the learning environment between the various parties. This paper highlights some of the problems that appear in the web-based virtual learning environment (VLE), and presents a paradigm with one of the recent and core technologies as a solution for the problems; the Mobile Agent. This paper shows the interactive and vital role of the Mobile Agent in joining intellectual efforts between students and teachers working in a secure VLE taking in consideration agents' roles, tasks and interactions in the analysis. © 2010 IEEE.

Author Keywords

Collaboration learning service (CLS); e-learning; Mobile agent; Virtual learning environment (VLE)

Document Type: Conference Paper

Source: Scopus

Shawky, D.M.^a, Ali, A.F.^b

A practical measure for the agility of software development processes

(2010) *ICCTD 2010 - 2010 2nd International Conference on Computer Technology and Development, Proceedings*, art. no. 5645881, pp. 230-234. Cited 2 times.

DOI: 10.1109/ICCTD.2010.5645881

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^b Biomedical Engineering Dept., Faculty of Engineering, Helwan University, Helwan, Egypt

Abstract

In the software industry, a large number of projects fail and billions of dollars are spent on failed software projects. Lack of an end user involvement, poor requirements, and unrealistic schedules are some of the top reasons of such failure. Agile software development is an approach that addresses these problems through a real communication between programmers and customers. Thus, there is a need to quantify software agility. In this paper, an approach for quantifying software agility is provided by modeling the key concepts in agile software and proposing a measure that can be used in representing how agile a software development process is. The proposed measure employs information entropy as the main concept related to software agility. The suggested measure is tested on two open source case studies. Experimental results demonstrate the validity and suitability of the agility measure. © 2010 IEEE.

Author Keywords

Agile software; Entropy; Software measurement

Document Type: Conference Paper

Source: Scopus

Abdelfattah, M.S.^{a b}, Kazufumi, T.^a, Ishibashi, M.^a

Izumiphenazines A-C: Isolation and structure elucidation of phenazine derivatives from *Streptomyces* sp. IFM 11204

(2010) *Journal of Natural Products*, 73 (12), pp. 1999-2002. Cited 19 times.

DOI: 10.1021/np100400t

^a Graduate School of Pharmaceutical Sciences, Chiba University, 1-33 Yayoi-cho, Inage-ku, Chiba 263-8522, Japan

^b Chemistry Department, Faculty of Science, Helwan University, Cairo 11795, Egypt

Abstract

Three new phenazine derivatives, named izumiphenazines A-C (1-3), and the known phenazine-1,6-dicarboxylic acid (4) were isolated from *Streptomyces* sp. IFM 11204. The structures of the isolated compounds were elucidated by means of spectroscopic methods including UV, IR, HRESIMS, and 1D and 2D NMR. Compounds 1-3 were evaluated for their activity in overcoming TRAIL (TNF-related apoptosis-inducing ligand) resistance in human gastric adenocarcinoma cells. Compounds 2 (30 μ M) and 3 (20 μ M) in combination with TRAIL showed synergistic activity in sensitizing TRAIL-resistant AGS cells. © 2010 The American Chemical Society and American Society of Pharmacognosy.

Document Type: Article

Source: Scopus

Alhendal, Y.^a, Turan, A.^a, Aly, W.I.A.^b

VOF simulation of marangoni flow of gas bubbles in 2D-axisymmetric column

(2010) *Procedia Computer Science*, 1 (1), pp. 673-680. Cited 6 times.

DOI: 10.1016/j.procs.2010.04.072

^a School of Mechanical, Aerospace and Civil Engineering, University of Manchester, United Kingdom

^b Department of Refrigeration and Air Conditioning Technology, Faculty of Industrial Education, Helwan University, 11282 Cairo, Egypt

Abstract

The migration of gas bubbles immersed in a liquid under the action of temperature gradient and surface tension (Marangoni flow) in zero gravity environment is numerically investigated for different Ma, Re, and Pr (Marangoni, Reynolds, and Prandtl numbers). The full Navier-Stokes equations as well as the energy equation for temperature gradient are solved by a volume of fluid (VOF) method/Finite Volume method, and the surface tension force is modeled by a continuum surface force (CSF) model. The behavior of bubble migrating toward the hotter side by the action of surface tension using the flow relations between two bubbles (leading and trailing bubble), and the trajectories and the velocities of the different bubbles diameters, in microgravity environment have been investigated numerically. It has been verified that the calculated results are in good agreement with available experimental and numerical results. It is also concluded that the VOF is able to simulate two-phase flow under zero gravity conditions.

Author Keywords

Bubbles; Marangoni flow; VOF; Zerogravity

Document Type: Conference Paper

Source: Scopus

Saad, E.M., Awadalla, M.H., Alajmi, A.

Arabic verb pattern extraction

(2010) *10th International Conference on Information Sciences, Signal Processing and their Applications, ISSPA 2010*, art. no. 5605427, pp. 642-645. Cited 3 times.

DOI: 10.1109/ISSPA.2010.5605427

Communication and Electronics Dept., Faculty of Engineering, Helwan University, Egypt

Abstract

Arabic is a highly inflected language, and therefore the processes of stemming and root extracting represent a challenge to researches. A new method is presented for extracting Arabic text stem, and lemma. Stemming sometimes affects the semantic of a word, where as lemma preserve the meaning of a word. The approach is based on pattern extraction. It uses a special encoding based on dividing letters into original and non-original letters. Codes are automatically generated for each pattern and then match against input text to extract root, pattern, and lemma of a word. A comparison with other methods reveals a promising result with accuracy up to 96%. © 2010 IEEE.

Author Keywords

Morphological analyzer; Natural language processing; Root extraction

Document Type: Conference Paper

Source: Scopus

Shawky, D.M.^a, Ali, A.F.^b

Modeling clones evolution in open source systems through chaos theory

(2010) *ICSTE 2010 - 2010 2nd International Conference on Software Technology and Engineering, Proceedings*, 1, art. no. 5608893, pp. V1159-V1164. Cited 3 times.

DOI: 10.1109/ICSTE.2010.5608893

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^b Biomedical Engineering Dept., Faculty of Engineering, Helwan University, Helwan, Egypt

Abstract

A code clone is a code fragment that is identical or similar to another according to a certain similarity definition. Usually, it is a result of certain programmer's practices. Unjustified cloned codes can cause an increase in maintenance effort. In addition, they are -sometimes-a sign of poor design. This paper presents an approach for modeling clones evolution in open source systems. It adapts chaos theory for predicting clones in new versions of a software system. The number of clones in each version is identified and analyzed as a time series data. The existence of chaos is tested through the calculation of Lyapunov exponent and correlation dimension. Experimental results show that clones evolution in open source systems is a chaotic process. Thus, prediction in new versions can be done with high prediction accuracy using chaos theory. © 2010 IEEE.

Author Keywords

Chaos theory; Clones detection; Clones evolution

Document Type: Conference Paper

Source: Scopus

Okb El Bab, A.S.^a, Ghany, H.A.^b

Harmonic analysis on hypergroups

(2010) *International Journal of Pure and Applied Mathematics*, 64 (1), pp. 9-19. Cited 8 times.

^a Department of Mathematics, Faculty of Science, Al Azhar University, Naser City, Cairo, 11371, Egypt

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Abstract

The main task in this article is to give the necessary and sufficient conditions which guarantee that the product of two positive definite functions defined on a hypergroup X is also positive definite on X . Also, we prove that a continuous function with compact support ψ is negative definite if and only if $\exp(-t\psi)$ is positive definite for each $t > 0$. Moreover, we will give some relations between the class of completely monotonic functions on a hypergroup and the set of τ -positive functions. © 2010 Academic Publications.

Author Keywords

Completely monotone; Hypergroup; Positive definite

Document Type: Article

Source: Scopus

Darwish, A.A.^a, Zaki, W.M.^a, Saad, O.M.^a, Nassar, N.M.^a, Schaefer, G.^b

Human authentication using face and fingerprint biometrics

(2010) *Proceedings - 2nd International Conference on Computational Intelligence, Communication Systems and Networks, CICSyN 2010*, art. no. 5616134, pp. 274-278. Cited 7 times.

DOI: 10.1109/CICSyN.2010.40

^a Computer Science Department, Helwan University, Cairo, Egypt

^b Computer Science Department, Loughborough University, United Kingdom

Abstract

Multimodal biometric approaches are growing in importance for personal verification and identification, since they provide better recognition results and hence improve security compared to biometrics based on a single modality. In this paper, we present a multimodal biometric system that is based on the fusion of face and fingerprint biometrics. For face recognition, we employ uniform local binary patterns (ULBP), while minutiae extraction is used for fingerprint recognition. Fusion at matching score level is then applied to enhance recognition performance. In particular, we employ the product rule in our investigation. The final identification is then performed using a nearest neighbour

classifier which is fast and effective. Experimental results confirm that our approach achieves excellent recognition performance, and that the fusion approach outperforms biometric identification based on single modalities © 2010 IEEE.

Author Keywords

Biometrics; Face recognition; Fingerprint recognition; Fusion; Security

Document Type: Conference Paper

Source: Scopus

Abu-Gharbieh, E.^a, Fahmy, S.^b, Rasoo, B.A.^a, Khan, S.^a

Influenza vaccination: Healthcare workers attitude in three middle east countries

(2010) *International Journal of Medical Sciences*, 7 (5), pp. 319-325. Cited 8 times.

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^b Faculty of Pharmacy, Helwan University, Helwan, Egypt

Abstract

Background: Healthcare workers (HCWs) pose a potential risk of transmitting communicable diseases in the hospital settings where they usually work. This study aims to determine the current influenza vaccination rates among HCWs in three Middle East countries namely United Arab Emirates (UAE), Kuwait and Oman, and also to identify the different variables associated with the noncompliance of HCWs to the recommendations of the Advisory Committee on Immunization Practices (ACIP) set in those countries. Methods: 1500 questionnaires were distributed to health care workers in the three countries during the period of July-October 2009. Results: Among 993 respondents, the vaccination rate was 24.7%, 67.2% and 46.4% in UAE, Kuwait and Oman, respectively. The different motivating factors that influenced the health care workers to take the vaccine was assessed and found that the most common factor that influenced their decision to take the vaccine was for their self protection (59%). On the other hand, the most common reason that discouraged HCWs to take the vaccine was "lack of time" as reported by 31.8% of the respondents. Other reasons for not taking the vaccine were unawareness of vaccine availability (29.4%), unavailability of vaccine (25.4%), doubts about vaccine efficacy (24.9%), lack of information about importance (20.1%) and concerns about its side effects (17.3%). Conclusions: influenza immunization by healthcare workers in the studied countries was suboptimal which could be improved by setting different interventions and educational programs to increase vaccination acceptance among HCWs. © Ivyspring International Publisher. All rights reserved.

Author Keywords

Healthcare workers; Influenza; Vaccination

Document Type: Article

Source: Scopus

Rezq, A.A., Labib, F.A., Attia, A.E.M.

Effect of some dietary oils and fats on serum lipid profile, calcium absorption and bone mineralization in Mice

(2010) *Pakistan Journal of Nutrition*, 9 (7), pp. 643-650. Cited 4 times.

Department of Nutrition and Food Science, Faculty of Home Economics, Helwan University, Cairo, Egypt

Abstract

Amount and type of fats in the diet have an important effect on bone health and lipid profile. This study was conducted to investigate the effect of different types of dietary oils and fats on lipid profile, calcium absorption and bone mineralization in male mice. Mice weighing 25±5 g were divided into nine groups and fed on diets without oils or fats (control group) and containing soybean oil, corn oil, olive oil, palm oil, sunflower oil, butter, animal fat or margarine. Mice fed on diet containing soybean oil or olive oil had the lowest levels of TG, TC, LDL-c and HDL-c as compared to the other groups. Diets with palm oil, olive oil, sunflower oil, butter, animal fat or margarine caused significant decreases in the serum level of calcium as compared to the effect of diet without oils or fats. Mice fed diet containing olive oil, butter or animal fat had significant increase in bone density, while those fed diet containing soybean oil, corn oil, sunflower oil or margarine had significant decreases in femur bone density, compared to the control group. The apparent calcium absorption was significantly increased by feeding diets containing soybean oil, corn oil, palm oil, olive oil, sunflower oil, butter or animal fat. Dietary intake of vegetable oils improved lipid profile while butter, animal fat and margarine had the opposite effect. Butter and animal fats increased calcium and phosphorus deposition in femur bone more than vegetable oils. © Asian Network for Scientific Information, 2010.

Author Keywords

Bone density; Calcium; Fats; Lipid profile; Oils

Document Type: Article

Source: Scopus

Saleh, R.A.^a, Dkhil, M.A.^{b c}, Al-Quraishy, S.^b

Microscopic changes of the gastric mucosa in dyspeptic patients infected by Helicobacter pylori
(2010) *African Journal of Microbiology Research*, 4 (23), pp. 2543-2548.

^a Department of Anatomy, Faculty of Medicine, Al-Azhar University, Cairo, Egypt

^b Department of Zoology, College of Science, King Saud University, Riyadh, Saudi Arabia

^c Department of Zoology and Entomology, Faculty of Science, Helwan University, Helwan, Egypt

Abstract

Forty patients complaining from dyspepsia were used in this study. Exclusion criteria were recent or past history of gastric neoplasm of gastric surgery, long term therapy with nonsteroidal antiinflammatory drugs and previous treatment with antibiotics or bismuth salts. Serum samples obtained from each patient were tested for the presence of IgG and IgA antibodies against Helicobacter pylori using standard ELISA. Gastric mucosal biopsies specimens were obtained from each patient, by gastroscopy. Specimens were fixed for light and scanning electron microscopic preparations. Light microscopic examinations showed the inflammatory cellular infiltration. By scanning electron microscopy more than 50% of biopsies appeared with mucosal ulceration, atrophy and metaplasia. The study demonstrates the destructive effect of H. pylori on the gastric mucosa. ©2010 Academic Journals.

Author Keywords

Gastric mucosa; Helicobacter pylori; Light and electron microscopy

Document Type: Article

Source: Scopus

Dkhil, M.A.^{a b}, Al-Quraishy, S.^b

Effects of extensive consumption of hot red pepper fruit on liver of rabbit
(2010) *Journal of Medicinal Plants Research*, 4 (23), pp. 2533-2538.

^a Department of Zoology and Entomology, Faculty of Science, Helwan University, Egypt

^b Department of Zoology, College of Science, King Saud University, Riyadh, Saudi Arabia

Abstract

In the present study, we examined the effects of hot red pepper on rabbit's hepatic tissue. Rabbits were orally ingested 2 g/Kg hot red pepper every day for 10 days. Hot red pepper induced a significant increase in temperature of rabbits after oral ingestion of each dose. Hepatic tissue damage was recorded through examination of the stained paraffin embedded sections. Inflammatory cellular infiltration and hepatocytic vacuolation were marked in rabbits ingested with the hot red pepper. Histochemical studies reveal a decrease in both of carbohydrates and protein contents in the liver. Serum alanine aminotransferase (ALT), aspartate aminotransferase (AST), cholesterol, triglycerides and glucose were decreased in rabbit due to oral ingestion of hot red pepper. These scientific evidences show that hot red pepper possesses some chemical and pharmacological properties which are capable of inducing liver damage. Therefore, based on the findings of this study, the excessive consumption of red pepper is capable of inducing liver damage and so should be avoided. © 2010 Academic Journals.

Author Keywords

Biochemistry; Histology; Rabbit liver; Red pepper

Document Type: Article

Source: Scopus

Hammad, N.M.

Vehicle valve regulated lead acid battery modeling and fault diagnosis
(2010) *SAE Technical Papers*, . Cited 3 times.

DOI: 10.4271/2010-01-0028

Helwan Univ., Egypt

Abstract

The estimation of vehicle battery performance is typically addressed by testing the battery under specific operation conditions by using a model to represent the test results. Approaches for representing test results range from simple statistical models to neural networks to complex, physics-based models. Basing the model on test data could be

problematical when testing becomes impractical with many years life time tests. So, real time estimation of battery performance, an important problem in automotive applications, falls into this area. In vehicles it is important to know the state of charge of the batteries in order to prevent vehicle stranding and to ensure that the full range of the vehicle operation is exploited. In this paper, several battery models have studied including analytical, electrical circuits, stochastic and electro-chemical models. Valve Regulated Lead Acid "VRLA" battery has been modelled using electric circuit technique. This model is considered in the proposed Battery Monitoring System "BMS". The proposed BMS includes data acquisition, data analysis and prediction of battery performance under a hypothetical future loads. Based on these criteria, a microprocessor based BMS prototype had been built and tested in automotive Lab, Helwan university. The tests show promising results that can be used in industrial applications Copyright © 2010 SAE International.

Document Type: Conference Paper

Source: Scopus

Elgendy, E.^a, Schmidt, J.^a, Khalil, A.^b, Fatouh, M.^c

Performance of a gas engine heat pump (GEHP) using R410A for heating and cooling applications

(2010) *Energy*, 35 (12), pp. 4941-4948. Cited 15 times.

DOI: 10.1016/j.energy.2010.08.031

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^b Mechanical Power Engineering Department, Faculty of Engineering, Cairo University, Giza 12316, Egypt

^c Mechanical Power Engineering Department, Faculty of Engineering at El-Mattaria, Helwan University, Masaken El-Helmia P.O., Cairo 11718, Egypt

Abstract

A gas engine heat pump (GEHP) represents one of the most practicable systems which improve the overall energy utilization efficiency and reduce the operating cost for heating and cooling applications. The present work aimed at evaluating the performance of a GEHP for air-conditioning and hot water supply. In order to achieve this objective, a test facility was developed and experiments were performed over a wide range of engine speed (1200rpm-1750rpm), ambient air temperature (24.1°C-34.8°C), evaporator water flow rate (1.99m³/h-3.6m³/h) and evaporator water inlet temperature (12.2°C-23°C). Performance characteristics of the GEHP were characterized by water outlet temperatures, cooling capacity, heating capacity and primary energy ratio (PER). The results showed that the effect of evaporator water inlet temperature on the system performance is more significant than the effects of ambient air temperature and evaporator water flow rate. PER of the considered system at evaporator water inlet temperature of 23°C is higher than that one at evaporator water inlet temperature of 12.2°C by about 22%. PER of the system decreases by 16% when engine speed changes from 1200rpm to 1750rpm. © 2010 Elsevier Ltd.

Author Keywords

Combined system; Gas engine heat pump; Heat recovery; Primary energy ratio; R410A

Document Type: Article

Source: Scopus

Azzam, L.M.

Remains of a marsh scene from the mastaba of Shemai at Kom el-Koffar

(2010) *Mitteilungen des Deutschen Archaologischen Instituts - Abteilung Kairo*, 66, pp. 1-12.

Department of Archaeology and Civilization, Faculty of Arts, Helwan University, Egypt

Abstract

This article deals with the study of block no. 185, currently housed at the Supreme Council of Antiquities' magazine at Qift. It comprises a marsh scene that once formed part of the tomb decoration repertoire of the vizier Shemai at Kom el-Koffar. The tomb dates back to the reign of king Neferkauhor of the 8th Dynasty.

Document Type: Article

Source: Scopus

El-Sherbeny, M.S.

Methodology and theory: The optimal system for series systems with mixed standby components

(2010) *Journal of Quality in Maintenance Engineering*, 16 (3), pp. 319-334. Cited 1 time.

DOI: 10.1108/13552511011072943

Department of Mathematics, Faculty of Science, Helwan University, Cairo, Egypt

Abstract

Purpose - The main objective of this paper is to study the optimal system for series systems with mixed standby (including cold standby, warm standby and hot standby) components. Design/methodology/approach - The paper deals with the reliability and availability characteristics of four different series system configurations. The failure time of the operative, hot standby and warm standby are assumed to be exponentially distributed with parameters λ , λ , and λ respectively. The repair time distribution of each server is also exponentially distributed with parameter m . Findings - The meantime to failure, $MTTF_i$, and the steady-state availability A_i^∞ for four Configurations are examined and comparisons made. For all four configurations, the configurations are ranked based on: $MTTF_i$, A_i^∞ , and $C_i=B_i$ where B_i is either $MTTF_i$ or A_i^∞ . Obviously, the system with height $MTTF_i$ and A_i^∞ , do not need frequent maintenance, i.e. less maintenance. Originality/value - Numerical results for the cost/benefit measure have been obtained for all configurations. It is interesting to note first that the optimal configuration using the cost= $MTTF_i$ measure is configuration 4. Next the optimal configuration using the cost= A_i^∞ measure is configuration 2. © Emerald Group Publishing Limited.

Author Keywords

Cost benefit analysis; Reliability management

Document Type: Article

Source: Scopus

Abdalkhalek, H.^a, Abdelfattah, M.^b

A visualization-based intelligent decision support system conceptual model

(2010) *Innovations and Advances in Computer Sciences and Engineering*, pp. 353-358. Cited 2 times.

DOI: 10.1007/978-90-481-3658-2_61

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^b Faculty of Computers and Information, El Minea University, Egypt

Abstract

The development of Intelligent Decision Support Systems IDSS is still requiring much effort to cope with both: the complexity of today decisions and daily flood of risky decisions. However evolving a covenant intelligent components and visualization aspects in IDSS are big challenges to be developed; but it would provide a muzzy decision taker an insight, preference, and much capability during a decision choice. This paper opt the advanced information visualization schemes for both decision's fact finding and decision taking processes. It proposes a conceptual model for IDSS that integrates DSS and dynamic information visualization within enterprise functionality. And it has introduced a three-module IDSS conceptual model that assembles a model base subsystem, fact finding subsystem, and dynamic visualization subsystem as a practitioner solution. The paper will focus on information visualization as an emerging computing relevant to be incorporated in order to model hidden facts in data and to expose such patterns in a visual manner. Finally this work formulates a viability of implementing such architecture and presents the conclusions. © Springer Science+Business Media B.V. 2010.

Author Keywords

A muzzy decision taker; IDSS; IDSS visual interfaces; Interactive information visualization IIV; IV-IDSS

Document Type: Conference Paper

Source: Scopus

Saad, O.M., Amer, A.H., Abdellah, E.F.

On solving single-objective fuzzy integer linear fractional programs

(2010) *Applied Mathematics and Information Sciences*, 4 (3), pp. 447-457. Cited 5 times.

Mathematics Department, Faculty of Science, Helwan University Ain Helwan, Postal Code (11792), Cairo, Egypt

Abstract

A suggested program with fuzzy linear fractional objective and integer decision variables (FILFP) is considered. The fuzzy coefficients are involved in the numerator of the linear objective function and can be characterized by trapezoidal fuzzy numbers. The purpose of this paper is to outline an algorithm available to solve (FILFP). In addition, an illustrative example is included to demonstrate the correctness of the proposed solution algorithm. © 2010 Dixie W Publishing Corporation, U. S. A.

Author Keywords

Fractional programming; Fuzzy programming; Integer programming

Document Type: Article
Source: Scopus

Hassanien, A.E.^a, Schaefer, G.^b, Darwish, A.^c

Computational intelligence in speech and audio processing: Recent advances
(2010) *Advances in Intelligent and Soft Computing*, 75, pp. 303-311. Cited 1 time.

DOI: 10.1007/978-3-642-11282-9_32

^a Information Technology Department, Cairo University, Giza, Egypt

^b Department of Computer Science, Loughborough University, Loughborough, United Kingdom

^c Computer Science Department, Helwan University, Cairo, Egypt

Abstract

Computational intelligence techniques have been used for the processing of speech and audio for several years. Some of the applications in speech processing where computational intelligences are extensively used include speech recognition, speaker recognition, speech enhancement, speech coding and speech synthesis, while in audio processing, computational intelligence applications include music classification, audio classification and audio indexing and retrieval. In this paper we provide an overview of recent applications of modern computational intelligence theory in the field of speech and audio processing. © Springer-Verlag Berlin Heidelberg 2010.

Document Type: Article
Source: Scopus

Ayoub, N.^{a b}, Naka, Y.^a

Data mining in decision support for bioenergy production

(2010) *Intelligent Systems in Operations: Methods, Models and Applications in the Supply Chain*, pp. 290-308.

DOI: 10.4018/978-1-61520-605-6.ch015

^a Tokyo Institute of Technology, Japan

^b Helwan University, Egypt

Abstract

Deliberate exploitation of natural resources and excessive use of environmentally abhorrent materials have resulted in environmental disruptions threatening the life support systems. A human centric approach of development has already damaged nature to a large extent. This has attracted the attention of environmental specialists and policy makers. It has also led to discussions at various national and international conventions. The objective of protecting natural resources cannot be achieved without the involvement of professionals from multidisciplinary areas. This chapter recommends a model for the creation of knowledge-based systems for natural resources management. Further, it describes making use of unique capabilities of remote sensing satellites for conserving natural resources and managing natural disasters. It is exclusively for the people who are not familiar with the technology and who are given the task of framing policies. © 2010, IGI Global.

Document Type: Book Chapter
Source: Scopus

Haralambous, H.^a, Mahrous, A.^b, Vryonides, P.^a, Shemis, A.^b

Multi-instrument ionospheric disturbance detection over the Eastern Mediterranean region

(2010) *International Geoscience and Remote Sensing Symposium (IGARSS)*, art. no. 5652499, pp. 3541-3544.

DOI: 10.1109/IGARSS.2010.5652499

^a Frederick University Cyprus, Cyprus

^b Helwan University Egypt, Egypt

Abstract

This paper presents examples of a multi-instrument approach in ionospheric disturbance detection over the Eastern Mediterranean region. The results presented are based on a scientific initiative to establish an ionospheric monitoring network over Cyprus and Egypt by linking the corresponding instruments in operation in the two countries: a group of three Coherent Ionospheric Doppler Receiver (CIDR) systems being deployed in a roughly north-south chain in Egypt and a modern digital DPS-4D digisonde and a dual-frequency GNSS receiver in Cyprus. The CIDR and DPS-4D instruments considered in this paper have been recently installed in an effort to initiate ionospheric research in the

two countries. The cooperation in the frames of this project is considered very beneficial especially taking into account the fact that both countries lack important infrastructure and a tradition of ionospheric observations. © 2010 IEEE.

Author Keywords

Ionosphere; Ionospheric disturbance; Ionospheric electromagnetic propagation

Document Type: Conference Paper

Source: Scopus

El Kazzaz, Y.A.

Geometry of fold interference patterns in Wadi Kharit area, South Eastern Desert, Egypt

(2010) *Egyptian Journal of Remote Sensing and Space Science*, 13 (2), pp. 113-120.

DOI: 10.1016/j.ejrs.2010.12.001

Geology Department, Faculty of Science, Helwan University, Egypt

Abstract

Fold interference patterns and superimposed relations are common in the Neoproterozoic basement rocks of Egypt. They are the products of complex Precambrian orogenies formed by collision and accretionary island arcs onto a pre-Pan-African continent to the west of the River Nile. Fold interference patterns and superimposed folds affected the unmetamorphosed to slightly metamorphosed volcanoclastic rocks in Wadi Kharit area during the Pan-African tectono-thermal events (600-450 Ma). Superimposed folding in Wadi Kharit area resembles in many respects that of recorded in Hafafit Shear Zone. The difference is in the degree of deformation and grade of metamorphism. Fold interference patterns and superimposition in Wadi Kharit area are formed by a single phase of deformation rather than a polyphase of deformation. Most of the fractures and associated normal faults dissected Wadi Kharit area are of fold-related faulting, which are reactivated post-dating igneous intrusions. © 2011 National Authority for Remote Sensing and Space Sciences. Production and hosting by Elsevier B.V. All rights reserved.

Author Keywords

Fold interference patterns; Folding and refolding; Nappe structure; Overtaken fold

Document Type: Article

Source: Scopus

Abbas, W.^a, Abouelatta, O.B.^b, El-Azab, M.S.^c, Megahed, A.A.^d

Application of genetic algorithms to the optimal design of vehicle's driver-seat suspension model

(2010) *WCE 2010 - World Congress on Engineering 2010*, 2, pp. 1630-1635. Cited 1 time.

^a Engineering Physics and Mathematics Department, Faculty of Engineering (Mataria), Helwan University, Cairo, Egypt

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^d Mathematics and Engineering Physics Department, Faculty of Engineering, Cairo University, Cairo, Egypt

Abstract

The purpose of a seat suspension system are attempt to isolate vehicle vibration excitations from being transmitted to the drivers and to improve passenger comfort. Traditional seat suspension systems are composed of 2-DOF, that is springs and viscous dampers. This paper, presents a 7-DOF vehicle's driver model with seat suspension system. A genetic algorithm is applied to search for the optimal parameters of the seat in order to minimize seat suspension deflection and driver's body acceleration to achieve the best comfort of the driver. The simulation results were compared with the ones of the passive suspensions through step and sinusoidal excitation of the seat suspension system for the currently used suspension systems. The optimum design parameters of the suspension systems obtained are $k_{se}=5014.1$ N/m and $c_{se}=55.5$ N.s/m in case of sinusoidal input and $k_{se}=42934$ N/m and $c_{se}=50$ N.s/m in case of step input, respectively.

Author Keywords

Biodynamic response; Genetic algorithms; Seat-driver suspension model; Simulation

Document Type: Conference Paper

Source: Scopus

Eid, H.F.^a, Darwish, A.^b, Ella Hassanien, A.^c, Abraham, A.^d

Principle components analysis and support vector machine based Intrusion Detection System
(2010) *Proceedings of the 2010 10th International Conference on Intelligent Systems Design and Applications, ISDA'10*, art. no. 5687239, pp. 363-367. Cited 6 times.

DOI: 10.1109/ISDA.2010.5687239

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^c Faculty of Computers and Information, Cairo University, Cairo, Egypt

^d Machine Intelligence Research Labs, MIR Labs, United States

Abstract

Intrusion Detection System (IDS) is an important and necessary component in ensuring network security and protecting network resources and infrastructures. In this paper, we effectively introduced intrusion detection system by using Principal Component Analysis (PCA) with Support Vector Machines (SVMs) as an approach to select the optimum feature subset. We verify the effectiveness and the feasibility of the proposed IDS system by several experiments on NSL-KDD dataset. A reduction process has been used to reduce the number of features in order to decrease the complexity of the system. The experimental results show that the proposed system is able to speed up the process of intrusion detection and to minimize the memory space and CPU time cost. © 2010 IEEE.

Author Keywords

Feature selection; Intrusion detection system; Network security; Principal Component Analysis (PCA); Support Vector Machines (SVMs)

Document Type: Conference Paper

Source: Scopus

Mahmoud, S.^a, Jankowski, R.^b

Impact models with hertz spring and nonlinear damper for simulation of pounding-involved structural vibrations during earthquakes

(2010) *17th International Congress on Sound and Vibration 2010, ICSV 2010*, 3, pp. 1991-1998.

^a Faculty of Engineering at Mataria, Helwan University, Masaken Elhilmeya 11718 Cairo, Egypt

^b Faculty of Civil and Environmental Engineering, Gdansk University of Technology, ul. Narutowicza 11/12, 80-233 Gdansk, Poland

Abstract

Earthquake-induced pounding between insufficiently separated buildings or bridge segments, due to the out-of-phase vibrations, has been studied for several years now. A number of different impact force models have been used in order to simulate structural pounding numerically. Among them, the nonlinear elastic model based on the Hertz contact law is one of the most often used. It simulates the relation between the pounding force and deformation during impact more realistically comparing to the linear models, however, it does not allow us to simulate the dissipation of energy during impact. The aim of the paper is to compare two recently proposed models (the nonlinear viscoelastic model and the Hertz damp model) based on the Hertz contact law with additional nonlinear damping introduced in order to simulate the energy dissipation during impact. The results for two different impact experiments as well as for the shaking table experiments on pounding between two vibrating steel towers excited by harmonic waves have been used in this study. The results of the study show that the nonlinear viscoelastic model gives smaller simulation errors in the impact force time histories comparing to the Hertz damp model. On the other hand, the Hertz damp model has been found to be more accurate than the nonlinear viscoelastic model in simulation of impact velocity for pounding of vibrating structures under harmonic excitation.

Document Type: Conference Paper

Source: Scopus

El-Butch, A.M.A., Fahim, A.F.

A study on stick-slip vibration for dry and boundary lubricated friction with mass-on-moving-belt

(2010) *17th International Congress on Sound and Vibration 2010, ICSV 2010*, 2, pp. 1198-1213.

Faculty of Engineering, Helwan University, Mataria, Cairo, Egypt

Abstract

The existent of stick-slip vibrations between coupled machine components are usually unwanted, as they create noise, diminish accuracy and increase wear. In this paper, we study stick-slip motion in a model of a mass resting on a

moving belt, restrained by a simple spring and dashpot to a rigid wall. The contribution of each design parameter and operating conditions on the amplitude of the stick-slip vibration are investigated. Furthermore, a dry and boundary lubricated friction model is presented to simulate stick-slip vibrations.

Document Type: Conference Paper

Source: Scopus

Al-Atabany, W.^{a d}, Memon, M.A.^a, Downes, S.^c, Degenaar, P.^{a b}

Vision improvement for patients with retinal degenerations

(2010) *Proceedings of the 7th IASTED International Conference on Biomedical Engineering, BioMED 2010*, 1, pp. 212-216.

^a Inst. of Biomedical Engineering, Oxford, United Kingdom

^b Dep. of Neuroscience, Imperial College London, Oxford, United Kingdom

^c Oxford Eye Hospital, Oxford, United Kingdom

^d Dep. of Biomedical Engineering, Helwan University, Egypt

Abstract

Patients with retinal degenerative disorders such as age related macular degeneration suffer from reduced visual acuity and a significant loss of contrast sensitivity. The effect is a gross blurring of the visual scene over the significant area of their field of view. In this paper we present three novel image enhancement techniques for visual augmentation systems to enhance the remaining visual capability of those with patients suffering from retina degenerative diseases. The effectiveness of these algorithms was tested on 27 patients with average visual acuity of 0.63 and average contrast sensitivity of 1.22. Results show that Advanced Scaled Chromatic Edge (ASCE), and edge overlaying algorithms are very useful in detecting motion in dynamic scenes, whereas image Cartoonization algorithms held greatest preference for determining static spatial scenes. Copyright © 2011 ACTA Press.

Author Keywords

Augmented vision system; Image processing; Low vision aid

Document Type: Conference Paper

Source: Scopus

Elshemy, N.S.^a, Niazy, W.^a, Khalil, E.M.^b, Hamed, M.S.^b, Haggag, K.^a

Synthesis of eco-friendly binders from natural resources using microwave and their applications in textile printing

(2010) *Egyptian Journal of Chemistry*, 53 (6), pp. 903-921.

^a Textile Research Division, National Research Center, Cairo, Po. 12622, Egypt

^b Chemistry Department, Faculty of Science, Helwan University, Cairo, Egypt

Abstract

DIFFERENT oil length alkyd resins based on sunflower were prepared using microwave heating. The effect of oil length as well as using different catalysts on the properties of alkyd resin such as acid value, Tg, solubility and IR data were evaluated. In case of using microwave heating the formation of alkyd resin occurred after 45-60min, while on using conventional heating the reaction duration ranged from 8-10 hr. Also, the prepared alkyds and commercial binder were used separately in the formulation of pigment printing pastes, and the properties of printed fabrics using the prepared binders were found to be comparable with samples printed using the commercial binder.

Author Keywords

Binder; Microwave; Textile printing and alkyd resins

Document Type: Article

Source: Scopus

Zewail, M.A.^a, Khalil, E.M.^b, Mohamed, S.M.^a, Sharada, H.M.^a

Synthesis of some analogs of bradykinin hormone using modified solid phase peptide synthesis and microwave technique (Part 1)

(2010) *Egyptian Journal of Chemistry*, 53 (2), pp. 267-277. Cited 1 time.

^a Peptide Chemistry Department, National Research Centre, Egypt

^b Chemistry Department, Faculty of Science, Helwan University, Helwan, Egypt

Abstract

THREE analogs of Bradykinin, (Lys 1) BK, (Lys 9) BK and (Lys 1,) BK were synthesized by modified solid phase peptide synthesis with the application of microwave energy. The effect of the replacement of Arg 1,9 by Lys on the salt bridge between the guanidine group of Arg 1 and the carboxyl group of Arg 9, was investigated. The analogues will be tested in vitro for their effect on heart rate of rats and in isolated organ for the arterial pressure.

Author Keywords

Bradykinin; Modified solid phase peptide synthesis and microwave energy

Document Type: Article

Source: Scopus

Mahmoud, S.^a, Jankowski, R.^b

Seismic response evaluation for isolated and non-isolated buildings considering pounding

(2010) *9th US National and 10th Canadian Conference on Earthquake Engineering 2010, Including Papers from the 4th International Tsunami Symposium*, 2, pp. 1028-1039.

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^b Faculty of Civil and Environmental Engineering, Gdansk University of Technology, ul. Narutowicza 11/12, 80-233 Gdansk, Poland

Abstract

Previous research on pounding between seismically isolated buildings during earthquakes has been focused on impacts at the bases of structures. However, the effect of simultaneous interactions at the bases and at the superstructures has not been studied. In this research, the seismic responses of adjacent buildings considering impacts between bases and/or superstructures are investigated. The study is carried out in two parts for two cases of adjacent buildings: (i) both structures have fixed bases, (ii) both structures have base isolation systems. The nonlinear viscoelastic model of impact force during impact is used to capture the pounding forces at the bases and at the superstructures. The responses of the buildings and the bearings with and without impacts under the El Centro ground motion record are presented. It has been observed that the pounding-involved responses of the buildings mainly depend on the type of structural base systems of both structures. The acceleration and displacement responses at a base of the isolated building increase due to impacts. The acceleration at the level of the base isolation increases approximately with the same trend, whereas the displacement responses of the base isolated buildings decrease due to impact in the same cases. The results of the study indicate that pounding in base-isolated buildings may lead to considerable structural damage and therefore it should be avoided at the design stage of structures.

Document Type: Conference Paper

Source: Scopus

Gomma, H.W.

Moving horizon Extrapolated Iterative Learning Control (EILC)

(2010) *Proceedings of the IASTED International Conference on Modelling, Identification and Control*, pp. 259-264.

DOI: 10.2316/P.2010702-054

Department of Electronics, Communication and Computer Engineering, Helwan University, Egypt

Abstract

The Extrapolated Iterative Learning Control (EILC) was earlier proposed to speed up the learning rate and reduce the executed number of actual iteration compared to the conventional P-type ILC. This paper presents a modified algorithm for EILC, in the sense of introducing the concept of moving horizon while estimating the future tracking errors using an extrapolation technique. This is conducted to reduce the required number of the extrapolated errors, which in turn avoid possible numerical errors that could emerge. For consolidating the objective of the suggested technique, convergence and stability analysis have been investigated. In addition, the results have been explained using different simulation examples.

Author Keywords

Control; Control theory; Iterative Learning Control

Document Type: Conference Paper

Source: Scopus

Rihan, F.A.

Adjoint sensitivity analysis of neutral delay differential models

(2010) *Journal of Numerical Analysis, Industrial and Applied Mathematics*, 5 (1-2), pp. 95-101.

Department of Mathematics, Faculty of Science, Helwan University, Cairo, Egypt

Abstract

In this short paper, we investigate sensitivity and robustness of neutral delay differential models to small perturbations in the parameters that occur in the models, using variational approach. The technique provides a guidance for the modelers to determine the most informative data for a specific parameter. It may also help modelers to select the best fit model to the observations. © 2010 European Society of Computational Methods in Sciences and Engineering.

Author Keywords

Adjoint; Neutral delay differential equations; Sensitivity; Time-lag

Document Type: Article

Source: Scopus

Kamrani, A.K.^{a b}, Nasr, E.A.^{c d}

Engineering design and rapid prototyping

(2010) *Engineering Design and Rapid Prototyping*, pp. 1-442. Cited 6 times.

DOI: 10.1007/978-0-387-95863-7

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Abstract

"Engineering Design and Rapid Prototyping" offers insight into the methods and techniques that allow for easily implementing engineering designs by incorporating advanced methodologies and technologies. This book contains advanced topics such as feature-based design and process planning, modularity and rapid manufacturing, along with a collection of the latest methods and technologies currently being utilized in the field. The volume also: -Provides systematic design and solution methodologies for both design and manufacturing -Discusses product life cycle development and analysis for ease of manufacture and assembly -Offers applied methods and technologies in rapid prototyping and manufacturing "Engineering Design and Rapid Prototyping" will be extremely valuable for any engineers and researchers and students working in engineering design. © Springer Science+Business Media, LLC 2010.

Document Type: Book

Source: Scopus

Morsy, H.^a, Gluckman, J.^b, Hussein, A.^a, Amer, F.^a

Block based steganography

(2010) *9th European Conference on Information Warfare and Security 2010, ECIW 2010*, pp. 218-228. Cited 1 time.

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^b American University, Cairo, Egypt

Abstract

Steganography is the art and science of hiding communications. In contrast to cryptography, which aimed at encrypting messages such that it is infeasible to an attacker to decrypt the messages, Steganography aimed at hiding the presence of communication in a medium that is used to carry secret messages (image, audio, or video). This has to look innocuous to an attacker, so it will not raise suspicion from an eavesdropper. Most steganographic systems can be attacked visually or statistically (steganalysis). Systems that are resistant to such attacks, provides a relatively small capacity for steganographic messages. In this paper, a new technique is introduced to hide data in the least significant bit (LSB) of the discrete cosine transform (DCT) coefficients of JPEG image blocks. This technique exploits the ratio of even to odd coefficients in each image block and embeds data bits in a way that preserves the ratio between even and odd DCT coefficients of each image block. A Block Based Steganography (BBS) algorithm offers high capacity with statistically minimal changes compared to current steganographic algorithms. A comparison between BBS algorithm and current steganographic systems will be introduced.

Author Keywords

Information hiding; JPEG hiding; Steganalysis; Steganography

Document Type: Conference Paper

Source: Scopus

El-Butch, A.M.A., Fahim, A.F., Bahzad, A.

A study on vibrations induced by dry friction

(2010) *17th International Congress on Sound and Vibration 2010, ICSV 2010*, 2, pp. 1214-1224.

Faculty of Engineering, Helwan University, Mataria, Cairo, Egypt

Abstract

Dry friction between two components in conformal tribological contact may often be the cause of vibration. This type of behaviour was investigated by means of a vibrating structure is simplified to that of a block resting on a moving base, restrained by a simple spring and dashpot to a rigid wall. Numerical analysis in a non-dimensional form showed that friction-induced vibrations depending on some dimensionless parameters, the external excitation frequency, slope parameter of friction characteristic, normal load factor, viscous damping factor and excitation speed. Furthermore, results are obtained for occurrence and nonoccurrence of stick slip phenomena. It is thought that this design guides may be useful in the control and reduction of the vibrations induced by dry friction.

Document Type: Conference Paper

Source: Scopus

Okb El Bab, A.S.^a, Ghany, H.A.^b

Harmonic analysis on hypergroups

(2010) *AIP Conference Proceedings*, 1309, pp. 312-320. Cited 3 times.

DOI: 10.1063/1.3525130

^a Mathematics Department, Faculty of Science, Al Azhar University, Naser City, Cairo, Egypt

^b Mathematics Department, Faculty of Industrial Education, Helwan University, Al-Ameraiia, Cairo, Egypt

Abstract

The main task in this article is to give the necessary and sufficient conditions guarantees that the product of two positive definite functions defined on a hypergroup X is also positive definite on X . Also, we prove that a continuous function with compact support ψ is negative definite if and only if $\exp(-t\psi)$ is positive definite for each $t > 0$. Moreover, we will give some relations between the class of completely monotonic functions on a hypergroup and the set of τ -positive functions. © 2010 American Institute of Physics.

Author Keywords

Completely monotone; Hypergroup; Positive definite

Document Type: Conference Paper

Source: Scopus

Gomaa, I.A.^a, El Badawy, H.M.^a, Saad, E.S.M.^b

Adoption of Delayed Feedback Rekeying Algorithm for secure multicast services during handover in mobile WiMAX networks

(2010) *Proceedings 2010 IEEE International Conference on Information Theory and Information Security, ICITIS 2010*, art. no. 5689558, pp. 474-480. Cited 1 time.

DOI: 10.1109/ICITIS.2010.5689558

^a Computers Dept., Network Planning Dept., NTI, Cairo, Egypt

^b Fac. of Eng., Helwan Univ., Helwan, Egypt

Abstract

Mobile WiMAX systems are based on the IEEE 802.16e-2005 specification which allows great opportunities to enhance the performance through radio resource management techniques. IEEE802.16e offers higher data rates and introduces several key features necessary for delivering mobility at vehicular speeds. In most applications, security attributes are pretty difficult to meet but it becomes even a bigger challenge when talking about Multicast Broadcast Services (MBS) over Mobile WiMAX (IEEE802.16e). Handover (HO) will occur repeatedly for vehicles travelling at high speeds, causing many unnecessary multicast group rekeying procedures. Enhanced Delayed Feedback

Rekeying Algorithm (DFRA) will obviate most of the rekeys due to member HO, while keeping backward and forward secrecy for this multicast group. The current paper not only studies the DFRA but also, it will propose an adoption for the DFRA and assist this adoption in different customer distributions and multicast group cluster sizes, in order to improve the performance and security of the DFRA deployment. © 2010 IEEE.

Author Keywords

Backward secrecy; Forward secrecy; Handover; IEEE 802.16e; Multicast

Document Type: Conference Paper

Source: Scopus

Gouda, E.S.^{a b}, Abdel Aziz, H.^c, El Gendy, Y.^c, Saad Allah, F.^a, Hammam, M.^c

Effect of Ag-content on structure, corrosion behaviour and mechanical properties of Sn-9Zn lead-free solder alloy

(2010) *EPJ Applied Physics*, 52 (3), art. no. ap100149, .

DOI: 10.1051/epjap/2010150

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^b Physics Department, Faculty of Science, Jazan University, Jazan, Saudi Arabia

^c Physics Department, Faculty of Science, Helwan University, Helwan, Egypt

Abstract

The effect of (0.5-3.5) wt.% Ag additions on microstructure, melting, corrosion and mechanical properties of Sn-9Zn eutectic lead-free solder alloy has been studied and analyzed. The study included X-ray diffraction and scanning electron microscopy (SEM) to identify the microstructure of these alloys. The results showed that, continuous additions of Ag caused formation of Ag-Zn and Ag-Sn compounds which led to decrease the precipitations of Zn in Sn-matrix. These compounds led to increase the melting point of the alloys, which confirmed by the formation of small endothermic peaks in the higher temperature range followed the main peak of the DTA curves. Also, the DTA measurements confirmed that the alloy of composition Sn-9Zn-3.5Ag is the ternary eutectic alloy. Vicker's micro-hardness number of Sn-9Zn alloy increases with small additions of 0.5 and 1 wt.% Ag. Furthermore, it decreases to lower values with further increase of Ag content. Also, micro-creep behaviour, creep rate and corrosion behaviour of the Sn-9Zn-Ag alloys have been measured at room temperature. © 2010 EDP Sciences.

Document Type: Article

Source: Scopus

Elnady, T.^a, Åbom, M.^b, Allam, S.^c

Modeling perforates in mufflers using two-ports

(2010) *Journal of Vibration and Acoustics, Transactions of the ASME*, 132 (6), art. no. 061010, . Cited 16 times.

DOI: 10.1115/1.4001510

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^c Department of Automotive Technology, Faculty of Industrial Education, Helwan University, Elsayah Street-Elkoba, 11282 Cairo, Egypt

Abstract

One of the main sources of noise of a vehicle is the engine where its noise is usually damped by means of acoustic mufflers. A very common problem in the modeling of automotive mufflers is that of two flow ducts coupled through a perforate. A new segmentation approach is developed here based on two-port analysis techniques, in order to model perforated pipes using general two-port codes, which are widely available. Examples are given for simple muffler configurations and the convergence of the technique is investigated based on the number of segments used. The results are compared with closed form solutions from the literature. Finally, an analysis of a complicated multichamber perforated muffler system is presented. The two-port simulation results show good agreement with both the measurements, and the simulations using the classical four-port elements. © 2010 American Society of Mechanical Engineers.

Document Type: Article

Source: Scopus

Ismail, I., Hamdy, A., Frig, R.

Studying the effect of down sampling and spatial interpolation on fractal image compression

(2010) *Proceedings, ICCES'2010 - 2010 International Conference on Computer Engineering and Systems*, art. no. 5674885, pp. 355-360.

DOI: 10.1109/ICCES.2010.5674885

Department of Communication, Faculty of Engineering, Helwan University, Cairo, Egypt

Abstract

This paper presents a study of the effect of resizing the image by using different interpolation methods on fractal image compression. This study is made to reduce the search time of matching between range block and domain block. The main drawback of fractal image compression is that it involves more computational time due to global search. In order to reduce the computational time with acceptable quality of decoded image, the proposed system is composed of four steps. These steps are: down sampling the pixels of an image, fractal image compression, fractal image decompression, and up sampling the pixels to the original size of the image using the same interpolation type that is used in the down sampling process. This paper shows the effect on compression ratio, peak signal to noise ratio, and encoding time. Experimental results show that the encoding time can be decreased and compression ratio becomes higher with acceptable effect on the resolution or PSNR. ©2010 IEEE.

Author Keywords

Fractal compression; Image coding; Interpolation

Document Type: Conference Paper

Source: Scopus

Abd El Wahab, R.M.^a, El-Mekawi, D.M.^a, El Dars, F.M.^b, Farag, A.B.^b, Selim, M.M.^a

Utilization of synthetic zeolite for REMOVAL of anionic dyes

(2010) *Egyptian Journal of Chemistry*, 53 (3), pp. 449-464. Cited 1 time.

^a Physical Chemistry Department, National Research Centre, Helwan University, Cairo, Egypt

^b Chemistry Department, Faculty of Science, Helwan University, Cairo, Egypt

Abstract

THE REMOVAL performance of highly colored soluble organic pollutants in water has been investigated. Comparative adsorption studies of some anionic dyes on commercially zeolite X and zeolite X powder prepared from Egyptian kaolin have been studied. Brilliant blue FCF (BL), brilliant black PN (BB), eriochrome black T (EBT) and ponceau 3R (P3R) were introduced as models for organic pollutants of different structures. For comparison, the properties of the synthetic zeolite and commercial grade zeolite, such as crystallinity, thermal stability and cation exchange capacity using XRD, DSC and atomic absorption spectroscopy, respectively were conducted. UV/visible spectroscopic measurements have been used to determine the amount of adsorbed dyes by zeolites. The adsorption capacities for batch method were recorded. The influential parameters, such as initial pH value of the solution, temperature, adsorbate concentration and ion exchange on the adsorption process were studied. The suitability of Langmuir and Freundlich isotherms to the equilibrium data was investigated in the solid-liquid system. In all the adsorption experiments, the variation of adsorption capacities were recorded and explained in terms of both zeolite behaviour and dyes structures. Attempts to regenerate the adsorbents physically (at high temperature) were also made and the adsorptive properties of the recovered zeolite have been provided.

Author Keywords

Adsorption; Anionic dyes; Zeolite and Egyptian kaolin

Document Type: Article

Source: Scopus

Hamid, A.A.^a, Ahmed, M.^{a b}, Helmy, Y.^a

Enhanced progressive vector data transmission for mobile geographic information systems (MGIS)

(2010) *Innovations and Advances in Computer Sciences and Engineering*, pp. 61-66. Cited 3 times.

DOI: 10.1007/978-90-481-3658-2_11

^a Faculty of Computers and Information, Helwan University, Egypt

^b University of Waterloo, ON, Canada

Abstract

Dramatic increases in mobile applications are evolving; accordingly, faster spatial data transmission is required. Despite the transmission of Raster and TIN data types had significant enhancements; the vector data, which constitutes the main bulk of any GIS, is lacking the speed suitable for practical solutions. Vector data in Mobile GIS

faces several challenges, e.g., volume of data, limited bandwidth, expenses of wireless services, and mobile device limited capabilities, so, Mobile GIS user suffers long response time. Progressive vector data transmission has been investigated to overcome above obstacles. In this research, enhanced progressive data transmission is reported, new modifications of another approach published by different author are investigated; the proposed modifications minimized the number of required topological checks and reduced the response time. A prototype based on client-server architecture is developed using Java technology, real datasets are examined using Nokia 6300 mobile handset, and the visualization at client side uses Scalable Vector Graphics format. © Springer Science+Business Media B.V. 2010.

Document Type: Conference Paper

Source: Scopus

Osman, O.^a, Atia, F.^a, Hakeem, N.A.^a, Al Neklawy, M.M.^b, Fahem, A.^b

Molecular spectroscopic study of water hyacinth collected from different media

(2010) *Journal of Applied Sciences Research*, 6 (12), pp. 6134-6139.

^a Spectroscopy Department, National Research Centre, 12311 Dokki, Cairo, Egypt

^b Physics Department, Faculty of Science, Helwan University, Cairo, Egypt

Abstract

This study was conducted to evaluate the elemental as well as molecular structure of water hyacinth. Samples were collected from three drainage of wastewater, municipal and agricultural pollution. X-Ray Fluorescence spectroscopy (XRF) results show that the concentration of metals and metal oxides are higher in plant root than in plant shoot. The highest concentration of Pb has been detected in the root which collected from the municipal wastewater drainage while the plant root of the agriculture wastewater has the highest concentration of metal oxides. Fourier Transformation Infrared Spectroscopy (FTIR) was used to study the molecular structure of the plant. Results suggested a role for metal oxides in controlling organic acids in plants. Furthermore, the plant could uptake metals from water which transfer carboxyl group around 1740 cm⁻¹ into metal carboxylate around 1640 cm⁻¹. © 2010, INSInet Publication.

Author Keywords

FTIR; Heavy metals; Organic pollution and Water hyacinth; XRF

Document Type: Article

Source: Scopus

El-Soeudy, R.I.^a, El-Butch, A.M.A.^b, Fahim, A.F.^b, Kamal, A.M.^b

Influence of barium sulfate on the physical, mechanical, tribological properties and dynamic behavior of a brake lining

(2010) *17th International Congress on Sound and Vibration 2010, ICSV 2010*, 2, pp. 1225-1239.

^a Faculty of Industrial Education, Sues Canal University, Egypt

^b Faculty of Engineering, Helwan University, Mataria, Cairo, Egypt

Abstract

In this work, a group of formulations has been prepared from chopped fiber-glass, resin, rock wool, friction dust, carbon graphite, polymer, cashew nut and quartz with different percentages of barium sulfate using dry method in order to optimize the barium sulfate percentage with which the new formulated friction material could act as a substitute for asbestos in disc brake systems. An experimental investigation of physical, mechanical and tribological properties of the prepared specimens has been done and evaluated. A friction model for a disc brake to take account of the variation of the coefficient of friction with the operating parameters for all formulations has been generated and the dynamic behavior of a suggested disc brake model has been evaluated. Results have shown that density and compressive strength increase with the increase of barium sulfate content while tensile strength decreases. Barium sulfate has a little effect on compressibility, hardness, flexural strength and shear strength. Also results have shown that the higher the barium sulfate content, the higher the thermal stability of the coefficient of friction (high fade resistance) and the higher the wear rate. Barium sulfate has no significant effect on the dynamic behavior of the suggested disc brake model.

Document Type: Conference Paper

Source: Scopus

Hammad, N.

Integrated control and regulated DC supply with high power quality for automotive applications

(2010) *International Journal of Vehicle Structures and Systems*, 2 (3-4), pp. 96-101.

DOI: 10.4273/ijvss.2.3-4.02

Automotive Department, Faculty of Engineering, Helwan University Mataria, Cairo, Egypt

Abstract

Power electronics based power systems are being increasingly used in the transportation systems such as land, sea/undersea, air, and space vehicles due to their advantages in efficiency, performance, flexibility, and power density. In order to have superior performance, the rectifier-converter systems need to be rigorously regulated. The DC power supply is an important aspect for the automotive industries because of its use for a wide range of loads and is mandatory for charging the battery. However, DC power supplies experience many problems such as poor power factor, high input current harmonics distortion and un-controlled DC voltage. In this paper, an integrated control scheme is proposed for regulated DC power supply with high power quality for automotive applications. The proposed control scheme consists of two nested loops with a feedback of DC voltage and input current and a feed forward of the output power supply. An improved input power factor correction with a low input current total harmonics distortion has been used to model the power system using a combined control system. The proposed control scheme achieves nearly unity power factor with a minimum input current total harmonics distortion and able to supply regulated DC voltage with high power quality. © 2010. MechAero Foundation for Technical Research & Education Excellence.

Author Keywords

DC voltage control; Power quality; Rectifier; Transient response

Document Type: Article

Source: Scopus

Ibrahim, T.A.^{a b}

Experimental assessment and thermal performance of an ammonia-water absorption heat pump

(2010) *ASME 2010 4th International Conference on Energy Sustainability, ES 2010*, 1, pp. 431-437.

DOI: 10.1115/ES2010-90486

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^b Mechanical Power Engineering Department, Faculty of Engineering, Helwan University, Cairo, 11718, Egypt

Abstract

In this paper, an experimental assessment and thermal performance of a prototype ammonia-water absorption heat pump are carried out. The experimentations are conducted for different operating conditions such as: filling up concentration (40 and 47 %), inlet brine temperature (-5, +5 and +15 °C) and inlet cooling water temperature (20 © 2010 by ASME. [25], 30 and 40 °C). The effects of performance parameters like refrigerant vapor concentration leaving rectifier, mass fraction spread and specific solution circulation ratio are also investigated. The results are divided into two categories. The first one is an external analysis of the absorption system considering thermal loads and system performance. However, the second one represents the internal analysis of the heat pump taking into account the temperature glide and degree of subcooling. Little effect is found for the filling up concentration on the thermal loads for different heat pump components as well as the heating capacity and the coefficient of performance. The refrigerant vapor concentration of the refrigerant vapor should not be less than 0.999 to avoid the effect of temperature glides on the system performance. Temperatures of the cooling water, brine and generator all have large effects on the system performance as any sorption system. Inaccurate expansion valve control leads to lower heating COP. Controlling the mass fraction spread or the specific circulation ratio affects considerably thermal loads of different absorption system components. The control of these two parameters can be accomplished by controlling the solution pump and flow rates in the solution loops. © 2010 by ASME.

Author Keywords

Absorption system; Ammonia-water; Heat pump

Document Type: Conference Paper

Source: Scopus

Khalil, M.I.

Optimal redistribution policy for the buses of public transport on their garages

(2010) *SAE Technical Papers*, .

DOI: 10.4271/2010-01-0738

Automotive Engineering Dept, Faculty of Engineering, Helwan University, Cairo, Egypt

Abstract

The operating costs of a vehicle depend on variety of factors generally grouped under the two headings of standing costs and running costs. On the other hand, the running costs are function in the traveled kilometers. The aim of this paper reduces the running costs of the public transport buses by minimizing the non-productive distance, where the non-productive distance are the distance between garages and first bus station to start the trip and inverse. The proposal model is based on using the transportation technique for minimizing the total non-productive distance by redistribution the buses on their garages. Using this model is powerful for minimizing the running cost of public transport companies, addition to reducing the bus emission and saving the energy. The results indicate that significant information gained for minimizing the total non-productive distance by redistribution the buses on garages that will save the extra driving that helps for saving the fuel consumption, oil consumption, spare parts,, and reducing the emission and the congestion traffic problem. Copyright © 2010 SAE International.

Document Type: Conference Paper

Source: Scopus

Yousef, W.A.^a, Mustafa, W.A.^c, Ali, A.A.^c, Abdelrazek, N.A.^b, Farrag, A.M.^a

On detecting abnormalities in digital mammography

(2010) *Proceedings - Applied Imagery Pattern Recognition Workshop*, art. no. 5759684, .

DOI: 10.1109/AIPR.2010.5759684

^a Faculty of Computers and Information, Helwan University, Egypt

^b Faculty of Medicine, Cairo University, Egypt

Abstract

Breast cancer is the most common cancer in many countries all over the world. Early detection of cancer, in either diagnosis or screening programs, decreases the mortality rates. Computer Aided Detection (CAD) is software that aids radiologists in detecting abnormalities in medical images. In this article we present our approach in detecting abnormalities in mammograms using digital mammography. Each mammogram in our dataset is manually processed using software specially developed for that purpose by a radiologist to mark and label different types of abnormalities. Once marked, processing henceforth is applied using computer algorithms. The majority of existing detection techniques relies on image processing (IP) to extract Regions of Interests (ROI) then extract features from those ROIs to be the input of a statistical learning machine (classifier). Detection, in this approach, is basically done at the IP phase; while the ultimate role of classifiers is to reduce the number of False Positives (FP) detected in the IP phase. In contrast, processing algorithms and classifiers, in pixel-based approach, work directly at the pixel level. We demonstrate the performance of some methods belonging to this approach and suggest an assessment metric in terms of the Mann Whitney statistic. © 2010 IEEE.

Author Keywords

Breast Cancer; Classification; Computer Aided Detection (CAD); Detection; Digital Mammography; Image Processing

Document Type: Conference Paper

Source: Scopus

Osman, O.^a, Atia, F.^a, Hakeem, N.A.^a, Al Neklawy, M.M.^b, Fahem, A.^b

Molecular spectroscopic study of water hyacinth collected from different media

(2010) *Australian Journal of Basic and Applied Sciences*, 4 (12), pp. 6134-6139. Cited 1 time.

^a Spectroscopy Department, National Research Centre, 12311 Dokki, Cairo, Egypt

^b Physics Department, Faculty of Science, Helwan University, Cairo, Egypt

Abstract

This study was conducted to evaluate the elemental as well as molecular structure of water hyacinth. Samples were collected from three drainage of wastewater, municipal and agricultural pollution. X-Ray Fluorescence spectroscopy (XRF) results show that the concentration of metals and metal oxides are higher in plant root than in plant shoot. The highest concentration of Pb has been detected in the root which collected from the municipal wastewater drainage while the plant root of the agriculture wastewater has the highest concentration of metal oxides. Fourier Transformation Infrared Spectroscopy (FTIR) was used to study the molecular structure of the plant. Results suggested a role for metal oxides in controlling organic acids in plants. Furthermore, the plant could uptake metals from water which transfer carboxyl group around 1740 cm⁻¹ into metal carboxylate around 1640 cm⁻¹. © 2010, INSInet Publication.

Author Keywords

FTIR; Heavy metals; Organic pollution and water hyacinth; XRF

Document Type: Article
Source: Scopus

Sallam, G.A.H.^a, Youssef, T.^b, Embaby, M.E.-S.^c, Shaltot, F.^d

Using geographic information system to infollow the fertilizers pollution migration

(2010) *Handbook of Research on Hydroinformatics: Technologies, Theories and Applications*, pp. 456-477.

DOI: 10.4018/978-1-61520-907-1.ch023

^a Drainage Research Institute (DRI), National Water Research Center, Ministry of Water Resources and Irrigation, Cairo, Egypt

^b Civil Engineering Department, Helwan University, Egypt

^c Central GIS Unit, National Water Research Center, Ministry of Water Resources and Irrigation, Cairo, Egypt

^d Irrigation and Hydrology Department, Hellwan University, Cairo, Egypt

Abstract

In recent years, many countries have faced great challenges due to their limited water resources. According to these challenges, they have undertaken large scale projects to reuse agricultural drainage water in irrigation purpose. The Governments in these countries can enhance water management and sustainable development by adopting policies that enable them to meet water demands and supply management. Therefore, there is a need for unconventional methods to provide better tools for the assessment and management of water quality problems to adopt management policies and set the limits for sustainable drainage water reuse. The implementation of Geographic Information System (GIS) in this field offers an ideal tool for measurements with limited number of sampled points. Statistical analysis that can be provided within GIS is rapidly becoming an impressive tool for statistical analysis of continuous data. The main objective of this chapter is to discuss using GIS to in-follow the pollution caused by fertilizers migration to the water and the soil by applying statistical analysis within the GIS using geostatistical analyst. Geostatistical analyst is an extension of Arc Map™ that bridges the gap between geostatistics and GIS and provides a powerful collection of tools for the management and visualization of spatial data by applying Spatial Statistics. © 2011, IGI Global.

Document Type: Book Chapter
Source: Scopus

Gomma, H.W.

Extrapolated Iterative Learning Control (EILC)

(2010) *Proceedings of the IASTED International Conference on Modelling, Identification and Control*, pp. 239-245.

DOI: 10.2316/P.2010.702-042

Department of Electronics, Communication and Computer Engineering, Helwan University, Egypt

Abstract

This paper presents a new Iterative Learning Control (ILC) technique that speeds up the learning rate compared to the conventional P-type ILC. This is achieved by reducing the number of performed iterations through the extrapolation of the tracking errors steps ahead. The convergence and stability of the system have also been analysed. In addition, the results have been explained using different simulation examples.

Author Keywords

Control theory; Iterative Learning Control; Prediction

Document Type: Conference Paper
Source: Scopus

Ahmed, E.^a, Mahmoud, K.R.^b, Hamad, S.^a, Fayed, Z.T.^a

Using parallel computing for adaptive beamforming applications

(2010) *PIERS 2010 Cambridge - Progress in Electromagnetics Research Symposium, Proceedings*, pp. 296-299. Cited 1 time.

^a Faculty of Computer and Information Sciences, Ain Shams University, Abbassia 11566, Cairo, Egypt

^b Faculty of Engineering, Helwan University, Helwan, Egypt

Abstract

Recently, smart antenna systems have been widely considered to provide interference reduction and improve the

capacity, data rates, and performance of wireless mobile communication. Smart antenna arrays with adaptive beamforming capability are very effective in the suppression of interference and multipath signals. The techniques of placing nulls in the antenna patterns to suppress interference and maximizing their gain in the direction of desired signal have received considerable attention in the past and are still of great interest using evolutionary algorithms such as genetic algorithms (GA) and particle swarm optimization (PSO) algorithm. In this paper, for adaptive arrays using space division multiple access (SDMA), the optimal radiation pattern design of smart antennas is developed based on the particle swarm optimization (PSO) technique. The PSO is applied to a 24-element uniform circular array (UCA) to calculate the complex excitations, amplitudes and phases of the adaptive array elements. The antenna elements consist of vertical (z-directed) half-wave dipole elements equally spaced in the x-y plane along a circular ring, where the distance between adjacent elements is $d = 0.5\lambda$. It is found that the resulting beam pattern optimized by the PSO required a large processing time which is not acceptable for an on line applications. Hence, the demand for a parallel solution that accelerates these computations is considered. Therefore, a parallel version of PSO is proposed and implemented using Compute Unified Device Architecture (CUDA) then applied on a graphics processing unit (GPU). The comparison is presented to show how the parallel version of the PSO outperforms the sequential one, thus an online procedure is available for time-critical applications of the adaptive beamforming.

Document Type: Conference Paper

Source: Scopus

Abd Elhady, A.A.

Stress and strain concentration factors for plate with small notch subjected to biaxial loading - Three dimensional finite element analysis

(2010) *Ain Shams Engineering Journal*, 1 (2), pp. 139-145. Cited 1 time.

DOI: 10.1016/j.asej.2011.03.001

Mechanical Design Department, Faculty of Engineering, Helwan University, Cairo, Egypt

Abstract

The through-thickness variations of stress and strain concentration factors for plate with small central notch, circular notch or double U-notch, subjected to uniaxial and biaxial loading have been systematically analyzed by using three dimensional finite element method (3D FEM). It is found that the maximum stress and strain concentration factors occur on the mid plane of plate only in the case of thin plate. However, in the case of thick plates, the sites of these maximum values are found near the plate surface. Furthermore, this site is more close to the plate surface in the case of small notch radius and/or large plate thickness. The stress and strain concentration factors increase with decreasing the biaxial ratio at the plate interior, while, the opposite trend is found at the plate surface. © 2011 Ain Shams University. Production and hosting by Elsevier B.V. All rights reserved.

Author Keywords

Biaxial load; Circular notch; Double U-notch; Strain concentration factor; Stress concentration factor; Three dimension finite elements

Document Type: Article

Source: Scopus

EI-Bagory, T.M.A.A.^a, Younan, M.Y.A.^b, Sallam, H.E.M.^{c d}, Abdel-Latif, L.A.^a

Limit load of pre-cracked polyethylene miter pipe bends subjected to in-plane bending moment

(2010) *American Society of Mechanical Engineers, Pressure Vessels and Piping Division (Publication) PVP*, 3, pp. 837-845.

DOI: 10.1115/PVP2010-25397

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^c Civil Engineering Dept., Jazan University, KSA, Zagazig, Egypt

^d Zagazig University, Zagazig, Egypt

Abstract

The main purpose of the present paper is to investigate the effect of crack depth on the limit load of miter pipe bends (MPB) under in-plane bending moment. The experimental work is conducted to investigate multi miter pipe bends, with a bend angle 90°, pipe bend factor $h=0.844$, standard dimension ratio $SDR=11$, and three junctions under a crosshead speed 500 mm/min. The material of the investigated pipe is a high-density polyethylene (HDPE), which is used in natural gas piping systems. The welds in the miter pipe bends are produced by butt-fusion method. The crack depth varies from intrados to extrados location according to the in-plane opening/closing bending moment respectively. For each in-plane bending moment the limit load is obtained by the tangent intersection (TI) method from the load deflection curves produced by the testing machine specially designed and constructed in the laboratory1.

The study reveals that increasing the crack depth leads to a decrease in the stiffness and limit load of (MPB) for both in-plane closing and opening bending moment. Higher values of the limit load are reached in case of opening bending moment. This behavior is true for all investigated crack depths. Copyright © 2010 by ASME.

Author Keywords

Butt-fusion method; High-density polyethylene (HDPE); Miter pipe bends (MPB); Tangent intersection (TI) method

Document Type: Conference Paper

Source: Scopus

Hammad, N.M.

Influence of air condition characteristics on a vehicle interior noise

(2010) *SAE Technical Papers*, . Cited 1 time.

DOI: 10.4271/2010-01-0752

Helwan Univ., Egypt

Abstract

Noise has important influence on customer's perception of vehicle quality. Research and development have been conducted to investigate the vehicle hearing. Heating, Ventilation and Air Conditioning (HVAC) noise generation and transmission mechanism. Reduction of HVAC noise has become an increasingly important task in automotive industry as requirements for passenger compartment comfort increase, and other components such as engine, exhaust system, etc., are made quieter. However, the aim of the present work is to study the influence of the characteristics of the vehicle air-condition on the vehicle interior sound pressure level (SPL). The air-condition characteristics considered in this paper are fan speeds, engine speeds and air-condition positions (i.e, ON or OFF). The vehicle used in these tests is Renault Megane, where the interior noise was measured at the driver's head position in terms of Sound Pressure Level (SPL). The experimental work had been done using B&K multi-channel analyzer. In addition, single number of the vehicle cavity air natural frequencies are calculated based on the well known acoustical wave equation. The major contributors in the HVAC system airborne noise are compressor and handling unit that produce aerodynamic, hydraulic and mechanical noises. Since the HVAC's fan is driven direct the vehicle battery, i.e., separate from the HVAC, therefore, it's noise generation can be obtained directly by putting the HVAC OFF and the fan ON. Meanwhile, the hydraulic and mechanical noise can be obtained by extracting the airborne noise with disengaged compressor with the fan ON from that with engaged compressor with the fan ON. The results indicate that a significant information can be gained in order to improve the vehicle interior quietness. Copyright © 2010 SAE International.

Document Type: Conference Paper

Source: Scopus

Rihan, F.A.^{a b}

Delay differential models in dynamic diseases

(2010) *2nd International Conference on Bioinformatics and Computational Biology 2010, BICoB 2010*, pp. 73-79. Cited 2 times.

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Abstract

This is a review article to show that delay differential models have a richer mathematical framework (compared with models without memory or aftereffects) and better consistency with dynamical diseases such as immunology, physiology and epidemiology. The article also provides a general computational technique to treat numerically the emerging delay differential models.

Author Keywords

DDE solvers (RK methods); Epidemiology; Immunology; Mathematical model; Physiology; Susceptible-infectious-removed (SIR) model; Time-lags

Document Type: Conference Paper

Source: Scopus

Ismail, M.M.

Stator resistance identification using artificial intelligent technique for the adaptive controller of magnetically saturated induction motor

(2010) *Proceedings of the 2010 10th International Conference on Intelligent Systems Design and Applications, ISDA'10*, art. no. 5687100, pp. 1365-1370.

DOI: 10.1109/ISDA.2010.5687100

Electrical Power and Machine Department, Faculty of Engineering, Helwan University, Egypt

Abstract

The problem of controlling the induction motor π -model with magnetic saturation is considered using an adaptive controller with stator current and rotor speed measurement in [1]. The new in this paper that in the previous work, only the rotor resistance and load torque can be adapted using the controller but in this work, using artificial intelligent technique, an adaptation of the stator resistance variation of induction motor as well as the rotor resistance and load torque is done. A comparison study is illustrated between the different adaptation methods (fuzzy, GA and PSO). All the unknown parameters are assumed constant or slowly varying and are estimated online by the controller. Simulation results are provided for illustration. © 2010 IEEE.

Author Keywords

Adaptive control; Fuzzy logic; GA and PSO; Induction motor

Document Type: Conference Paper

Source: Scopus

Li, L.^a, Hassan, H.E.^{a b}, Tolson, A.H.^a, Ferguson, S.S.^c, Eddington, N.D.^a, Wang, H.^a

Differential activation of pregnane X receptor and constitutive androstane receptor by buprenorphine in primary human hepatocytes and HepG2 cells

(2010) *Journal of Pharmacology and Experimental Therapeutics*, 335 (3), pp. 562-571. Cited 11 times.

DOI: 10.1124/jpet.110.173187

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^c Life Technologies Corporation, Durham, NC, United States

Abstract

Buprenorphine is a partial μ -opioid receptor agonist used for the treatment of opioid dependence that has several advantages over methadone. The principal route of buprenorphine disposition has been well established; however, little is known regarding the potential for buprenorphine to influence the metabolism and clearance of other drugs by affecting the expression of drug-metabolizing enzymes (DMEs). Here, we investigate the effects of buprenorphine on the activation of pregnane X receptor (PXR) and constitutive androstane receptor (CAR), as well as the induction of DMEs, in both HepG2 cells and human primary hepatocytes (HPHs). In HepG2 cells, buprenorphine significantly increased human PXR-mediated CYP2B6 and CYP3A4 reporter activities. CYP2B6 reporter activity was also enhanced by buprenorphine in HepG2 cells cotransfected with a chemical-responsive human CAR variant. Real-time reverse transcription-polymerase chain reaction analysis revealed that buprenorphine strongly induced CYP3A4 expression in both PXR- and CAR-transfected HepG2 cells. However, treatment with the same concentrations of buprenorphine in HPHs resulted in literally no induction of CYP3A4 or CYP2B6 expression. Further studies indicated that buprenorphine could neither translocate human CAR to the nucleus nor activate CYP2B6/CYP3A4 reporter activities in transfected HPHs. Subsequent experiments to determine whether the differential response was due to buprenorphine's metabolic stability revealed a dramatically differential rate of elimination for buprenorphine between HPHs and HepG2 cells. Taken together, these studies indicate that metabolic stability of buprenorphine defines the differential induction of DMEs observed in HepG2 and HPHs, and the results obtained from PXR and CAR reporter assays in immortalized cell line require cautious interpretation. Copyright © 2010 by The American Society for Pharmacology and Experimental Therapeutics.

Document Type: Article

Source: Scopus

Soltan, S.^{a b}

Reentrant resistance via spin-polarized quasiparticle self injection in CMR/HTSC heterostructures

(2010) *Physica C: Superconductivity and its Applications*, 470 (22), pp. 2006-2009. Cited 1 time.

DOI: 10.1016/j.physc.2010.09.004

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^b Physics Department, Faculty of Science, Helwan University, 11795-Cairo, Egypt

Abstract

Epitaxial superlattices of half-metal, colossal magnetoresistive La_{2/3}Ca_{1/3}MnO₃ (HM-CMR) and high-T_c superconducting YBa₂Cu₃O_{7-δ} (HTSC) are grown with thick and thin modulation lengths (Λ) of YBCO/LCMO, with $\Lambda = 280$ nm and 12.5 nm; respectively, on SrTiO₃ (0 0 1) single-crystalline substrates by pulsed laser deposition. Transport measurements R(T) show a resistive state below T = 35 K although the superconducting transition temperature is found to be T_c = 60 K and 63 K for both different superlattices, respectively. The onset of the resistive state coincides with a magnetic transition of the samples. This can be explained by a diffusion of spin-polarized quasiparticles into the superconducting film. Which can be considered as evidence for inverse-proximity effects over a wide temperature range in HM-CMR/HTSC heterostructures. © 2010 Elsevier B.V. All rights reserved.

Author Keywords

Domain effects; Nonequilibrium superconductivity; Proximity effects; Spin transport effects; Superconducting materials; Superlattices

Document Type: Article

Source: Scopus

El-Leithy, E.S., Shaker, D.S., Ghorab, M.K., Abdel-Rashid, R.S.

Evaluation of mucoadhesive hydrogels loaded with diclofenac sodium-chitosan microspheres for rectal administration

(2010) *AAPS PharmSciTech*, 11 (4), pp. 1695-1702. Cited 19 times.

DOI: 10.1208/s12249-010-9544-3

Department of Pharmaceutics, College of Pharmacy, Helwan University, Ain Helwan, Cairo, Egypt

Abstract

Considering the advantageous for the rectal administration of non-steroidal anti-inflammatory drugs, the objective of this study was to formulate and evaluate rectal mucoadhesive hydrogels loaded with diclofenac-sodium chitosan (DFS-CS) microspheres. Hydroxypropyl methylcellulose (HPMC; 5%, 6%, and 7% w/w) and Carbopol 934 (1% w/w) hydrogels containing DFS-CS microspheres equivalent to 1% w/w active drug were prepared. The physicochemical characterization revealed that all hydrogels had a suitable pH for rectal application (6.5-7.4). The consistency of HPMC hydrogels showed direct proportionality to the concentration of the gelling agent, while carbopol 934 gel showed its difficulty for rectal administration. Farrow's constant for all hydrogels were greater than one indicating pseudoplastic flow. In vitro drug release from the mucoadhesive hydrogel formulations showed a controlled drug release pattern, reaching 34.6-39.7% after 6 h. The kinetic analysis of the release data revealed that zero-order was the prominent release mechanism. The mucoadhesion time of 7% w/w HPMC hydrogel was 330 min, allowing the loaded microspheres to be attached to the surface of rectal mucosa. Histopathological examination demonstrated the lowest irritant response to the hydrogel loaded with DFS-CS microspheres in response to other forms of the drug. © 2010 American Association of Pharmaceutical Scientists.

Author Keywords

carbopol 934; diclofenac sodium-chitosan microspheres; histopathological study; HPMC; rectal mucoadhesive hydrogel

Document Type: Article

Source: Scopus

Hebeish, A.^a, Abd El-Thalouth, J.I.^b, Ramadan, M.A.^a, Abdel-Hady, M.^a

Dependence of reactive prints of cotton fabrics on type and condition of the scouring system

(2010) *Journal of the Textile Institute*, 101 (12), pp. 1106-1111. Cited 2 times.

DOI: 10.1080/00405000903387802

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Abstract

The effect of scouring systems, i.e. bioscouring and conventional scouring, of cotton fabrics on the printability of the latter by a reactive dye was studied. Parameters affecting the bioscouring process, namely concentration of alkaline pectinase enzyme in single use and in admixture with cellulase enzyme and duration of bioscouring process as well as pretreatment with β -cyclodextrin at different concentrations followed by bioscouring on the printability, were also studied. The printed substrates, obtained with fabrics that have been bioscoured under those conditions along with fabric conventionally scoured using sodium hydroxide, were evaluated for colour strength, handle and overall fastness properties to washing, rubbing and perspiration. Results obtained bring into focus the most appropriate bioscouring conditions of cotton fabric for optimal printability. Fabrics processed according to the most appropriate conditions of bioscouring exhibit overall printing characteristics which are comparable with, if not superior than, those

obtained with conventional scouring. Prints obtained with bioscouring using alkaline pectinase and cellulase enzymes exhibit K/S of 19.77; this is compared with K/S of 18.35 for conventional scouring. This is in addition to replacing the harsh chemicals with eco-friendly biodegradable enzymes. © 2010 The Textile Institute.

Author Keywords

Bioscouring; Conventional scouring; Cotton strength; Printing

Document Type: Article

Source: Scopus

Saad, A.A.A.

Predicting remaining lifetime of transmission gears

(2010) *SAE Technical Papers*, . Cited 1 time.

DOI: 10.4271/2010-01-0903

Head of Automotive Engineering Department, Faculty of Engineering, Mataria Helwan University, Cairo, Egypt

Abstract

Real-time, integrated health monitoring of gearboxes that can detect, classify, and predict developing gearbox faults is critical to reducing operating and maintenance costs while optimizing the life of critical gearbox components. Statistical-based anomaly detection algorithms, noise measurement related faults and degradation can now be developed for real-time monitoring environments. Integration and implementation of these technologies presents a great opportunity to significantly enhance current gearbox health monitoring capabilities and risk management practices. However, methods for analyzing system status and health and for predicting system life expectancy need to be made more powerful, insightful, reliable, and robust for data collection onboard systems in real time. However, the aim of this paper is to develop robust an analytical method for predicting remaining lifetime of transmission gears. The development is focused specifically on the investigation of a generalized statistical method for characterizing and predicting system degradation (hazard rate). A simple geared system is used as a medium for real data collection, where the sound pressure level (SPL) was measured and analyzed using Bruel & Kjaer (B&K) portable and multi-channel PULSE with condenser 1/2-microphone and preamplifier. The results indicate that the knowing of the remaining lifetime of the faulty gear can enhance the process of scheduling maintenance, order spare parts and using resources; consequently reduce maintenance cost. Copyright © 2010 SAE International.

Document Type: Conference Paper

Source: Scopus

Ahmed, M.M.R., Soliman, M.

Speed control of AC series motor using AC chopper voltage control

(2010) *EPEC 2010 - IEEE Electrical Power and Energy Conference: "Sustainable Energy for an Intelligent Grid"*, art. no. 5697219, .

DOI: 10.1109/EPEC.2010.5697219

Industrial Education College, Helwan University, Cairo, Egypt

Abstract

This paper presents a proposed modeling and numerical simulation of the speed control ac series motor fed from pulse width modulated ac chopper voltage control. The advantage of this system is its high power factor and less total harmonic distortion factor of the motor current. The digital simulation of this system is described the system behavior in the transient and steady - state conditions. The system performance characteristics are predicted using the proposed simulation program. A laboratory set up has been built and experimentally tested to examine the proposed system. Simulation and experimental results are computed and shown to be in good agreement. ©2010 IEEE.

Document Type: Conference Paper

Source: Scopus

Sharaf Eldin, A., AbdelGaber, S., Soliman, T., Kassim, S., Abdo, A.

A comparative study of protein sequence clustering algorithms

(2010) *Innovations in Computing Sciences and Software Engineering*, pp. 373-378.

DOI: 10.1007/978-90-481-9112-3-63

Faculty of Computer and Information Sciences, Helwan University, Egypt

Abstract

In this paper, we survey four clustering techniques and discuss their advantages and drawbacks. A review of eight different protein sequence clustering algorithms has been accomplished. Moreover, a comparison between the algorithms on the basis of some factors has been presented. © Springer Science+Business Media B.V. 2010.

Document Type: Conference Paper

Source: Scopus

Hammad, I., Qari, S.H.

Genetic diversity among *Zygophyllum* (*Zygophyllaceae*) populations based on RAPD analysis.

(2010) *Genetics and molecular research : GMR*, 9 (4), pp. 2412-2420. Cited 5 times.

Department of Microbiology and Botany, Faculty of Science, Helwan University, Egypt.

Abstract

Zygophyllum species are succulent plants that are drought resistant and/or salt tolerant, growing under severe, dry climatic conditions. Despite their importance and abundance in the Mediterranean and Middle East regions, there is little information concerning molecular variations among species of this genus. Genetic diversity was assessed, using RAPD primers, of 12 populations of *Z. coccineum*, *Z. album* and *Z. aegyptium* collected from various locations in Egypt and Saudi Arabia. Young leaves were used for DNA extraction. Genetic distances were calculated using Nei's method. A dendrogram was constructed based on the similarity data matrix by unweighted pair group method using arithmetic averages cluster analysis. Analysis with RAPD markers revealed genetic variation between and within populations of *Zygophyllum*. *Zygophyllum coccineum* showed higher levels of genetic variation and more unique alleles than the other species.

Document Type: Article

Source: Scopus

Eldosoky, M.A.

Classification of finger movements by using the ultra-wide band radar.

(2010) *Computer methods in biomechanics and biomedical engineering*, 13 (6), pp. 865-868. Cited 3 times.

Department of Biomedical Engineering, Faculty of Engineering, Helwan University, 1st Sherif Helwan, Egypt.

Abstract

The coding system of finger movements depends on the differences in the characteristics of the muscles that are responsible for these movements. The ability of ultra-wide band (UWB) radar for use as a tool for identifying the movements of each finger is presented. This will facilitate the ability of the UWB radar in designing a coding system for the movement of fingers of each hand.

Document Type: Article

Source: Scopus

Abdallah, I.A.

Homotopy analytical solution of MHD fluid flow and heat transfer problem

(2010) *Applied Mathematics and Information Sciences*, 3 (2), pp. 223-233. Cited 1 time.

Math Department, Faculty of Science, Helwan University, Ain Helwan, Egypt

Abstract

The objective of this paper is to derive, based on the Homotopy Analysis Method (HAM), an exact analytic solution for the boundary value problem of the coupled nonlinear system of ordinary differential equations. This system arises in the study of the steady magnetohydrodynamic (MHD), viscous, incompressible and electrically conducting fluid flow over a linearly stretching surface and heat transfer problem in presence of a transverse constant magnetic field and a uniform free stream of constant velocity and temperature. The obtained analytical uniformly valid solution is verified graphically and numerically and compared with the numerical results reported previously. The solution agrees with the previous reported results. © 2009 Dixie W Publishing Corporation, U. S. A.

Author Keywords

Flow and heat transfer; Homotopy analysis method; MHD fluid; Nonlinear partial differential equations

Document Type: Article

Source: Scopus

Soliman, M.^a, Ahmed, M.M.R.^b, Safiuddin, M.^c

Modeling of fuel cell/microturbine generation scheme with battery storage

(2010) *EPEC 2010 - IEEE Electrical Power and Energy Conference: "Sustainable Energy for an Intelligent Grid"*, art. no. 5697227, .

DOI: 10.1109/EPEC.2010.5697227

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^b Faculty of Industrial Education, Helwan University, Egypt

^c State University of New York, Buffalo, NY, United States

Abstract

This paper describes a proposed distributed generation scheme employing a microturbine driving a Permanent Magnet Synchronous Generator (PMSG). The ac power generated from the PMSG is rectified and, along with a Fuel Cell, is connected to the dc-link together with a battery bank. A PWM inverter delivers ac power to the load. The dynamic and steady state models of the distributed generation scheme will be derived and the simulation results will be presented for different load variations. ©2010 IEEE.

Author Keywords

Distributed generation; Microturbine; Modulation index; Peak power shaver; Permanent magnet synchronous generator; SOFC

Document Type: Conference Paper

Source: Scopus

Hammad, N.

Influence of air conditioning characteristics on vehicle interior noise

(2010) *International Journal of Vehicle Structures and Systems*, 2 (2), pp. 80-86. Cited 1 time.

DOI: 10.4273/ijvss.2.2.06

Automotive Department, Faculty of Engineering, Helwan University Mataria, Cairo, Egypt

Abstract

Reduction of Heating, Ventilation and Air Conditioning (HVAC) systems and other components such as engine and exhaust system has resulted the study on the vehicle noise as an increasingly important aspect for the automotive industry in meeting the passenger comfort requirements. In this paper, the influence of vehicle air conditioning characteristics such as the fan speed, engine speed and air conditioning positions (i.e., ON or OFF) on the vehicle interior Sound Pressure Level (SPL) is presented. The generation of noise and its transmission mechanisms are studied. The major contributors to the HVAC system airborne noise are the aerodynamic, mechanical and hydraulic noises from the compressor and handling units. Since the HVAC's fan is driven directly by the vehicle battery that is separated from the HVAC, the noise generation due to the fan speeds or positions can be directly obtained by turning the compressor to OFF and the fan to ON positions. Meanwhile, the mechanical and hydraulic noises can be obtained by extracting the airborne noise by turning the compressor to OFF and the fan to ON positions from those obtained by turning both the compressor and fan to ON position. The experimental results indicate that the principal source of vehicle noise is related to the aerodynamic noise and the noise level has shown considerable increase when both the fan and compressor units are turned to ON positions. For a specific fan speed, an increase in the noise due to the mechanical and hydraulic sources is observed for an increase in the engine speed. © 2010. MechAero Foundation for Technical Research & Education Excellence.

Author Keywords

Natural frequencies; Sound pressure level; Vehicle cavity; Vehicle interior noise

Document Type: Article

Source: Scopus

Fahmi, W.^a, Sutton, K.^b

Cairo's contested garbage: Sustainable solid waste management and the Zabaleen's right to the city

(2010) *Sustainability*, 2 (6), pp. 1765-1783. Cited 13 times.

DOI: 10.3390/su2061765

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^b School of Environment and Development, University of Manchester, Oxford Road, Manchester, M13 9PL, United Kingdom

Abstract

Over the decades, the Zabaleen, the traditional waste (garbage) collectors of Cairo, have created what is arguably one of the world's most efficient and sustainable resource-recovery and waste-recycling systems. Yet the continuation of this intricate relationship between community, environment and livelihood is jeopardized by the official privatization of municipal solid waste (MSW) services through contracts with technology-intensive multinational corporations which threatens the sustainability of the garbage collectors' communities by removing access to their chief economic asset, waste or garbage. The situation is exacerbated by an official policy of moving the Zabaleen and their MSW sorting, recovery, trading and recycling activities further out of the city, on the grounds that this will turn their neighbourhoods into cleaner and healthier living environments. The consumption of Cairo's sites of MSW collection and sorting open new socio-political spaces for conflict between multi-national companies and the Zabaleen's traditional system. This is further indicated in the way Cairo's waste materials have been subjected to new claims and conflict, as they are seen as a 'commodity' by global capital entrepreneurs and multi-national corporations, and as a source of livelihood' by the disadvantaged and marginalised Zabaleen population. © 2010 by the authors.

Author Keywords

Cairo-garbage; City-Zabaleen garbage; Collectors-municipal solid waste management

Document Type: Article

Source: Scopus

Affigaul, G.M.H., Wahab, S.A.

Benchmarking the egyptian tourism higher education scheme

(2010) *Anatolia*, 21 (2), pp. 363-378. Cited 1 time.

DOI: 10.1080/13032917.2010.9687109

Helwan University, Faculty of Tourism and Hotels, Cairo, Egypt

Abstract

This research is part of an ongoing process of full innovation of the higher education scheme in Egypt under the supervision of the Egyptian National Council for Education Quality Assurance. As an initial step, the research focuses on benchmarking the Intended Learning Outcomes (ILOs) and tourism courses provided in Egypt against those recommended by a highly recognized entity, the British Quality Assurance Agency (BQAA). The research aims to identify the gaps between the two models, which should then facilitate resetting the ILOs and tourism courses in Egypt to meet standards that are more advanced. © 2010 anatolla.

Author Keywords

Bqaa; Tourism education benchmarking quality assurance egypt

Document Type: Article

Source: Scopus

Azab, R.M.E.^a, Eldin, E.H.S.^a, Lataire, P.^b, Sallam, M.M.^a

Optimal location of shedding load at the adaptive UFLS

(2010) *2010 IEEE International Energy Conference and Exhibition, EnergyCon 2010*, art. no. 5771686, pp. 250-255. Cited 1 time.

DOI: 10.1109/ENERGYCON.2010.5771686

^a Department of Electrical Power and Machines Engineering, Helwan University, Egypt

^b Department of Electrical Engineering and Energy Technology, Vrije Universiteit Brussel, Belgium

Abstract

Under Frequency Load Shedding, UFLS, is the last step and the most extreme in protecting electric power systems from black outs and severe damages. Load shedding relays are installed at constant locations in the system. These locations are usually substations feeding less important loads. This lack of intelligence in selection of the loads to be shed may result in some problems for the power system after the disturbance. An adaptive selection of load to be shed is suggested using the benefits of wide area protection. The simulation results demonstrate a considerable advantage in minimizing load to be shed. © 2010 IEEE.

Document Type: Conference Paper

Source: Scopus

El-Toumy, S.A.^a, Salib, J.Y.^a, Mohamed, W.M.^a, Morsy, F.A.^b

Phytochemical and antimicrobial studies on *Acacia saligna* leaves

(2010) *Egyptian Journal of Chemistry*, 53 (5), pp. 705-717.

^a Chemistry of Tanning Materials and Leather Technology, National Research Center, Helwan University, Cairo, Egypt

^b Chemistry Department, Faculty of Science, Helwan University, Cairo, Egypt

Abstract

THE THERAPY of the medicinal plants has always been a part of our environment as they have several therapeutic virtues. These properties are generally attributed to secondary metabolites such as polyphenols. In this study we investigated the three extracts; ethyl acetate, methanolic and water extract of the leaves of *Acacia saligna* (Wendl H. L.) which is used traditionally in the treatment of various diseases. They were assayed against Gram-positive bacteria (*Staphylococcus aureus*, *Staphylococcus pyogenes*, *Bacillus cereus*, *Bacillus subtilis*), Gram-negative bacteria (*Escherichia coli*), fungi and yeast (*Candida albicans*) using the diffusion and serial methods. The susceptibility of the microorganisms to the extracts of these plants was compared with each other and with selected antibiotics whereby the ethyl acetate extract being the most effective. The active ethyl acetate extract was phytochemically studied as well for their polyphenolic constituents, where they afforded sixteen polyphenolic compounds among which two different phenolic acids, two catechins and seven flavonoids were isolated for the first time from *A. saligna*. The structure of all the isolated compounds was elucidated on the basis of spectral analysis.

Author Keywords

Acacia saligna leaves; Fabaceae; Phenolic compounds and antimicrobial assay

Document Type: Article

Source: Scopus

El-Bagory, T.M.A.A.^a, Younan, M.Y.A.^b, Sallam, H.E.M.^{c d}, Abdel-Latif, L.A.^a

Effect of load angle on limit load of polyethylene miter pipe bends

(2010) *American Society of Mechanical Engineers, Pressure Vessels and Piping Division (Publication) PVP*, 3, pp. 847-856.

DOI: 10.1115/PVP2010-25491

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^b Mechanical Engineering Department, American University in Cairo AUC, Cairo, Egypt

^c Civil Engineering Dept., Jazan University, KSA, Zagazig, Egypt

^d Zagazig University, Zagazig, Egypt

Abstract

The aim of this paper is to investigate the effect crack depth $a/W = 0$ to 0.4 and load angle (30° , 45° , and 60°) on the limit load of miter pipe bends (MPB) under out-of-plane bending moment with a crosshead speed 500 mm/min. The geometry of cracked and uncracked multi miter pipe bends are: bend angle, $\alpha=90^\circ$, pipe bend factor, $h=0.844$, standard dimension ratio, $SDR=11$, and three junctions, $m=3$. The material of the investigated pipe is a high-density polyethylene (HDPE), which is applied in natural gas piping systems. Butt-fusion welding is used to produce the welds in the miter pipe bends. An artificial crack is produced by a special cracking device. The crack is located at the crown side of the miter pipe bend, such that the crack is collinear with the direction of the applied load. The crack depth ratio, $a/W = 0, 0.1, 0.2, 0.3$ and 0.4 for out-of-plane bending moment "i.e. loading angle $\phi = 0^\circ$ ". For each out-of-plane bending moment and all closing and opening load angles the limit load is obtained by the tangent intersection method (TI) from the load deflection curves produced by the specially designed and constructed testing machine at the laboratory1. For each out-of-plane bending moment case, the experimental results reveals that increasing crack depth leads to a decrease in the stiffness and limit load of MPB. In case of combined load (out-of-plane and in-plane opening; mode) higher load angles lead to an increase in the limit load. The highest limit load value appears at a loading angle equal, $\phi = 60^\circ$. In case of combined load (out-of-plane and in-plane closing; mode) the limit load decreases upon increasing the load angle. On the other hand, higher limit load values take place at a specific loading angle equal $\phi = 30^\circ$. For combined load opening case; higher values of limit load are obtained. Contrarily, lower values are obtained in the closing case. Copyright © 2010 by ASME.

Author Keywords

Butt-fusion method; Combined load close/open angle; High-density polyethylene (HDPE); Miter pipe bends (MPB); Tangent intersection (TI) method

Document Type: Conference Paper

Source: Scopus

Elsharkawi, E.^a, Said, H.^b, Raafat, A.^c, Elrefaei, S.^d, Elarousi, D.^e, Basyouni, M.^e

Experience of Egypt in management of ageing of high voltage substation equipment(2010) *43rd International Conference on Large High Voltage Electric Systems 2010, CIGRE 2010*, 11 p.^a PGESCO, Egypt^b EGEMAC, Egypt^c SCEDC, Egypt^d Helwan Univ., Egypt^e EEHC, Egypt**Abstract**

The installed capacity of electric power generation in Egypt reaches more than 22.6 Gw in the year 2008 and still growing. The extra HV grid was commissioned starting from 1967 and reached now more than 2500 km of transmission lines at a voltage level of 550 kV and more than 15000 km of 245 kV lines. The GIS substations were used in Egypt in the EHV network since 1980. There are enough experience nowadays in design and operation of AIS and GIS substations. The Egyptian National Committee of CIGRE A3 carried out an extensive survey of the failures in the HV substation equipment of the unified power grid during the last 10 years. The technical data of the equipment and the number of failures have been collected from the records and reports of the central dispatching centre while the details of the failures were obtained from the concerned substation. These data have been classified in general and for every specific equipment. The tabulation and analysis of the data are presented in the text of the paper. It was found that the circuit breaker is the critical switching equipment and it should be treated carefully in the specification, manufacturing and operation. The failure rate of circuit breakers is higher compared to other equipment. Thus, the ageing of breakers are faster, and it needs continuous online monitoring and checking. The analysis of failures is a suitable mean to estimate the residual life time of the switching equipment. It shows also that although the failure rates of the measuring transformers and bushings are comparatively small, the insulation condition of these equipment has to be checked periodically as it is the main tool in assessing the status of the equipment and its residual life time. The paper concludes that using controlled switching devices with the circuit breakers may lead to longer life as it limits the over-voltage switching stresses specially for breakers which are used with low power factor loads. Also, the online measurements with continuous data recording by means of sensors and fiber optics data transmission can be used effectively in evaluating the residual lifetime and consequently performing the ageing management strategic plan.

Author Keywords

Ageing; AIS; Controlled switching; Failure rates; GIS; Insulating medium; Material tear and wear; Online monitoring; Residual lifetime; Switching equipment

Document Type: Conference Paper**Source:** ScopusBensenouci, A.^a, Abdel Ghany, A.M.^b**Performance analysis and comparative study of LMI-based iterative PID load-frequency controllers of a single-area power system**(2010) *WSEAS Transactions on Power Systems*, 5 (2), pp. 85-97. Cited 5 times.^a Electrical Engineering Department, College of Engineering, Qassim University, P.O. Box 6677, Buraydah 51452, Saudi Arabia^b Electrical Power and Machine Department, Faculty of Engineering, Helwan University, Helwan, Cairo, Egypt**Abstract**

This paper provides a comparison of the performance and the design steps for four robust static output feedback Proportional-Integral-Derivative (PID) controllers. The first one presents an Iterative PID (IPID) that guarantees the stability of the closed-loop system. In the second and the third controllers, Iterative PID based on H₂ (IPIDH₂) and H_∞ (IPIDH_∞) performances, respectively, are investigated. The role of H_∞ is to minimize the disturbance effect whereas H₂ is used to improve the transients of the system output. The last one is an Iterative PID that is characterized by the Maximum (IPIDM) regulated output of the closed loop system with its command input being bounded. The Iterative Linear Matrix Inequality (ILMI) technique is developed to find the feedback gains of the designed PID controllers. The proposed design technique is applied to the Load Frequency Control (LFC) problem of a single-area power system. The effects of ILMI tuning variables on the system dynamic response are given and discussed. To test and compare the effectiveness of the controllers, diverse simulation tests are carried out under diverse disturbances and parameters change with the presence of the Generation Rate Constraint (GRC), inherent system nonlinearity. The results prove that the proposed iterative PID controllers are very useful for LFC power system.

Author Keywords

H-2 norm; H-infinity norm; Iterative PID; Linear matrix inequalities; Load frequency control; Maximum power output control

Document Type: Article

Source: Scopus

Khalil, M.

An expert system to evaluate the wear between cylinder kit parts for the vehicle engine

(2010) *SAE Technical Papers*, .

DOI: 10.4271/2010-01-2016

Automotive Engineering Dept, Faculty of Engineering, Helwan University, Cairo, Egypt

Abstract

In this paper the study is directed to a condition-based predictive maintenance concept as an alternative policy to determine a fleet's health, for increasing the fleet availability and to reduce the operating cost. The concept is based on predicting the system degradation by using an expert system. Therefore, the decision-maker can calculate the remaining lifetime for any mechanical system. These calculations help the decision-maker in making a repair or replacement decision in a suitable time. An application is presented herein on the cylinder kit components (piston, piston rings and liner) to illustrate the effectiveness of this technique. The results indicate that knowing the wear between the cylinder kit components in automotive engines is very important to plan the maintenance for making the repair or replacement decision in a suitable time. Copyright © 2010 SAE International.

Author Keywords

condition based maintenance; diagnostic; engine cylinder kit; Prognostic

Document Type: Conference Paper

Source: Scopus

Elgemeie, G.H.^a, Mahdy, E.M.^a, Elgawish, M.A.^b, Ahmed, M.M.^c, Shousha, W.G.^a, Eldin, M.E.^a

A new class of antimetabolites: Pyridine thioglycosides as potential anticancer agents

(2010) *Zeitschrift fur Naturforschung - Section C Journal of Biosciences*, 65 C (9-10), pp. 577-587.

^a Faculty of Science, Chemistry Department, Helwan University, Helwan, Cairo, Egypt

^b National Center for Radiation Research and Technology, Cairo, Egypt

^c Cancer Biology Department, National Cancer Institute, Cairo University, Cairo, Egypt

Abstract

The present study was designed for highlighting and focusing on the cytotoxic activity of a new class of antimetabolites both on human cell lines, namely liver carcinoma cell line (Hepg2), lung carcinoma cell line (H460), breast carcinoma cell line (MCF7), brain carcinoma cell line (U251), and animal cell line EAC (Ehrlich ascites carcinoma cells). The results revealed that some of these modified deazapyrimidine thioglycosides have significant cytotoxic activity against EAC cells with growth inhibition percentage ranged between 80% to 90%. The possible inhibitory mechanism of the pyridine thioglycosides was explored by studying the cell cycle perturbation of thioglycosides against human cell lines (in vitro) as well as the most suitable time for maximum compound cytotoxic activity after 6, 18, and 24 h of incubation. To confirm the cytotoxic activity of these compounds, they have been tested for their apoptotic and antiproliferative activity in vivo against solid Ehrlich tumours using five groups of Swiss albino mice for 37 days from inoculation and three treatments, 250, 500 and 1,000 µg/kg body weight. There was significant reduction in Ehrlich tumour size in case of the 500 and 1,000 µg/kg body weight group but mild significant tumour reduction in the 250 µg/kg body weight group. Histograms of DNA per cell for each treatment group indicated that there was a dose-dependent increase in the preG1 phase with a corresponding complete arrest of cells from entering the G2/M phase compared to the untreated EAC group. In conclusion, pyridine thioglycosides have proven good cytotoxic effects against EAC cells and also significant cytotoxic activity against the four tested human cell lines. Flow cytometric DNA ploidy analysis of pyridine thioglycosides against the Hepg2 and U251 cell lines revealed that the postulated mechanism of action of pyridine thioglycosides is cell cycle arrest in the S phase. This is similar to antimetabolites and cell cycle arrest in the G2/M phase (M phase) in the same way as microtubule inhibitors like pyridine thioglycosides are cell-cycle-specific in the S phase and the M phase (in case of human cell lines) and have apoptotic effects (in case of animal cell line). © 2010 Verlag der Zeitschrift für Naturforschung. Tübingen.

Author Keywords

Anticancer agents; Antimetabolites; Pyridine thioglycosides

Document Type: Article

Source: Scopus

Ismail, A.M.^a, Khalil, H.B.^b

Urban design factors associated with coastal alterations: The case of Hurghada, Red Sea in Egypt
(2010) *ICEEA 2010 - 2010 International Conference on Environmental Engineering and Applications, Proceedings*, art. no. 5596087, pp. 26-29.

DOI: 10.1109/ICEEA.2010.5596087

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^b Department of Architecture, Faculty of Engineering, Helwan University, Egypt

Abstract

The coastline of Hurghada, Egypt has been a site of extensive tourism development since the 1980's. Construction and habitat alteration, including dredge and fill operations of shallow areas, excavation of artificial lagoons, construction of huge marine structures, and mining and quarrying. Experts consider Hurghada to be an example of what un-planned development could damage marine and aquatic life. Yet little research has been done on which -if any- physical design factors of tourist villages that promote or impair dredging. For example, is there a relationship between filling more coastal area and plot dimensions or area? Is there a difference between the behaviour of privately and publicly owned plots when it comes to altering the coast line? Are regulatory instruments of protecting the shoreline, limiting area and setting a set-back distance effective and reasonable? This paper analyses these issues using time-series data from 3 satellite images that monitor up coastal development in Hurghada from 1989-2005. It uses statistical analysis linked to a GIS database to examine the association between physical factors of tourist projects and the propensity to assault the coast. It concludes that several planning and legislative flaws are likely to have contributed to the encroachment on the coastal strip in Hurghada. It presents a list of future recommendations for the planning of plot subdivision and its regulations. © 2010 IEEE.

Author Keywords

Coastal alteration; Environmental impacts; Sustainability; Urban design

Document Type: Conference Paper

Source: Scopus

Galil, W.M.

Tensegrity systems in nature and their impacts on the creativity of lightweight metal structures that can be applied in Egypt

(2010) *WIT Transactions on Ecology and the Environment*, 138, pp. 41-52.

DOI: 10.2495/DN100051

Faculty of Applied Arts, Helwan University, Egypt

Abstract

The search for integrated design solutions has been the designer's dream throughout the different stages of history. Designers have tried to observe natural phenomena and study biological structure behaviour when exploring creation within nature. This can happen through trying to follow an integrated approach for an objects' behaviour in biological nature systems. Donald E. Ingber, a scientist, confirmed this by his interpretation of the power that affects cell behaviour. This interpretation was proved through physical models called "the Principle of Tensegrity". It is an interpreting principle for connectivity within a cell that represents the preferred structural system in biological nature. "Tensegrity" ensures the structural stability arrangement for its components in order to reduce energy economically and get a lower mass to its minimum limit by local continuous tension and compression. The aim of this research is to monitor "Tensegrity" systems in biological nature with a methodology for use and formulation in new innovative design solutions. This research highlighted the way of thinking about the principle of "Tensegrity" in nature and its adaptation in creating lightweight metal structural systems. Such systems have many functions, characterized by lightweight and precise structural elements and components. Moreover, a methodology design has been proposed on how to benefit from Tensegrity systems in biological nature in the design of lightweight metal structures with creative application in Egypt. © 2010 WIT Press.

Author Keywords

design in nature; lightweight structure; Tensegrity

Document Type: Conference Paper

Source: Scopus

Adly, A.S., Kandil, O.A.D., Ibrahim, M.S., Adly, M.S., Adly, A.S., Adly, A.S.

Computational and theoretical concepts for regulating stem cells using viral and physical methods

(2010) *Lecture Notes in Electrical Engineering*, 68 LNEE, pp. 533-546. Cited 1 time.

DOI: 10.1007/978-90-481-9419-3_41

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Abstract

Regenerative medicine is the application of tissue, sciences, engineering, computations, related biological, and biochemical principles that restore the structure and function of damaged tissues and organs. This new field encompasses many novel approaches to treatment of disease and restoration of biological function. Scientists are one-step closer to create a gene therapy/stem cell combination to combat genetic diseases. This research may lead to not only curing the disease, but also repairing the damage left behind. However, the development of gene therapy vectors with sufficient targeting ability, efficiency, and safety must be achieved before gene therapy can be routinely used in human. Delivery systems based on both viruses and non-viral systems are being explored, characterized, and used for in vitro and in vivo gene delivery. Although advances in gene transfer technology have been made, an ideal system has not yet been constructed. The development of scalable computer systems constitutes one-step toward understanding dynamics and potential of this process. Therefore, the primary goal of this work is to develop a computer model that will support investigations of both viral and non-viral methods for gene transfer on regenerative tissues including genetically modified stem cells. Different simulation scenarios were implemented, and their results were encouraging compared to ex-vivo experiments, where, the error rate lies in the range of acceptable values in this domain of application © 2010 Springer Science+Business Media B.V.

Document Type: Conference Paper

Source: Scopus

Zainud-Deen, S.H.^a, Al-Essa, R.A.^b, Ibrahim, S.M.M.^b

Ultrawideband printed elliptical monopole antenna with four band-notch characteristics

(2010) *2010 IEEE International Symposium on Antennas and Propagation and CNC-USNC/URSI Radio Science Meeting - Leading the Wave, AP-S/URSI 2010*, art. no. 5561679, .

DOI: 10.1109/APS.2010.5561679

^a Faculty of Electronic Engineering, Menoufia University, Egypt

^b Faculty of Engineering, Helwan University, Egypt

Abstract

In this paper, a compact ultrawideband (UWB) elliptical monopole antenna with four band-notched characteristics is proposed. An optimized half elliptical slit is inserted into the ground plane to improve the impedance bandwidth. The proposed antenna can be achieving separately four sharp notches at frequencies 3.5 GHz, 5.5 GHz, 9. GHz and 12.5 GHz. The simulation is performed using the finite-difference time-domain technique. The proposed antenna has an acceptable omnidirectional radiation pattern. The results prove that this kind of antenna not only satisfies all UWB but also rejects the limited bands in order to avoid possible interference with existing wireless networks. © 2010 IEEE.

Document Type: Conference Paper

Source: Scopus

Zainud-Deen, S.H.^a, Al-Essa, R.A.^b, Ibrahim, S.M.M.^b

Overlapped printed monopole antennas for ultrawideband applications

(2010) *2010 IEEE International Symposium on Antennas and Propagation and CNC-USNC/URSI Radio Science Meeting - Leading the Wave, AP-S/URSI 2010*, art. no. 5561681, .

DOI: 10.1109/APS.2010.5561681

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Abstract

Configurations of overlapped rectangular patches printed antennas with a slitted ground plane have been investigated. Three overlapped patches are used. The effect of overlapping patches on the impedance bandwidth, input impedance, VSWR, gain and radiation patterns has been studied. Elliptical slit in the ground plane is used to improve the impedance bandwidth of the antenna. Overlapping slots are cut in the radiating surface to reduce the size of the metal material of the antenna. The proposed structure provides 13.3 GHz bandwidth for 10-dB return loss ranging from 3.1 to 16.4 GHz. The simulated radiation patterns are also shown as well. The proposed antenna features UWB behavior with near omnidirectional characteristics and good radiation efficiency. © 2010 IEEE.

Document Type: Conference Paper

Source: Scopus

Rocha Simonini, P.D.S.^{a b}, Breiling, A.^c, Gupta, N.^d, Malekpour, M.^f, Youns, M.^{a i}, Omeranipour, R.^f, Malekpour, F.^g, .

Volinia, S.^j, Croce, C.M.^k, Najmabadi, H.^h, Diederichs, S.^b, Sahin, Ö.^e, Mayer, D.^d, Lyko, F.^c, Hoheisel, J.D.^a, Riazalhosseini, Y.^a

Epigenetically deregulated microRNA-375 is involved in a positive feedback loop with estrogen receptor α in breast cancer cells

(2010) *Cancer Research*, 70 (22), pp. 9175-9184. Cited 115 times.

DOI: 10.1158/0008-5472.CAN-10-1318

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^k Department of Molecular Virology, Immunology and Medical Genetics, Comprehensive Cancer Center, Ohio State University, Columbus, OH, United States

Abstract

Estrogen receptor α (ER α) upregulation causes abnormal cell proliferation in about two thirds of breast cancers, yet understanding of the underlying mechanisms remains incomplete. Here, we show that high expression of the microRNA miR-375 in ER α -positive breast cell lines is a key driver of their proliferation. miR-375 overexpression was caused by loss of epigenetic marks including H3K9me2 and local DNA hypomethylation, dissociation of the transcriptional repressor CTCF from the miR-375 promoter, and interactions of ER α with regulatory regions of miR-375. Inhibiting miR-375 in ER α -positive MCF-7 cells resulted in reduced ER α activation and cell proliferation. A combination of expression profiling from tumor samples and miRNA target prediction identified RASD1 as a potential miR-375 target. Mechanistic investigations revealed that miR-375 regulates RASD1 by targeting the 3' untranslated region in RASD1 mRNA. Additionally, we found that RASD1 negatively regulates ER α expression. Our findings define a forward feedback pathway in control of ER α expression, highlighting new strategies to treat ER α -positive invasive breast tumors. ©2010 AACR.

Document Type: Article

Source: Scopus

Moustafa, S.F.^a, Kaitbay, S.H.^b, Abdo, G.M.^c

Liquid-phase sintering of tungsten heavy alloys

(2010) *Defect and Diffusion Forum*, 303-304, pp. 55-62. Cited 2 times.

DOI: 10.4028/www.scientific.net/DDF.303-304.55

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^c TRC, Cairo, Egypt

Abstract

Elemental powders of tungsten, nickel, iron and cobalt of compositions corresponding to (W-3.2Ni-0.8%Fe), (W-3.5Ni-1.5%Fe), and (W-4.5Ni-1.0Fe-1.5%Co) were mechanically alloyed in a tumbler rod mill for 2 hrs. Mechanically alloyed powders were liquid phase sintered at 1500°C for 90 min in vacuum. The sintered materials were heated up to 1150-1200°C in vacuum atmosphere, followed by quenching in water to suppress the impurity segregated at grain boundary. The sintered materials were subjected to cold-working by swaging from 8-30% reduction in area. The swaged specimens were age-hardened at 700°C. Full characterization for both the elemental powders and the sintered tungsten alloys were performed using optical microscopy, SEM analysis, EDS quantitative analysis, X-ray diffraction, hardness and compression testing. This paper will discuss the effects of the elemental powders characterization and the liquid phase sintering parameters on the microstructure and strength of these three tungsten heavy alloys. © (2010) Trans Tech Publications.

Author Keywords

Dense alloys; Liquid phase; Sintering; Tungsten alloys

Document Type: Conference Paper

Source: Scopus

Youns, M.^{a c}, Hoheisel, J.D.^b, Efferth, T.^a

Toxicogenomics for the prediction of toxicity related to herbs from traditional Chinese medicine
(2010) *Planta Medica*, 76 (17), pp. 2019-2025. Cited 25 times.

DOI: 10.1055/s-0030-1250432

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Abstract

Toxicogenomics represents the integration of genomics and toxicology to investigate the interaction between genes and environmental stress in human health. It is a scientific field that studies how the genome is involved in responses to environmental stressors and toxicants. The patterns of altered gene expression that are caused by specific exposures or disease outcomes reveal how toxicants may act and cause disease. Nowadays, toxicogenomics faces great challenges in discriminating the molecular basis of toxicity. We do believe that advances in this field will eventually allow us to describe all the toxicological interactions that occur within a living system. Toxicogenomic responses of a toxic agent in one species (e.g., laboratory animals) may predict the mode of action in another species (e.g., humans) (predictive toxicology). Development and application of toxicogenomic databases and new bioinformatics tools are among the most important aspects of toxicogenomic research which will facilitate sharing and interpretation of the huge amount of biological information generated in this field. Medicinal herbs have played an important role in pharmacy from ancient to modern times. Nowadays, there is a revival of interest in medicinal plants and an increasing scientific interest in bioactive natural products. Medicinal herbs are usually considered to be nontoxic. However, the consumption of herbs could produce prominent toxic effects either due to inherent toxicity or to contaminants (heavy metals, microorganisms, pesticides, toxic organic solvents, radioactivity, etc.). Therefore, a critical assessment of their toxicity is an urgent issue. This review explores the field of toxicogenomics, pinpoints some of its research approaches and describes the challenges it faces. In particular, Chinese herbal preparations have been implicated. © Georg Thieme Verlag KG Stuttgart - New York.

Author Keywords

medicinal herbs; microarray; toxicogenomics; traditional Chinese medicine

Document Type: Review

Source: Scopus

Ibrahim, N.A.^a, El-Gamal, A.R.^b, Gouda, M.^a, Mahrous, F.^a

A new approach for natural dyeing and functional finishing of cotton cellulose
(2010) *Carbohydrate Polymers*, 82 (4), pp. 1205-1211. Cited 28 times.

DOI: 10.1016/j.carbpol.2010.06.054

^a National Research Centre, Textile Research Division, Dokki, Cairo, Egypt

^b Faculty of Applied Arts, Printing/Dyeing/Finishing Department, Helwan University, Cairo, Egypt

Abstract

A new approach for upgrading the dyeing properties of cotton knits with natural dyes as well as to enhance both the UV-protection and antimicrobial functions of the obtained dyeings was investigated. Factors affecting the dyeing and multifunctional properties of the treated substrates such as fabric structure, type and concentration of mordant, kind and percent of natural dye extract as well as dyeing regime were studied. In situ deposition of the mordant as a metal oxide onto and/or within the fabric structure followed by dyeing results in a dramatic improvement in the color strength as well as the fastness properties, in addition to an outstanding enhancement in both the UV-protection, against the harmful UV-radiation and the antibacterial activity against the hazardous G+ve and G-ve bacteria. The extent of improvement in the aforementioned properties follows the descending order: pre-mordanting followed by dyeing > dyeing only > none, and is determined by type and content of metal, physical state/chemical structure as well as extent of dye interaction and fixation, along with the fabric construction. The UV-protection properties as well as the antibacterial activities of the obtained dyeings are maintained even after 20 washing cycles. © 2010 Elsevier Ltd.

Author Keywords

Antibacterial function; Cotton knits; Metal salts; Natural dyes; Pre-mordanting; UV-blocking

Document Type: Article

Source: Scopus

Hassanein, T.F.^a, Koumanova, B.^b

Decolourisation of waters using Flax shives wasted from agriculture

(2010) *Fresenius Environmental Bulletin*, 19 (9), pp. 1894-1905. Cited 3 times.

^a Helwan University, Faculty of Science, Department of Chemistry, Helwan, Egypt

^b University of Chemical Technology and Metallurgy, Department of Chemical Engineering, 8 Kliment Ohridski blvd., Sofia 1756, Bulgaria

Abstract

Laboratory investigations for the potential usage of agricultural waste Flax shives as an adsorbent for water decolourisation were conducted in a batch sorption system. Flax (*Linum usitatissimum*) is a plant grown in Egypt consisting of long fibres used for linen production, the seeds for oil production, and short fibres (shives, a main fiber flax by-product) are wasted during the processing of flax stocks. The adsorption equilibrium using model aqueous solutions of Basic Yellow 21 has been studied. The experimental data fit Tempkin equation better than those of Langmuir and Freundlich. The adsorption capacity of the Flax shives for Basic Yellow 21 was found to be 76.92 mg/g. The adsorption kinetics with respect to the initial dye concentration, adsorbent mass and stirring rate was investigated. The pseudo-first order, pseudo-second order and intra-particle diffusion models were used to describe the kinetic data. The rate constants were also evaluated. The adsorption kinetics fit very well the second-order kinetic model. Sorption mechanism onto Flax shives was also discussed. The results obtained during this study revealed the possible usage of Flax shives as an alternative, low-cost adsorbent for decolourisation of wastewaters. © by PSP.

Author Keywords

Adsorption; Basic yellow 21; Equilibrium; Flax shives; Kinetics; Mechanism

Document Type: Article

Source: Scopus

El Basaty, A.B.^{a b}, Miyauchi, Y.^a, Mizutani, G.^a, Matsushima, T.^a, Murata, H.^a

Optical second harmonic generation at heterojunction interfaces of a molybdenum trioxide layer and an organic layer

(2010) *Applied Physics Letters*, 97 (19), art. no. 193302, . Cited 1 time.

DOI: 10.1063/1.3513297

^a School of Materials Science, Japan Advanced Institute of Science and Technology (JAIST), Ishikawa 923-1292, Japan

^b Department of Physics, Faculty of Science, Helwan University, Cairo 11795, Egypt

Abstract

We have observed optical second harmonic generation (SHG) from a space charge layer (SCL) in a stacked indium tin oxide (ITO)/molybdenum trioxide (MoO₃)/N-N'-diphenyl-N-N'-bis(1-naphthyl)-1,1'-biphenyl-4,4'-diamine (α -NPD) system. When the MoO₃ thicknesses were increased, the SHG signals from this system decreased sharply at smaller MoO₃ thicknesses, and were saturated at MoO₃ thicknesses larger than 1 nm. These results prove the vital role of SCL in improvement of drive voltages of organic light-emitting diodes. © 2010 American Institute of Physics.

Document Type: Article

Source: Scopus

Mansour, H.F.

Environment and energy efficient dyeing of woollen fabric with sticta coronata

(2010) *Clean Technologies and Environmental Policy*, 12 (5), pp. 571-578. Cited 5 times.

DOI: 10.1007/s10098-009-0267-7

Textile Printing, Dyeing and Finishing Department, Helwan University, Helwan, Egypt

Abstract

For a trial to improve the natural dyeing cultural heritage to meet the environmental future demands technology to reach high quality dyed patterns. This paper deals with extraction, dyeing of woollen fabric with "Sticta Coronata" under ultrasonic energy and glucose/hydrogen peroxide based redox system. The efficiency of ultrasonic-assisted extraction in presence of 9:1 water:acetone solvent and dyeing in presence of redox system, followed by alum mordanting have been studied in compared when the system was absent and the traditional thermal technique. The influence of redox system, ultrasonic energy and alum mordanting on the rate of dyeing and dye fixation has been demonstrated, and the mechanism of glucose/hydrogen peroxide redox system has been tentatively suggested. The

extraction with 9:1 water:acetone solvent possesses higher absorbency in shorter extraction time compared with the aqueous one. Redox system reduced the rate of dyeing at lower temperature with significant enhancement on the dye exhaustion and fixation, involving covalent bonding in addition to the usual coulombic bond. Mordanting process exhibited negligible effect and might decline the percent-ages of dye exhaustion and fixation in presence of redox system. Ultrasonic energy provided easy efficient route for dye extraction, dyeing, and mordanting processes in compared with the traditional thermal technique. © Springer-Verlag 2009.

Author Keywords

Environmental natural dyeing; Redox system; *Sticta coronata*; Ultrasonic energy

Document Type: Article

Source: Scopus

Seif, M., Hassan, Y.M.E.

Influence of fusible interlining on simulation of bending stiffness of textile fabrics

(2010) *Melliand International*, 16 (5-6), pp. 239-241.

Helwan University, Cairo, Egypt

Abstract

Linings are functional parts of the garment which are used to maintain its shape. The fabric stiffness is the key factor in the study of the fabric handle. The investigation of the influence of the different fusible interlinings on the simulation of the bending stiffness of shell fabrics is carried out.

Document Type: Article

Source: Scopus

Masoud, M.E., Mahfouz, M.M.A.

Protection scheme for transmission lines based on alienation coefficients for current signals

(2010) *IET Generation, Transmission and Distribution*, 4 (11), pp. 1236-1244. Cited 3 times.

DOI: 10.1049/iet-gtd.2009.0648

Electrical Power and Machines Department, Helwan University, Helwan, Egypt

Abstract

In modern digital power system protection systems, statistical coefficients technique is recently used for fault analysis. An alienation technique is developed for faults detection and discrimination. The proposed technique is able to accurately identify the condition of phase(s) involved in all ten types of shunt faults that may occur in extra high-voltage transmission lines under different fault resistances, inception angle and loading levels. The proposed technique does not need any extra equipment as it depends only on the three line-currents measurements which are mostly available at the relay location. This technique is able to perform the fault detection, type and phase selection in about a half-cycle period. Thus, the proposed technique is well suited for implementation in digital protection schemes. The proposed methodology is applied for a part of 500 KV Egyptian network. Alternative transient program and MATLAB programs are used to implement the proposed technique. © 2010 The Institution of Engineering and Technology.

Document Type: Article

Source: Scopus

Salwa, S.M.^a, Shaban, A.M.^a, Kamel, M.M.^a, El-Hendawy, H.H.^b, Abada, E.A.^b

New definite-substrate media for enterococci detection in Nile water, Egypt

(2010) *Journal of Applied Sciences Research*, 6 (11), pp. 1801-1806. Cited 2 times.

^a Water Pollution Research Department, National Research Centre, Dokki, Cairo, Egypt

^b Microbiology and Botany Department, Faculty of Science, Helwan University, Egypt

Abstract

Monitoring the water quality relies largely on examination for indicator bacteria such as coliforms and enterococci using multiple-tube fermentation test (MPN) with standard and enzymatic media. In this investigation, standard media, SF, and modified SF media for detection and enumeration of enterococci were compared to chromogenic and fluorogenic media using MPN technique in Nile water samples. A total of 60 Nile water samples were collected from five sites at greater Cairo (Kafr El-elw and El-maasara at Cairo governorate, El-giza and Embaba at Giza governorate and El-galatma at Qalubya governorate) during the period from March 2006 till February 2007. The results of this

study showed that, the highest recovery of enterococci was obtained with fluorogenic media (8.7×10^3 and 9.1×10^3 MPN-index/100ml). Statistical analysis showed that there is no significance in enterococci recovery between all used media. The final conclusion of this study suggest that fluorogenic media recommended being a potential alternative media for detection and enumeration of enterococci from raw waters as it is rapid, sensitive, specific and do not require more confirmatory tests. © 2010, INSInet Publication.

Author Keywords

Chromogenic media; Enterococci; Fluorogenic media; Nile water

Document Type: Article

Source: Scopus

Aly, A.F.^a, Agameia, A.^a, Eldesouky, A.S.^a, Sharaf, M.A.^b

Bioceramic bone scaffolds for tissue engineering

(2010) *Journal of Applied Sciences Research*, 6 (11), pp. 1712-1721. Cited 3 times.

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Abstract

Tissue engineering is a new field that made rapid advances. Tissue engineering eliminates re-operations by using biological substitutes that allow native cells to grow. Scaffolds and its properties play important role for success of this technique. Porous calcium phosphate ceramics (mainly hydroxyapatite (HA) and tricalcium phosphate (TCP)) with interconnected macro-pores (~ 100 to 500 μm) as well as high porosities (~ 80%) were prepared by a new method at different temperatures giving a scaffold could be used in different situations. we present a simple, direct lithographic method to fabricate this scaffold. In order to improve the mechanical properties such as compressive strength and compressive modulus and maintain the desirable bioactivity carboxymethyl-celleulose (CMC) is added forming a composite structure. The CMC made the porous calcium phosphate ceramics proved to be bioactive and exhibited compressive strengths up to 18MPa and compressive modules up to 6 GPa which were comparable to those of natural bones. The obtained complex porous bioactive/ biodegradable composites could be used as tissue engineering scaffolds for high load bearing applications. This composite scaffold can be satisfied with the basic requirement for tissue engineering, and has the potential to be applied in repair and substitute of human menisci of the knee-joint and articular cartilage. © 2010, INSInet Publication.

Author Keywords

Bone scaffold; Elastic; Lithographic; Mechanical properties; Porous

Document Type: Article

Source: Scopus

Shawky, D.M.^a, Ali, A.F.^b

An approach for assessing similarity metrics used in metric-based clone detection techniques

(2010) *Proceedings - 2010 3rd IEEE International Conference on Computer Science and Information Technology, ICCSIT 2010*, 1, art. no. 5563834, pp. 580-584. Cited 3 times.

DOI: 10.1109/ICCSIT.2010.5563834

^a Engineering Mathematics Dept., Faculty of Engineering, Cairo University, Giza, Egypt

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Abstract

Similarity is an important concept in information theory. A challenging question is how to measure the amount of shared information between two systems. A large number of metrics are proposed and used to measure similarity between two computer programs or two portions of the same program. In this paper, we present an approach for assessing which metrics are most useful for similarity prediction in the context of clone detection. The presented approach uses clustering to identify clone candidates. In the experiments conducted, we applied sequential clustering using aU possible permutations of a subset of the metrics used in metric-based clone detection literature. Precision and recall are calculated in every experiment. Experimental results show that the order of the metrics used affects the results dramatically. This shows that the used metrics are of variable relevance. © 2010 IEEE.

Author Keywords

Clone detection; Clustering; Similarity metrics

Document Type: Conference Paper

Source: Scopus

Elsayed, A.M.

Arab online book clubs: A survey

(2010) *IFLA Journal*, 36 (3), pp. 235-250. Cited 1 time.

DOI: 10.1177/0340035210378864

Library and Information Science Department, Faculty of Arts, Helwan University, PO Box 11795 Ain Helwan, Helwan, Egypt

Abstract

The main purpose of this paper is to shed light on the current situation of Arab online book clubs and give a comparative account of their performance. Seven online book clubs were discussed, five from Saudi Arabia and two from Egypt. The empirical approach used to address the research problem was a field study with a questionnaire. Questionnaires were sent via e-mail to book club moderators to get general information about the clubs, membership, discussion, services, promotion and evaluation. The findings revealed that despite low participation and superficial discussion, and lack of services provided to readers, Arab online book clubs are becoming a promising environment for promoting reading, and motivate people from all ages to contribute and exchange ideas because these clubs have arisen with a primary objective to promote and enhance reading. The study showed that young Arab readers have begun to discuss books in online groups, and established their own online clubs. This means that Arab online book clubs work away from librarians and publishers in Arab countries. The research paper addresses the current lack of empirical literature on traditional and online Arab book clubs, and offers practical details and many significant results, so that Arab public libraries, communities, authors, publishers and even individuals can capitalize on the positive aspects of current book clubs and create their own. At the end of the paper, the author provides recommendations for the improvement of Arab online book clubs. © The Author(s) 2010.

Author Keywords

Arab book clubs; online book clubs; reading in Arab world; virtual book clubs

Document Type: Article

Source: Scopus

Gabr, B.G.

Antibacterial treatments onto clothing items

(2010) *Melliand International*, 16 (5-6), pp. 234-235. Cited 1 time.

Helwan University, Cairo, Egypt

Abstract

A summary of most used antibacterial treatments on clothes will be represented. Nano-silver, of particles not less than 55 nm preventing skin irritation, is considered as the most effective antibacterial treatment where silver is combined to bacteria cell membrane, inhibiting enzymatic action of bacteria, this is called bactericidal effect. Both qualitative and quantitative evaluations for anti-bacterial treatments are mentioned.

Document Type: Article

Source: Scopus

Ahmed, H.H.^a, Elmegeed, G.A.^a, El-Sayed, E.-S.M.^b, Abd-Elhalim, M.M.^a, Shousha, W.G.^b, Shafic, R.W.^a

Potent neuroprotective role of novel melatonin derivatives for management of central neuropathy induced by acrylamide in rats

(2010) *European Journal of Medicinal Chemistry*, 45 (11), pp. 5452-5459. Cited 10 times.

DOI: 10.1016/j.ejmech.2010.09.017

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^b Chemistry Department, Faculty of Science, Helwan University, Cairo, Egypt

Abstract

Acrylamide (ACR) has been shown to be a neurotoxic agent for both laboratory animals and human. The present study aimed at synthesizing new functionalized melatonin derivatives bearing promising heterocyclic moiety that could be expected to have protective effect against ACR-induced neurotoxicity in adult female rats. The novel melatonin derivatives 4, 6, 7 and 11 were synthesized and their chemical structures were confirmed by studying their analytical and spectral data. The administration of ACR [i.p., 50 mg kg⁻¹ body weight (b. wt.)] alone resulted in significant increase in brain malondialdehyde level (MDA) and lactate dehydrogenase (LDH) activity whereas it caused significant decrease in brain monoamines levels and antioxidant enzymes activity. Treatment with melatonin

derivatives 4, 6, 7 and 11 (i.p., 50 mg kg⁻¹ b. wt) prior to ACR produced significant decrease in brain MDA level and LDH activity with concomitant significant increase in brain monoamines and antioxidant enzymes activity. It could be concluded that the new synthesized melatonin derivatives exhibited promising protective activity against ACR-induced neurotoxicity. © 2010 Elsevier Masson SAS. All rights reserved.

Author Keywords

Acrylamide; Melatonin; Morpholine; Neuroprotective; Pyrazole; Thiadiazole

Document Type: Article

Source: Scopus

El-Agmy, R.M.^{a b}

650-nm laser emission under upconversion pumping at 1.064 μm in Tm +3: ZBLAN fiber laser

(2010) *Laser Physics*, 20 (11), pp. 1990-1993. Cited 2 times.

DOI: 10.1134/S1054660X10210048

^a Department of Physics, Taif University, PO Box 888, Taif, Saudi Arabia

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Abstract

We report for the first time continuous wave (CW) red laser emission in Tm+3-doped ZBLAN fiber laser, operated at 650 nm (1 G 4 → 3 F 4 transition of Tm+3). The excitation uses a three step upconversion scheme. The pump source is a Nd:YAG laser operated at 1.064 μm. A laser output power of CW 80 mW was obtained for 1.42 W of launched pump power. The slope efficiency with respect to launched pump power was measured to be 7.7%. The temporal behavior of the emitted laser is also addressed. © 2010 Pleiades Publishing, Ltd.

Document Type: Article

Source: Scopus

Moniem, A.E.A.^a, Dkhil, M.A.^{a b}, Al-Quraishy, S.^b

Protective role of flaxseed oil against lead acetate induced oxidative stress in testes of adult rats

(2010) *African Journal of Biotechnology*, 9 (42), pp. 7216-7223. Cited 19 times.

^a Department of Zoology and Entomology, Faculty of Science, Helwan University, Cairo, Egypt

^b Department of Zoology, College of Science, King Saud University, Riyadh, Saudi Arabia

Abstract

Even though the toxic effects of lead compounds had been studied over many years, inconsistent results have been obtained about their oxidative stress in the testes of adult rats. Lead acetate (20 mg/kg) alters the histology of testes as well as enhances lipid peroxidation and nitric oxide production in both serum and testes with concomitant reduction in glutathione (GSH) and antioxidant enzymes as catalase (CAT), superoxide dismutase (SOD), glutathione reductase (GR), glutathione-S-transferase (GST) and glutathione peroxidase (GPx). Moreover, lead acetate induced DNA fragmentation in testes of rats. Treatment of rats with flaxseed oil (1000 mg/kg) resulted in marked improvement in all studied parameters. On the basis of the aforementioned results, it can be hypothesized that flaxseed oil is a promising natural product to protect against lead acetate induced oxidative stress and toxicity in rats. © 2010 Academic Journals.

Author Keywords

Flaxseed oil; Lead; Oxidative stress; Rat; Testes

Document Type: Article

Source: Scopus

El-Sherbiny, S.I.^a, Morsy, F.A.^a, Atta, A.M.^b

Synthesis of new cationic surfactants based on recycled poly(ethylene terephthalate) for deinking of solvent-based ink from low-density polyethylene surface

(2010) *Journal of Applied Polymer Science*, 118 (2), pp. 1160-1172. Cited 1 time.

DOI: 10.1002/app.32488

^a Chemistry Department, Faculty of Science, Helwan University, Helwan, Egypt

^b Egyptian Petroleum Research Institute, Nasr City 11727, Cairo, Egypt

Abstract

Water-soluble oligomers based on poly-(ethylene terephthalate) waste, PET, were prepared from transesterification of PET with diethanolamine and triethanolamine in the presence of manganese acetate as a catalyst at temperature of 200°C for 8 h. New cationic surfactants were prepared by reaction of the produced recycled oligomers with bromoacetic acid followed by quaternization with pyridine. The chemical structure of the prepared surfactants was confirmed by 1H-NMR analysis. The surface tension, critical micelle concentration, and surface activities were determined at different temperatures. Surface parameters such as surface excess concentration (Γ_{max}), the area per molecule at interface (A_{min}), and the effectiveness of surface tension reduction (CMC) were determined from the adsorption isotherms of the prepared surfactants. The prepared surfactants were tested as ink removal for printed low-density polyethylene surface. The effect of surfactants concentrations, pH, soaking time, and shaking time were investigated for deinking process. © 2010 Wiley Periodicals, Inc.

Author Keywords

Cationic surfactant; Deinking; Glycolysis; LDPE film; PET waste; Recycling; Solvent-based ink

Document Type: Article

Source: Scopus

Murshidy, M.M.^{a b}, Adawi, A.M.^{a c}, Fry, P.W.^d, Lidzey, D.G.^a

A one-dimensional photonic-crystal nanocavity incorporating a fluorescent molecular dye
(2010) *Applied Physics Letters*, 97 (15), art. no. 153303, . Cited 11 times.

DOI: 10.1063/1.3497647

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^b Department of Physics, Faculty of Science, Helwan University, P.O.B. 11795, Helwan, Egypt

^c Department of Physics, University of Hull, Cottingham Road, Hull HU6 7RX, United Kingdom

^d Nanoscience and Technology Centre, University of Sheffield, North Campus, Broad Lane, Sheffield, S3 7HQ, United Kingdom

Abstract

We model the optical properties of a SiN based one-dimensional waveguide photonic crystal nanocavity with three tapered air holes as a function of the photonic crystal mirror fill factor using finite difference time domain calculations. We show that the Q-factor of this type of cavity has a strong dependence on the mirror fill factor, with a Q-factor as high as 35 000 predicted. Experimental studies on a range of representative structures whose surface is coated with a layer of a fluorescent dye confirm our modeling and reveal that such structures are characterized by a single optical mode having a Q-factor of 2000. © 2010 American Institute of Physics.

Document Type: Article

Source: Scopus

Farouk, H.^a, Elsalamony, H.A.^b

Digital library creation based on wavelet coefficients for video stream indexing and retrieving

(2010) *ICSPS 2010 - Proceedings of the 2010 2nd International Conference on Signal Processing Systems*, 1, art. no. 5555592, pp. V1158-V1162.

DOI: 10.1109/ICSPS.2010.5555592

^a Computers and Systems Dept., Electronic Research Institute, Cairo, Egypt

^b Math Dept., Faculty of Science, Helwan University, Cairo, Egypt

Abstract

The increased availability and usage of on-line digital video has created a need for automated video content analysis techniques including indexing and retrieving. Most research on video content involves automatically detecting the boundaries between camera shots. After shot detection there is a need for shots indexing in a library which enables retrieving for the required stream based on shot. There is a need to build an efficient digital library for those shots, saving the proper features for each shot/frames, which will enable efficient retrieval for user's requirement. This paper presents an automation technique for video indexing and creation of a digital library. We will present how to detect shots cuts and features, which will be saved for the video shots/frames. Also build a video digital library composed of the stream shots/frames plus wavelet coefficients for video stream shot's key or all frames (for full search function in all frames of the indexed video). The digital library represents full video streams frames indexed into shots with overhead in the stored size just 16.2 % as wavelet coefficients. The retrieving efficiency for a shot while having an input frame is ranged from 100%, if the input frame is saved keyframe, down to 94% if the input frame is any other frame. Our digital library is valid for any number of video streams, any number of shots/streams and any number of frames/shot. © 2010

IEEE.

Author Keywords

Digital library; Shot cut; Video indexing and retrieving; Video stream; Wavelet transformation

Document Type: Conference Paper**Source:** Scopus

Elsalamony, H.A.

Automatic video stream indexing and retrieving based on face detection using wavelet transformation(2010) *ICSPS 2010 - Proceedings of the 2010 2nd International Conference on Signal Processing Systems*, 1, art. no. 5555587, pp. V1153-V1158. Cited 1 time.**DOI:** 10.1109/ICSPS.2010.5555587

Math Dept., Faculty of Science, Helwan University, Cairo, Egypt

Abstract

The increased availability and usage of on-line digital video has created a need for automated video content analysis techniques including indexing and retrieving. This paper presents a proposed simple new technique to detect human face and retrieve shot/shots from video stream, which it has. If the input frame has a human face, then the detection and matching is the goal to detect the shot/shots which it has this face in video stream. This proposed simple technique depends on skin color detection on shots of video with more accuracy and faster than the previous techniques. The matching in this proposed technique presents that shot/shots detected from the video, which have the same faces dependent on input face frame don't affected by dim face in the frames, face expressions, shapes, have glasses or not, shadows, or rotation. Experimental results on movies, clips, TV shows, news programs and football games demonstrate the effectiveness of our face detection algorithm that leads 97%, and 96% for retrieving shots in precision ratio on the average. © 2010 IEEE.

Author Keywords

Face detection and matching; Video indexing and retrieving; Wavelet transformation

Document Type: Conference Paper**Source:** ScopusFouad, H.^{a b c}**Effect of long-term natural aging on the thermal, mechanical, and viscoelastic behavior of biomedical grade of Ultra High Molecular Weight Polyethylene**(2010) *Journal of Applied Polymer Science*, 118 (1), pp. 17-24. Cited 13 times.**DOI:** 10.1002/app.32290^a Department of Applied Medical Science, RCC, King Saud University, Riyadh 11437, Saudi Arabia^b SABIC Polymer Research Chair, King Saud University, Riyadh 11437, Saudi Arabia^c Department of Biomedical Engineering, Helwan University, Egypt**Abstract**

In the total joint prostheses, Ultra High Molecular Weight Polyethylene (UHMWPE) may undergo an oxidative degradation in the long term. The overall properties of UHMWPE are expected to be altered due to the oxidative degradation. The goal of this study is to investigate the effects of natural aging up to 6 years in air on the thermal, mechanical, and viscoelastic properties of UHMWPE that was used in total joint replacement. The changes in UHMWPE properties due to aging are determined using Differential Scanning Calorimetry (DSC), uniaxial tensile tests, and Dynamic Mechanical Analysis (DMA). The DSC results show that the lamellar thickness and degree of crystallinity of UHMWPE specimens increase by 38% and 12% due to aging. A small shoulder region in the DSC thermograms is remarked for aged specimens, which is an indication of formation of new crystalline forms within their amorphous region. The tensile properties of aged and nonaged UHMWPE specimens show a significant decrease in the elastic modulus, yield, fracture stresses, and strain at break due to aging. The DM testing results indicate that the storage modulus and creep resistance of UHMWPE specimens decrease significantly due to aging. Also, it is remarked that the a relaxation peak for aged UHMWPE specimens occurs at lower temperature compared to nonaged ones. The significant reduction in the strength and creep resistance of UHMWPE specimens due to aging would affect the longterm clinical performance of the total joint replacement and should be taken into consideration during artificial joint design. © 2010 Wiley Periodicals, Inc.

Author Keywords

DMA; DSC; Natural aging; Tensile properties; UHMWPE

Document Type: Article

Source: Scopus

El-Hagary, M.^{a b c}, Michor, H.^b, Hilscher, G.^b

Magnetic entropy change in GdCo_{13-x}Si_x intermetallic compounds

(2010) *Journal of Magnetism and Magnetic Materials*, 322 (19), pp. 2840-2844. Cited 2 times.

DOI: 10.1016/j.jmmm.2010.04.039

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^c Physics Department, College of Science, Qassim University, P.O. Box 237, 81999 Buryadh, Saudi Arabia

Abstract

The magnetic entropy change in GdCo_{13-x}Si_x (x=3.8, 4, 4.1, and 4.2) intermetallic compounds has been investigated by means of magnetic measurements in the vicinity of their Curie temperature. It was found that the magnetic ordering temperatures decrease from 60 K at x=3.8 to 28 K for x=4.2. The magnetic entropy change is calculated from isothermal magnetization versus magnetic field at various temperatures using the Maxwell relation. As a result, the maximum magnetic entropy changes of the investigated compounds, at their Curie temperatures, decrease from 11.5 J/kg K for x=4.2 to 6.86 J/kg K for x=3.8 in a field change of 03 T, whereas it decreases from 5.13 J/kg K for x=4.2 to 2.60 J/kg K for x=3.8 in a field change of 01 T. Moreover, the maximum value of the magnetic entropy change obtained at a higher field for GdCo_{13-x}Si_x with x=4 (23.75 J/kg K at 5 T) is comparable to that of various types of compounds with a cubic NaZn₁₃-type structure. Finally, the maximum of the magnetic entropy change is found to decrease with increasing Si content. © 2010 Elsevier B.V.

Author Keywords

Magnetic entropy change; Magnetic refrigerant; Magnetocaloric effect

Document Type: Article

Source: Scopus

Negm, N.A.^a, Elkholy, Y.M.^b, Zahran, M.K.^b, Tawfik, S.M.^a

Corrosion inhibition efficiency and surface activity of benzothiazol-3-ium cationic Schiff base derivatives in hydrochloric acid

(2010) *Corrosion Science*, 52 (10), pp. 3523-3536. Cited 71 times.

DOI: 10.1016/j.corsci.2010.07.001

^a Petrochemicals Department, Egyptian Petroleum Research Institute, Nasr City, Cairo, Egypt

^b Chemistry Department, Faculty of Science, Helwan University, Helwan, Egypt

Abstract

Two series of cationic Schiff base surfactants namely: 2-(benzylideneamino)-3-(2-oxo-2-alkoxyethyl)-1,3-benzothiazol-3-ium bromide and 2-[(4-methoxybenzylidene)amino]-3-(2-oxo-2-alkoxyethyl)-1,3-benzothiazol-3-ium bromide were prepared and confirmed using elemental analysis, FTIR, and ¹H NMR spectra. The surface activity of the synthesized Schiff bases showed their tendency towards adsorption at the interfaces. The prepared compounds were evaluated as corrosion inhibitors for carbon steel in 0.5M HCl solution using gravimetric and polarization measurements. By fitting the gravimetric data, some thermodynamic and kinetic parameters were estimated. The adsorption of the inhibitors on the carbon steel surface obeyed Langmuir adsorption isotherm and had a physical mechanism. Polarization measurements showed that the synthesized inhibitors act as mixed inhibitors for carbon steel in the acidic media. The results of the corrosion inhibition using two different methods showed narrow differences in the obtained values between the two methods within 5%. © 2010 Elsevier Ltd.

Author Keywords

A. Steel; B. Polarization and weight loss; C. Acid corrosion and interface

Document Type: Article

Source: Scopus

Al Dallal, S.^a, Al Alawi, S.M.^a, Hammam, M.^b

Compositional dependence of the optical gap in amorphous silicon-chalcogen alloys

(2010) *Journal of Non-Crystalline Solids*, 356 (44-49), pp. 2323-2326.

DOI: 10.1016/j.jnoncrysol.2010.06.077

^a Department of Physics, University of Bahrain, P. O. Box 32038, Bahrain

^b Department of Physics, Helwan University, Ain Helwan, Helwan, Egypt

Abstract

In this work we present a model to explain the compositional dependence of the optical (T_{auc}) gap for a-Si, S:H and a-Si, Se:H alloys. Thin films of these materials were grown by a capacitively coupled r.f. glow-discharge decomposition of silane and either hydrogen sulfide or hydrogen selenide gases. The compositional dependence was obtained by varying the gas volume ratio $R_v = H_2S/H_2Se/SiH_4$. Optical transmission measurements were employed to measure the optical (T_{auc}) gap of both alloys as a function of the gas volume ratio. The compositional dependence exhibits an inverted S-shaped variation. A model was developed that fits accurately the experimental data. It was shown that the parameters of the fitting curve are directly and accurately related to some fundamental atomic constant. © 2010 Elsevier B.V. All rights reserved.

Author Keywords

Amorphous silicon; Chalcogen; Optical band gap

Document Type: Conference Paper

Source: Scopus

Abdel-Rahman, M.K.

Influence of dietary fat on renal function, lipid profile, sex hormones, and electrolyte balance in rats (2010) *European Journal of Lipid Science and Technology*, 112 (10), pp. 1166-1172. Cited 1 time.

DOI: 10.1002/ejlt.200900297

Department of Nutrition and Food Science, Faculty of Home Economics, University of Helwan, Elmatbaea El-Ahlia St., Boulak, Cairo, Egypt

Abstract

Evidence from animal and human studies indicates that abnormal lipid profile may contribute to renal disease progression. The effect of dietary fat level on renal function, electrolyte balance, cholesterol, triacylglycerol, and sex hormones was examined in 54 male and female adult rats. The rats were fed either low/high fat diet (3/20 g/100 g diet) for 12 weeks. In rats fed the high fat diet (HF), the kidney weight/ body weight ratio was significantly increased in comparison with low fat diet (LF). Rats fed the LF diet had significantly lower mean of feed intake and body weight gain percentage compared with both HF and control groups ($p < 0.05$). HF diets enhanced cholesterol and triacylglycerol significantly in male and female rats, and this increase was associated with a significant increase of testosterone and estradiol levels relative to controls. Uric acid, urea nitrogen and creatinine were increased significantly in HF diet groups for male and female rats. The results indicate that uric acid was increased 100% relative to the control group in male rats when switched to HF diets. In the female group uric acid was increased 35% relative to the control, and for urea nitrogen, 53.4 and 9.6% increase was observed for male and female rats, respectively. Lipid profile in the female group was better than male rats. Significant increase in sodium ions was detected in the serum of male and female rats fed (HF) high fat diets, and the opposite was noticed in potassium ions levels of male and female rats fed HF. Microscopically, examined kidneys of HF diet rats revealed two types of histopathological alterations in both sexes. © 2010 WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim.

Author Keywords

Dietary fat; Kidney; Sex hormone

Document Type: Article

Source: Scopus

Abdelhamid, G.^{a c}, Anwar-Mohamed, A.^a, Badary, O.A.^b, Moustafa, A.A.^c, El-Kadi, A.O.S.^a

Transcriptional and posttranscriptional regulation of CYP1A1 by vanadium in human hepatoma HepG2 cells (2010) *Cell Biology and Toxicology*, 26 (5), pp. 421-434. Cited 11 times.

DOI: 10.1007/s10565-010-9153-7

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^b Department of Clinical Pharmacy, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt

^c Department of Pharmacology and Toxicology, Faculty of Pharmacy, Helwan University, Helwan, Egypt

Abstract

We recently demonstrated that V5+ downregulates 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)-mediated induction of Cyp1a1 mRNA, protein, and catalytic activity levels in Hepa 1c1c7 cells through transcriptional mechanism. Therefore, it is important to investigate whether similar changes occur in humans. For this purpose, we examined the

effect of V5+ (as ammonium metavanadate, NH_4VO_3) on the expression of aryl hydrocarbon receptor (AhR)-regulated gene; cytochrome P450 1A1 (CYP1A1) at each step of the AhR signal transduction pathway in human hepatoma HepG2 cells. Our results show a significant reduction in TCDD-mediated induction of CYP1A1 mRNA, protein, and activity levels after V5+ treatment in a dose-dependent manner. Investigating the effect of co-exposure to V5+ and TCDD at transcriptional levels revealed that V5+ significantly inhibited TCDD-mediated induction of AhR-dependent luciferase reporter gene expression. Looking at the posttranscriptional level, V5+ did not affect CYP1A1 mRNA stability, thus eliminating the possible role of V5+ in modifying CYP1A1 gene expression through this mechanism. On the other hand, at the posttranslational level, V5+ was able to significantly decrease CYP1A1 protein half-life contributing to the inconsistency between catalytic activity and transcriptional level. Importantly, we showed that V5+ did not significantly alter the heme oxygenase-1 mRNA level, thus eliminating any possibility that V5+ might have decreased CYP1A1 activity through affecting its heme content. This study demonstrates for the first time that V5+ downregulates the expression of CYP1A1 at the transcriptional, posttranscriptional and posttranslational mechanisms in the human hepatoma HepG2 cells. © 2010 Springer Science+Business Media B.V.

Author Keywords

Aryl hydrocarbon receptor; Carcinogenesis; Cytochrome P450 1A1; Vanadium

Document Type: Article

Source: Scopus

Abu-Gharbieh, E.^a, Fahmy, S.^b, Rasool, B.A.^a, Abduelkarem, A.^c, Basheti, I.^d

Attitudes and perceptions of healthcare providers and medical students towards clinical pharmacy services in United Arab Emirates

(2010) *Tropical Journal of Pharmaceutical Research*, 9 (5), pp. 421-430. Cited 5 times.

^a Dubai Pharmacy College, Dubai, United Arab Emirates

^b Helwan University, Helwan, Egypt

^c Ajman University of Science and Technology, Ajman, United Arab Emirates

^d University of Applied Science, Amman, Jordan

Abstract

Purpose: To explore healthcare providers' (HCPs) and medical students' attitudes to, and perceptions of the pharmaceutical services that clinical pharmacists can provide in United Arab Emirates. **Methods:** A total of 535 participants (265 HCPs and 270 medical students) were asked to complete a questionnaire over a period of three months (January through March 2009). **Results:** Almost three quarters of the students perceived that the clinical pharmacist is an important part of the healthcare team while 82% believed that clinical pharmacists can help improve the quality of medical care in hospitals. Eighty one percent of medical students expressed confidence in the ability of clinical pharmacists to minimize medication errors. Although slightly more than half of the respondents (53%) reported that they did not have clinical pharmacy services in their institutions, there was substantial willingness among physicians and nurses to cooperate with clinical pharmacists. The majority of physicians (92%) and nurses (87%) expressed the view that the clinical pharmacist is an important integral part of the healthcare team. **Conclusion:** The HCPs and medical students in the study setting valued the role of clinical pharmacists in healthcare delivery. However, new developments in pharmacy services in the UAE hospital setting is recommended for adoption in hospitals. © Pharmacotherapy Group.

Author Keywords

Clinical pharmacy services; Healthcare providers; Perception; Pharmaceutical care

Document Type: Article

Source: Scopus

El-Aziz, M.A.^{a b}

Unsteady fluid and heat flow induced by a stretching sheet with mass transfer and chemical reaction

(2010) *Chemical Engineering Communications*, 197 (10), pp. 1261-1272. Cited 19 times.

DOI: 10.1080/00986441003656844

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^b Faculty of Science, Mathematics Department, King Khalid University, Abha 9004, Saudi Arabia

Abstract

The effect of chemical reaction on the flow, heat, and mass transfer within a viscous fluid on an unsteady stretching sheet is examined. The stretching rate, temperature and concentration of the sheet, and the chemical reaction rate are assumed to vary with time. The time-dependent boundary layer equations governing the flow are reduced through a convenient similarity transformation to a set of ordinary differential equations, which are numerically solved by

applying the fourth-order Runge-Kutta-Fehlberg scheme with the shooting technique. Results for the velocity, temperature, and concentration distributions as well as the wall temperature and concentration gradients are presented graphically for various values of the unsteadiness parameter A , Prandtl number Pr , Schmidt number Sc , and chemical reaction parameter γ . © Taylor & Francis Group, LLC.

Author Keywords

Chemical reaction; Mass transfer; Stretching surface; Unsteady flow

Document Type: Article

Source: Scopus

El-Nicklaway, M.M., El-Agmy, R., Hassan, A.F., El-Hagary, M., Adel, A.

Variations in refractive optical properties of nylon 66 fibres under different thermal conditions

(2010) *Ukrainian Journal of Physical Optics*, 11 (3), pp. 138-146.

DOI: 10.3116/16091833/11/3/138/2010

Physics Department, Faculty of Science 11792, Helwan University, Cairo, Egypt

Abstract

In this work the changes in the refractive optical properties of nylon 66 fibres occurring due to heating in water and detergent solutions of different concentrations have been studied with the aid of interferometric techniques. Multiple-beam Fizeau fringes for the two alternative input light polarisations have been used in order to determine the refractive indices of the core and skin, their mean value, and the corresponding birefringences.

Author Keywords

Birefringence; Interference; Nylon 66 fibres; Polymers; Refractive index

Document Type: Article

Source: Scopus

Al-Atabany, W.I.^{a d}, Tong, T.^b, Degenaar, P.A.^c

Improved content aware scene retargeting for retinitis pigmentosa patients

(2010) *BioMedical Engineering Online*, 9, art. no. 52, . Cited 5 times.

DOI: 10.1186/1475-925X-9-52

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Abstract

Background: In this paper we present a novel scene retargeting technique to reduce the visual scene while maintaining the size of the key features. The algorithm is scalable to implementation onto portable devices, and thus, has potential for augmented reality systems to provide visual support for those with tunnel vision. We therefore test the efficacy of our algorithm on shrinking the visual scene into the remaining field of view for those patients. **Methods:** Simple spatial compression of visual scenes makes objects appear further away. We have therefore developed an algorithm which removes low importance information, maintaining the size of the significant features. Previous approaches in this field have included seam carving, which removes low importance seams from the scene, and shrinkability which dynamically shrinks the scene according to a generated importance map. The former method causes significant artifacts and the latter is inefficient. In this work we have developed a new algorithm, combining the best aspects of both these two previous methods. In particular, our approach is to generate a shrinkability importance map using as seam based approach. We then use it to dynamically shrink the scene in similar fashion to the shrinkability method. Importantly, we have implemented it so that it can be used in real time without prior knowledge of future frames. **Results:** We have evaluated and compared our algorithm to the seam carving and image shrinkability approaches from a content preservation perspective and a compression quality perspective. Also our technique has been evaluated and tested on a trial included 20 participants with simulated tunnel vision. Results show the robustness of our method at reducing scenes up to 50% with minimal distortion. We also demonstrate efficacy in its use for those with simulated tunnel vision of 22 degrees of field of view or less. **Conclusions:** Our approach allows us to perform content aware video resizing in real time using only information from previous frames to avoid jitter. Also our method has a great benefit over the ordinary resizing method and even over other image retargeting methods. We show that the benefit derived from this algorithm is significant to patients with fields of view 20° or less. © 2010 Al-Atabany et al; licensee BioMed Central Ltd.

Document Type: Article

Source: Scopus

Touny, A.H.^{a b}, Bhaduri, S.^b, Brown, P.W.^c

Formation of calcium deficient HAp/collagen composites by hydrolysis of α -TCP

(2010) *Journal of Materials Science: Materials in Medicine*, 21 (9), pp. 2533-2541. Cited 4 times.

DOI: 10.1007/s10856-010-4113-6

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Abstract

Bone-like composites containing calcium deficient hydroxyapatite (CDHAp) were formed by the hydrolysis of alpha-tricalcium phosphate (α -TCP) in the presence of type I collagen. CDHAp-collagen composites were synthesized using two techniques. In one technique α -TCP was mixed with non-milled (as-received) collagen prior to the addition of the aqueous solution. In the second, the collagen was milled with α -TCP in heptane at room temperature prior to its conversion to CDHAp. The effect of milling strongly facilitates the formation of CDHAp at physiological temperature. The proportion of milled collagen between 5 and 20 wt% present in the α -TCP/collagen composites has no significant effect on the rate of CDHAp formation. Variations in pH and in calcium and phosphate concentrations were determined as a function of collagen processing and variations specific to the presence of collagen were discerned. Compared to CDHAp or to composites containing non-milled collagen, diametrical and compressive strengths of CDHAp increased in the presence of milled collagen. Lack of collagen dispersion and incomplete formation of CDHAp during 48 h were the bases for reduced strengths of composites containing non-milled collagen. © 2010 Springer Science+Business Media, LLC.

Document Type: Article

Source: Scopus

Abouzid, K.A.M.^d, Khalil, N.A.^a, Ahmed, E.M.^a, El-Latif, H.A.A.^b, El-Araby, M.E.^c

Structure-based molecular design, synthesis, and in vivo anti-inflammatory activity of pyridazinone derivatives as nonclassic COX-2 inhibitors

(2010) *Medicinal Chemistry Research*, 19 (7), pp. 629-642. Cited 6 times.

DOI: 10.1007/s00044-009-9218-4

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^b Pharmacology Department, Faculty of Pharmacy, Cairo University, Cairo, Egypt

^c Pharmaceutical Organic Chemistry Department, Faculty of Pharmacy, Helwan University, Helwan 11795, Egypt

Abstract

A scaffold with bicyclic core carrying pyridazinone moiety, which exhibited potent in vivo anti-inflammatory activities, was introduced in this article. The design of these compounds was assisted by docking and superposition experiments on cyclooxygenase-2 enzyme. The activity of a chloro analogue was as high as that of diclofenac in carrageenan-induced rat paw edema anti-inflammatory screening. © Birkhäuser Boston 2009.

Author Keywords

Anti-inflammatory; Molecular design; Pyridazinone; Quinoxaline; Synthesis

Document Type: Article

Source: Scopus

Fouad, H.^{a b}

Effects of the bone-plate material and the presence of a gap between the fractured bone and plate on the predicted stresses at the fractured bone

(2010) *Medical Engineering and Physics*, 32 (7), pp. 783-789. Cited 20 times.

DOI: 10.1016/j.medengphy.2010.05.003

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Abstract

In the present study, 3D finite element models for fractured bones with function-graded (FG) bone-plates and traditional bone-plates made of stainless steel (SS) or titanium (Ti) alloy are generated using the ABAOUS code. The

predicted Von Mises stresses at the fracture site and underlying bone-plate are examined at different healing stages. The effects on the predicted Von Mises stresses at the fracture site of the presence of a gap between the plate and fractured bone are also studied. Based on the analytical results, it is found that the stress shielding at the fracture site at the fully healed stages decreases when using FG bone-plates compared to Ti alloy or SS bone-plates. In the initial healing stages, the Von Mises stresses at the fracture site increase (stress shielding decreases) by 17% and 11% when using FG bone-plates as compared to SS bone-plates for contacted and non-contacted bone-plate system, respectively. The significant effects of using an FG bone-plate with a gap on the resultant Von Mises stresses on the bone underneath the plate and on the bone stress shielding should be taken into consideration during fractured bone fixation. © 2010 IPEM.

Author Keywords

Bone-plate; FG plate; Finite element; SS; Stress shielding; Ti

Document Type: Article

Source: Scopus

Seham, M.A.-K.^a, Mona, A.-R.^b, Amira, A.B.^b

Study on the effect of rosemary extract on some neurotransmitters and their related ions in different brain areas of adult male albino rats

(2010) *Journal of Applied Sciences Research*, 6 (9), pp. 1400-1411. Cited 1 time.

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^b Zoology and Entomology Department, Faculty of Science, Helwan University, Egypt

Abstract

The daily oral administration of *Rosmarinus officinalis* (Rosemary) extract with a dose of 582.4 mg / kg b.wt. (0.5 ml solution/rat) for 4 weeks resulted in a significant reduction in monoamines, Na⁺ ion, GABA contents and acetylcholine esterase activity in all tested brain areas, almost all over the experimental period. Also, it caused a significant increase in Cl⁻ ion content. According to the obtained results, it could be concluded that the plant extract may decrease monoamines reuptake or induce their turnover, which eventually stimulate their release. Moreover, since *Rosmarinus officinalis* was demonstrated as an anticonvulsant and has an antinociceptive effect so it blocks persistent sodium currents in CNS neurons. On the same line, reduction in GABA and increment in Cl⁻ ion contents may be due to anxiolytic and sedative effects of *Rosmarinus*. The reduction in acetyl cholinesterase activity may be due to *Rosmarinus officinalis* has an anti-acetylcholine esterase activity which improving memory. © 2010, INSInet Publication.

Author Keywords

γ-aminobutyric acid; Acetylcholine esterase; Brain areas; Chloride ion; Dopamine; Norepinephrine; Rat; *Rosmarinus officinalis*; Serotonin; Sodium ion

Document Type: Article

Source: Scopus

Eltokhy, M.A.R.

High speed switched-capacitor analog correlator with balanced charge pump circuit for wired CDMA bus interface

(2010) *AEU - International Journal of Electronics and Communications*, 64 (9), pp. 867-873.

DOI: 10.1016/j.aeue.2009.07.005

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Abstract

A switched-capacitor analog correlator using balanced charge pump circuit, capable of pumping the same amount of charge in the positive and negative directions is proposed for Code Division Multiple Access (CDMA) bus interface. In addition, the amount of charge injection is independent of the output voltage. The above properties are desirable in CDMA bus interface because failing to do so would result in the bus being saturated at one end. We have analyzed the effects of process variation and parasitic capacitance. The new circuit operates at 100 MHz. Simulation results by using 3.3 V supply voltage verified that the new circuit fulfilled its design needs. © 2009 Elsevier GmbH. All rights reserved.

Author Keywords

Analog correlator; CDMA; Charge pump; Spread spectrum; Switched capacitor

Document Type: Article

Source: Scopus

Emam-Ismael, M.^{a e}, Shaaban, E.R.^{b e e}, El-Hagary, M.^{c e e}, Shaltout, I.^d

Optical investigation of electron-beam-deposited tungsten-tellurite (TeO₂)_{100-x}(WO₃)_x amorphous films
(2010) *Philosophical Magazine*, 90 (25), pp. 3499-3509. Cited 10 times.

DOI: 10.1080/14786435.2010.489890

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^e Physics Department, College of Science, Qassim University, P.O. 6644, 5145, Buryadh, Saudi Arabia

Abstract

Amorphous films of (100 - x)TeO₂-xWO₃ with compositions $7.5 \geq x \leq 40$ mol. % were prepared by electron-beam evaporation. The compositional dependence of the optical properties of the prepared films was analyzed by the Swanepoel envelope method, which revealed that the refractive index increases with increasing tungsten oxide content. The Wemple-DiDomenico dispersion model was used to explain the refractive index increase in terms of the formation of W-O-Te bonds, which have a higher energy than that of Te-O-Te bonds. A fitting of the spectral dependence of the absorption coefficient to the Tauc relation allowed a determination of the optical band gap, E_{Opt g}, which is found to decrease linearly with increasing tungsten oxide percentage. © 2010 Taylor & Francis.

Author Keywords

optical properties; refractive index; thin film; tungsten-tellurite glass

Document Type: Article

Source: Scopus

Nadia, H.A.E.-N.^a, El Sayed, M.M.^b, Wafaa, G.S.^b, Gehad, H.E.S.^a

Purification and partial characterization of extracellular cellulase free xylanase from *Streptomyces rochei*
(2010) *Journal of Applied Sciences Research*, 6 (9), pp. 1373-1378. Cited 2 times.

^a Microb. Chemist. Dep., National Research center, Dokki, Giza, Egypt

^b Chemist. Dep., Faculty of Science, Helwan University, Egypt

Abstract

Streptomyces rochei strain isolated from Egyptian soil was used in this study to produce extracellular xylanase, an important industrial enzyme used in pulp and paper industry. This strain was able to produce high levels of extracellular xylanolytic activity in liquid shaking culture medium containing xylan hydrolysates extracted from sugar cane bagasse. The enzyme was purified by 60 % ammonium sulfate precipitation followed by gel filtration chromatography using Sephadex G-100 column, with about 40.8% yield and 3.14 fold purification. The optimum pH and temperature for the purified xylanase activity was 6.0 and 40 °C, respectively. The enzyme was stable within the pH range of 5.0-8.0 and temperature up to 50 °C. The xylanase showed specific activity towards different xyans tested. The xylanase exhibited K_m and V_{max} values of 10 mg/ml and 50 μmol/ min/ mg respectively. The xylanase was activated by Zn²⁺, Co²⁺, Mg²⁺, Ni²⁺ and Fe²⁺ and completely inhibited by Ag⁺. The purified enzyme was stable for more than 22week at 4 °C. Easy purification of the enzyme and its high stability will be useful for some industrial application of this enzyme. © 2010, INSInet Publication.

Author Keywords

Purification; *Streptomyces rochei*; Xylanase characterization

Document Type: Article

Source: Scopus

Mostafa, M.^a, El-Absy, M.A.^a, Amin, M.^a, El-Amir, M.A.^a, Farag, A.B.^b

Partial purification of neutron-activation ⁹⁹Mo from cro/supss-contaminant radionuclides onto potassium nickel hexacyanoferrate(II) column
(2010) *Journal of Radioanalytical and Nuclear Chemistry*, 285 (3), pp. 579-588. Cited 6 times.

DOI: 10.1007/s10967-010-0584-7

^a Radioactive Isotopes and Generators Department, Hot Labs. Center, Atomic Energy Authority, 13759 Cairo, Egypt

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Abstract

Potassium nickel hexacyanoferrate(II) matrix was prepared and characterized. Purification of neutron-activation ^{99}Mo -molybdate(VI) solutes from some residual cross-contaminant radionuclides including ^{134}Cs , Rb, ^{124}Sb , ^{60}Co and ^{51}Cr was carried out onto small chro-matographic columns of the matrix (each of 1.0 g). Gamma-ray spectrometric analysis data showed that the purification process was not affected by either Mo(VI) concentrations (0.13 and 0.02 M Mo) in the feeding solution of 3.5 M NaNO_3 at pH 9.5 or flow rates (0.2 and 5.0 mL/min) at room temperature. Molybdenum(VI) average loss onto the column matrix did not exceed 7.7 times; 10-mmol Mo. Except for Cr, the matrix has very high selectivity for ^{134}Cs , ^{86}Rb and ^{124}Sb with ~50% ^{60}Co elimination. The obtained data were briefly discussed. © Akadémiai Kiadó, Budapest, Hungary 2010.

Author Keywords

^{124}Sb ; ^{134}Cs ; ^{60}Co ; ^{86}Rb ; ^{99}Mo ; Chromatographic column; Potassium nickel hexacyanoferrate(II); Purification

Document Type: Article

Source: Scopus

Mahmoud, S.^a, Jankowski, R.^b

Pounding-involved response of isolated and non-isolated buildings under earthquake excitation

(2010) *Earthquake and Structures*, 1 (3), pp. 231-252. Cited 24 times.

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Abstract

Previous research on pounding between seismically isolated buildings during earthquakes has been focused on impacts at the bases of structures and the effect of simultaneous interactions at the bases and at the superstructures has not been studied in details. In this paper, the seismic responses of adjacent buildings supported on different or similar base systems considering impacts between bases and superstructures are numerically investigated. The study is carried out in three parts for the two types of adjacent buildings: (i) both structures have fixed bases; (ii) one structure has fixed base and the other is seismically isolated and (iii) both structures have base isolation systems. The results of the study indicate that the pounding-involved responses of the buildings depend mainly on the type of structural base systems and on the structural parameters of both buildings. For the base-isolated building, the variation of the peak accelerations and displacements of the storeys have been found to be relatively low. On the other hand, significant differences have been observed for the fixed base building. The results of the parametric study conducted for different values of the gap size between colliding structures show the reduction in the peak base displacements as the gap distance decreases.

Author Keywords

Earthquakes; Nonlinear modelling; Seismic isolation; Structural pounding

Document Type: Article

Source: Scopus

Abdelhamid, G.^{a b}, Anwar-Mohamed, A.^a, Elmazar, M.M.^c, El-Kadi, A.O.S.^a

Modulation of NAD(P)H:Quinone oxidoreductase by vanadium in human hepatoma HepG2 cells

(2010) *Toxicology in Vitro*, 24 (6), pp. 1554-1561. Cited 7 times.

DOI: 10.1016/j.tiv.2010.06.017

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^c Department of Pharmacology and Toxicology, Faculty of Pharmacy, Ahrum Canadian University, Egypt

Abstract

Recent studies demonstrated the carcinogenicity and the mutagenicity of vanadium compounds. In addition, vanadium (V^{5+}) was found to enhance the effects of other genotoxic agents. However, the mechanism by which V^{5+} induce toxicity remain unknown. In the current study we examined the effect of V^{5+} (as ammonium metavanadate, NH_4VO_3) on the expression of NAD(P)H: quinone oxidoreductase 1 (NQO1) in human hepatoma HepG2 cells. Therefore, HepG2 cells were treated with increasing concentrations of V^{5+} in the presence of two NQO1 inducers, the 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) and isothiocyanate sulforaphane (SUL). Our results showed that V^{5+} inhibited the TCDD- and SUL-mediated induction of NQO1 at mRNA, protein and activity levels. Investigating the effect of V^{5+} at transcriptional levels revealed that V^{5+} significantly inhibited the TCDD- and SUL-mediated induction of antioxidant responsive element (ARE)-dependent luciferase reporter gene expression. In addition, V^{5+} was able to

decrease the TCDD- and SUL-induced nuclear accumulation of nuclear factor erythroid 2-related factor-2 (Nrf2) without affecting Nrf2 mRNA or protein levels. Looking at the post-transcriptional level, V5+ did not affect NQO1 mRNA stability, thus eliminating the possible role of V5+ in decreasing NQO1 mRNA levels through this mechanism. In contrast, at post-translational level, V5+ was able to significantly decrease NQO1 protein half-life. The present study demonstrates for the first time that V5+ down-regulates NQO1 at the transcriptional and post-translational levels in the human hepatoma HepG2 cells via AhR- and Nrf2-dependent mechanisms. © 2010 Elsevier Ltd.

Author Keywords

Aryl hydrocarbon receptor; Carcinogenesis; Vanadium

Document Type: Article

Source: Scopus

Mahrous, A.^{a b}, Ghamry, E.^{a c}, Elhawary, R.^a, Fathy, I.^a, Yamazaki, Y.^d, Abe, S.^e, Uozumi, T.^e, Yumoto, K.^{d e e}

First MAGDAS installation at Fayum in Egypt

(2010) *Advances in Space Research*, 46 (5), pp. 613-617.

DOI: 10.1016/j.asr.2010.04.022

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^e Space Environment Research Center, Kyushu University, Japan

Abstract

We have installed the first MAGDAS magnetometer at Fayum in Egypt. The ambient temperature in the initial sensor house varied more than ± 4 °C in one day (24 h period). This variation made the magnetic data useless. To correct this problem, (1) a new sensor house was re-constructed which reduced the diurnal variation to less than ± 1 °C, and (2) the "Uozumi Temperature Correction Method" was introduced. As a result, good data is now arriving in real time at a central facility in Japan. © 2010 COSPAR. Published by Elsevier Ltd. All rights reserved.

Author Keywords

MAGDAS magnetometer; MAGDAS/CPMN; Temperature drift

Document Type: Article

Source: Scopus

Mahmoud, T.S.^a, Shaban, O.M.^b, Zakaria, H.M.^a, Khalifa, T.A.^a

On effect of FSP on microstructural and mechanical characteristics of A390 hypereutectic Al-Si alloy

(2010) *Materials Science and Technology*, 26 (9), pp. 1120-1124. Cited 4 times.

DOI: 10.1179/174328409X459310

^a Mechanical Engineering Department, Shoubra Faculty of Engineering, Benha University, Banha, Egypt

^b Industrial Education Department, Faculty of Education, Helwan University, Helwan, Egypt

Abstract

In the present article, the effect of friction stir processing (FSP) on the microstructural and mechanical characteristics of A390 hypereutectic Al-Si alloy was studied. The effect of tool rotational speed ω , traverse speed υ and the number of passes on such characteristics was investigated. The results showed that FSP significantly improved the microstructural characteristics of A390 Al alloy by reducing the structural defects found in the as cast alloy such as porosity and the size of α -Al primary grains as well as the size of the primary Si particles. The size of Si particulates was found to be reduced by reducing the tool rotational speed, increasing tool traverse speed and increasing the number of FSP passes. © 2010 Maney Publishing.

Author Keywords

aluminium alloys; Friction stir processing; microstructure

Document Type: Article

Source: Scopus

Hassan, M.H.^a, Diab, S.L.^b

Visual inspection of products with geometrical quality characteristics of known tolerances

(2010) *Ain Shams Engineering Journal*, 1 (1), pp. 79-84. Cited 4 times.

DOI: 10.1016/j.asej.2010.09.011

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Abstract

Image analysis techniques are being increasingly used to automate industrial inspection. The manual activity of inspection could be subjective and highly dependent on the experience of human personnel. In a previous work, the authors presented two approaches utilizing image analysis to inspect products visually. The product is accepted or rejected based on its conformance to specified tolerances, where conformance is analogously measured through statistical indices like correlation and root mean square error. In this work, the authors introduce a novel visual inspection approach that can be used on line to test simultaneously multiple quality characteristics. The approach utilizes image processing tools to deal with the product image; and extract features of its geometrical characteristics. Based on tolerance bands of each characteristic, an index is experimentally developed to reflect the deviation of a quality characteristic dimension from its nominal value; and one can decide whether a characteristic complies with the pre-specified tolerance. Statistical analysis proved that there is a strong association between the developed indices and the deviations of quality characteristics from their target values. Linear regression models are proved to model these associations; and are used to give the corresponding indices' values relative to the tolerance specifications. The developed approach is proved to give a good performance experimentally in detecting non-conforming products; and, in specific, the defect location(s). © 2010 Ain Shams University. Production and hosting by Elsevier B.V. All rights reserved.

Author Keywords

ANOVA; Image processing; Regression; Thresholding; Tolerance; Visual inspection

Document Type: Article

Source: Scopus

Ahmed, M.^a, Fadeel, G.A.^b, Ibrahim, I.I.^b

Differentiation between different traffic categories using multi-level of priority in DCF-WLAN

(2010) *6th Advanced International Conference on Telecommunications, AICT 2010*, art. no. 5489829, pp. 263-268. Cited 1 time.

DOI: 10.1109/AICT.2010.50

^a Electronics and Communication Department, Faculty of Engineering, Misr International University (MIU), Cairo, Egypt

^b Electronics and Communications Department, Faculty of Engineering, Helwan University, Cairo, Egypt

Abstract

The IEEE802.11 protocol defines access techniques to wireless medium using CSMA/CA, and defines two modes of operation in WLAN DCF and PCF. DCF does not provide any QoS, so that throughput and delay of real-time traffic, such as voice and video cannot be guaranteed over WLAN. IEEE 802.11e introduces a service differentiation mechanism based on prioritized contention access, which causes throughput degradation if the network becomes high loaded by high priority traffic. This paper proposes service differentiation for multiple access categories by using multilevel priority mechanisms in MAC layer, using multilevel priority controllability to network performance according to throughput of each traffic category. © 2010 IEEE.

Author Keywords

DCF; MAC; Performance analysis; QoS; WLAN

Document Type: Conference Paper

Source: Scopus

Salem, F.M., Ibrahim, M.H., Ibrahim, I.I.

Non-interactive secure and privacy preserving protocol for inter-vehicle communication networks

(2010) *ITNG2010 - 7th International Conference on Information Technology: New Generations*, art. no. 5501446, pp. 108-113. Cited 2 times.

DOI: 10.1109/ITNG.2010.69

Department of Electronics Communication and Computers, Faculty of Engineering, Helwan University, 1, Sherif St., Helwan, Cairo, Egypt

Abstract

In this paper, we introduce a non-interactive secure protocol preserving privacy of the drivers for Inter-Vehicle Communication (IVC) networks. To protect the privacy among drivers, we propose to arrange vehicles into several groups. Vehicles in a group share the same public key, but each member can change his own set of public keys frequently, so the receiving vehicle cannot identify an individual driver in the group. In addition, each member has a private key provided by the Third Trusted Party (TTP) to enable the TTP, who is assumed to be fully trusted, to trace the driver who sends malicious information. Then, the TTP computes a fixed token of all members in the same group, but only participants in IVC networks can convince the receiving vehicle that the token is corresponding to their changed public keys set. So, we can achieve authentication. © 2010 IEEE.

Author Keywords

Authentication; IVC; Privacy; Pseudonym; Traceability

Document Type: Conference Paper

Source: Scopus

Ali, T.S.T.^{a b}

Sigma-term physics in the linear sigma model

(2010) *2nd International Conference on Computer Research and Development, ICCRD 2010*, art. no. 5489570, pp. 605-607.

DOI: 10.1109/ICCRD.2010.129

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^b Faculty of Science, Helwan University, Cairo, Egypt

Abstract

We apply the linear sigma model to analyze pion-nucleon sigma-term. Analytic expressions for these quantities are obtained in terms of the parameters of low energy physics (pion decay constant and the pion mass). Good results have been obtained in comparison with my previous works and with the other models. © 2010 IEEE.

Author Keywords

Linear sigma model; Nucleon sigma-term

Document Type: Conference Paper

Source: Scopus

El-Said, K.M., El-Sherbeny, M.S.

Stochastic analysis of a two-unit cold standby system with two-stage repair and waiting time

(2010) *Sankhya: The Indian Journal of Statistics*, 72 (1 B), pp. 1-10. Cited 6 times.

DOI: 10.1007/s13171-010-0002-9

Department of Mathematics, Faculty of Science, Helwan University, P. O. Box 11795, Cairo, Egypt

Abstract

In this study we investigated the cost-benefit analysis of a two-unit cold standby system with two-stage repair of a failed unit. We discuss the concept of waiting time with two-stage repair for a two-unit cold standby system. The repair process is divided into two stages. In the first stage, the repairing process of the unit is started but it does not get completed; instead the process is completed in the second stage. The elapsed time between two stages is called the waiting time. Techniques of regenerative point processes have been used to measure the effectiveness. The time dependent availability, steady state availability, reliability, (MTTF) and profit function were obtained numerically and graphically. The MTTF, the steady-state availability and the profit function decreased with respect to the increase of failure rate and waiting rate. © 2010, Indian Statistical Institute.

Author Keywords

Busy period; Cost-benefit analysis; MTTF; Steady-state availability; Time-dependent availability; Waiting time

Document Type: Article

Source: Scopus

Sayed, S.^{a b}, Yang, Y.^{a c}, Guo, H.^c, Hu, H.^c

Analysis of energy efficiency of a busy tone based cooperative MAC protocol for multi-rate WLANs

(2010) *IEEE Wireless Communications and Networking Conference, WCNC*, art. no. 5506270, .

DOI: 10.1109/WCNC.2010.5506270

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^c Shanghai Research Center for Wireless Communications (WiCO), China

Abstract

High energy consumption at mobile devices is a critical issue for end users to access and enjoy high data-rate multimedia applications and services in Wireless Local Area Networks (WLANs). This paper develops an analytical framework for analyzing and comparing the energy efficiency performance of IEEE 802.11n Medium Access Control (MAC) protocol and a Busy Tone Based Cooperative MAC Protocol (namely BTAC) in multi-rate WLANs. Our proposed analytical model considers the impact of dynamic radio channel conditions and multi-rate transmission scenarios. Analytical and simulation results show that BTAC can achieve up to 50% energy saving, comparing to the IEEE 802.11n MAC protocol, under different radio channel conditions, network sizes and traffic loads. ©2010 IEEE.

Document Type: Conference Paper

Source: Scopus

Pinto-Garcia, L.^a, Efferth, T.^b, Torres, A.^a, Hoheisel, J.D.^a, Youns, M.^{a b c}

Berberine inhibits cell growth and mediates caspase-independent cell death in human pancreatic cancer cells (2010) *Planta Medica*, 76 (11), pp. 1155-1161. Cited 14 times.

DOI: 10.1055/s-0030-1249931

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Abstract

Pancreatic cancer is one of the most aggressive human malignancies with an increasing incidence worldwide. In addition to the poor survival rates, combinations using gemcitabine as a backbone have failed to show any benefit beyond monotherapy. These facts underscore an urgent need for novel therapeutic options and motivated us to study the effect of berberine on pancreatic cancer cells. Here, we undertook an mRNA-based gene expression profiling study in order to get deeper insight into the molecular targets mediating the growth inhibitory effects of berberine on pancreatic cancer cells compared to normal ones. Twenty-four hours after treatment, berberine showed preferential selectivity toward pancreatic cancer cells compared to normal ones. Moreover, expression profiling and Ingenuity pathway analysis results showed that the cytotoxicity of berberine was accompanied with an activation of BRCA1-mediated DNA damage response, G1/S and G2/M cell cycle checkpoint regulation, and P53 signalling pathways. The activation of these signalling pathways might be explained by the fact that berberine intercalates DNA and induces DNA strand break through inhibition of topoisomerases and induction of DNA lesions. © Georg Thieme Verlag KG Stuttgart - New York.

Author Keywords

berberine; cell death; microarray; pancreatic cancer; photodynamic therapy

Document Type: Article

Source: Scopus

Abdelfattah, M.S.^{a c}, Toume, K.^a, Ahmed, F.^{a b}, Sadhu, S.K.^b, Ishibashi, M.^a

Cucullamide, a new putrescine bisamide from *Amoora cucullata* (2010) *Chemical and Pharmaceutical Bulletin*, 58 (8), pp. 1116-1118. Cited 3 times.

DOI: 10.1248/cpb.58.1116

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Abstract

A new putrescine bisamide derivative named cucullamide (1) was isolated from the leaves of *Amoora cucullata*, together with five known natural products, dasyclamide (2), ent-2 β -hydroxymanool (3), chrysin (4), apigenin (5), and kaempferol-3-O- β -D-glucopyranoside (6). The structure of the new isolated compound was elucidated on the basis of

1D and 2D NMR as well as high resolution-electrospray ionization (HR-ESI)-MS spectroscopic analysis. © 2010 Pharmaceutical Society of Japan.

Author Keywords

Amoora cucullata; Bisamide; Putrescine; Spectroscopy

Document Type: Article

Source: Scopus

El-Wakil, N.A.^a, Fahmy, Y.^a, Abou-Zeid, R.E.^{a b}, Dufresne, A.^b, El-Sherbiny, S.^c

Liquid crystalline behavior of hydroxypropyl cellulose esterified with 4-alkoxybenzoic acid

(2010) *BioResources*, 5 (3), pp. 1834-1845. Cited 1 time.

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Abstract

A series of 4-alkoxybenzoyloxypropyl cellulose (ABPC-n) samples was synthesized via the esterification of hydroxypropyl cellulose (HPC) with 4-alkoxybenzoic acid bearing different numbers of carbon atoms. The molecular structure of the ABPC-n was confirmed by Fourier transform infrared (FT-IR) spectroscopy and ¹H NMR spectroscopy. The liquid crystalline (LC) phases and transitions behaviors were investigated using differential scanning calorimetry (DSC), polarized light microscopy (PLM), and refractometry. It was found that the glass transition (T_g) and clearing (T_c) temperatures decrease with increase of the alkoxy chain length. It was observed that the derivatives with an odd number of carbon atoms are non-mesomorphic. This series of ABPC-n polymers exhibit characteristic features of cholesteric LC phases between their glass transition and isotropization temperatures.

Author Keywords

HPC 4-alkoxybenzoic acid; Mesophase behavior; Refractive index

Document Type: Review

Source: Scopus

Abd El-Aziz, M.^{a b}

The effects of variable fluid properties and viscous dissipation on forced convection of viscoelastic liquids in a thin film over an unsteady stretching sheet

(2010) *Canadian Journal of Physics*, 88 (8), pp. 607-616. Cited 2 times.

DOI: 10.1139/P10-043

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Abstract

An analysis is performed to study the effect of variable viscosity and variable thermal conductivity on the flow and heat transfer of a thin viscoelastic liquid (obeying Walters liquid B model) film on a horizontal unsteady stretching sheet taking into account the effect of viscous dissipation. The fluid viscosity is assumed to decrease exponentially with temperature but the thermal conductivity is assumed to vary as a linear function of temperature. Numerical solutions are obtained for some representative values of the viscosity and thermal conductivity variation parameters, unsteadiness parameter, and Eckert number. Typical temperature and velocity profiles, dimensionless film thickness, free-surface velocity and temperature, local skin-friction coefficient, and the local surface heat flux are obtained for a wide range of governing parameters. In general, it is found that a viscoelastic fluid is more sensitive to the variable fluid properties effect than a Newtonian fluid. Also, for constant and (or) variable fluid properties, the film thickness and the local surface heat flux of a viscoelastic fluid is small compared to that of a Newtonian fluid. For all values of the variable viscosity parameter and for both viscoelastic and Newtonian fluid films, the viscous dissipation effect increases the free-surface temperature significantly whereas it reduces the heat transfer rate markedly. However, viscous dissipation does not influence the velocity profiles of both Newtonian and viscoelastic liquid films impressively although the film thickness changes noticeably.

Document Type: Article

Source: Scopus

Vrana, I.^a, Aly, S.^b

Assessing candidate industrial technologies utilising hierarchical fuzzy decision making systems
(2010) *International Journal of Industrial and Systems Engineering*, 6 (2), pp. 187-206. Cited 7 times.

DOI: 10.1504/IJISE.2010.034336

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Abstract

The adoption of new industrial technology is a type of critical decisions. Important characteristics of such significant decision problem are ill-structuredness, subjectivity and vagueness of input and output factors and their relationships. Most of past researches have considered only the quantitative view, and little or even no researches have treated inherent ambiguity in determining exact values of quantitative inputs and in quantifying subjective ones. In this paper, a hierarchical fuzzy decision making model is proposed for handling vagueness and subjectivity associated with the problem's inputs (i.e. technology performance factors), and for structuring the relationships between them at one side and a technology evaluation score at the other side. The inputs to the model are groups of technical, economical and transferability-related measures. The output of the model is a crisp score for comparing merits of candidate technologies. Finally, a hypothetical illustrative example is provided. Copyright © 2010 Inderscience Enterprises Ltd.

Author Keywords

Analytical Hierarchy Process; Fuzzy Logics; Hierarchical Fuzzy Decision Making; Hierarchical Fuzzy Systems; Industrial and systems engineering; Technology Transfer

Document Type: Article

Source: Scopus

Rasool, B.K.A.^a, Abu-Gharbieh, E.F.^a, Fahmy, S.A.^b, Saad, H.S.^a, Khan, S.A.^a

Development and evaluation of ibuprofen transdermal gel formulations

(2010) *Tropical Journal of Pharmaceutical Research*, 9 (4), pp. 355-363. Cited 12 times.

^a Dubai Pharmacy College, Dubai, United Arab Emirates

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Abstract

Purpose: To develop an ibuprofen transdermal gel with a capability for both topical and systemic drug delivery. **Methods:** Ibuprofen gel formulations, incorporating various permeation enhancers, were prepared using chitosan as a gelling agent. The formulations were examined for their in vitro characteristics including viscosity, pH and drug release as well as in vivo pharmacological activities. Carrageenan-induced rat paw oedema model was used for the evaluation of their analgesic and anti-inflammatory activities. A commercial ibuprofen gel product (Ibutop®) was used as a reference. **Results:** The formulations containing 5 % of either menthol or glycerol as permeation enhancers gave drug release patterns comparable to that of the reference product. Propanol increased the apparent viscosity of the test gels to the same extent as that of the reference. Drug release from the formulations fitted best to the Higuchi model. A significant in vivo analgesic effect was produced by the test formulations containing 5 % menthol and 20 % propylene glycol and the effect was superior to that obtained with the reference product. However, no significant anti-inflammatory activity was exerted by any of the test gel formulations ($p > 0.05$). **Conclusion:** Ibuprofen gel preparations containing 5 % menthol and 20 % propylene glycol, respectively, exhibited pronounced analgesic activity and could be further developed for topical and systemic delivery of ibuprofen. © Pharmacotherapy Group.

Author Keywords

Chitosan; Ibuprofen; Menthol; Penetration enhancer; Propylene glycol; Transdermal gel

Document Type: Article

Source: Scopus

Raslan, W.M.^a, Bendak, A.^a, Khalil, E.M.^b, Fawzi, T.^a

Modification of polyester fabric by chemical/thermal treatment to improve dyeing ability

(2010) *Coloration Technology*, 126 (4), pp. 231-236. Cited 2 times.

DOI: 10.1111/j.1478-4408.2010.00251.x

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Abstract

Attempts were made to enhance the dyeability of polyester fabric by thermal treatment or combined chemical/thermal treatment in hot air or in steam, either slack or under load. Ethanolamine, hydrazine hydrate, ethylene glycol and a benzophenone derivative were applied to the fabric by padding technique prior to the thermal treatment. The dyeability of polyester fabric was found to be improved at nearly boiling without using carriers and/or high-temperature/high-pressure techniques. The rate of dyeing of chemically/thermally treated polyester fabric was found to increase. Differential thermal analysis of the polyester samples was interpreted in terms of dyeability improvement. The glass transition temperature of the treated fabric was found to decrease compared with the untreated one, resulting in an enhancement in the dyeability of polyester fabric with disperse dye. © 2010 The Authors. Journal compilation © 2010 Society of Dyers and Colourists.

Document Type: Article

Source: Scopus

Mohameda, M.S.^a, Kamel, M.M.^b, Kassem, E.M.^b, Abotaleb, N.^a, AbdEl-Moez, S.I.^b, Ahmed, M.F.^a

Novel 6,8-dibromo-4(3H)quinazolinone derivatives of anti-bacterial and anti-fungal activities

(2010) *European Journal of Medicinal Chemistry*, 45 (8), pp. 3311-3319. Cited 38 times.

DOI: 10.1016/j.ejmech.2010.04.014

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Abstract

Starting from 4-(6,8-dibromo-2-phenyl-4-oxo-(4H)-quinazolin-3-yl)-benzoic acid ethyl ester (II) and its acid hydrazide III, a new series of Schiff bases IV and their cyclized products, thiazolidinones V, oxa-diazole VIII, pyrazoles X, pyrroles XIII and XV and other related products were synthesized. These compounds were screened for their anti-bacterial activity against Gram-positive bacteria (*Staphylococcus aureus*, *Legionella monocytogenes* and *Bacillus cereus*) and Gram-negative bacteria (*Escherichia coli*, *Pseudomonas aeruginosa* and *Salmonella typhimurium*) and anti-fungal activity (*Candida albicans* and *Aspergillus flavus*) using paper disc diffusion technique. The minimum inhibitory concentrations (MICs) of the compounds were also determined by agar streak dilution method. Among the synthesized compounds 2-(4-(2-phenyl-6,8-dibromo-4-oxo-(4H)quinazolin-3-yl)-N-ethylamido benzoic acid hydrazide VIIa) was found to exhibit the most potent in vitro anti-microbial activity with the MICs of 1.56, 3.125, 1.56, 25, 25 and 25 mg/ml against *E. coli*, *S. typhimurium*, *L. monocytogenes*, *S. aureus*, *P. aeruginosa*, and *B. cereus* respectively. Compound 2-(4-(2-phenyl-6,8-dibromo-4-oxo-(4H)quinazolin-3-yl)-N-methyl thioamido benzoic acid hydrazide VIIc) was found to exhibit the most potent in vitro anti-fungal activity with MICs 0.78 and 0.097 mg/ml against *C. albicans* and *A. flavus*. © 2010 Elsevier Masson SAS. All rights reserved.

Author Keywords

Anti-bacterial; Anti-fungal; Ethyl-4-(6,8-dibromo-2-phenyl-4-oxo(4H)-quinazolin-3-yl)benzoate, benzoic acid hydrazide; Mannich bases; Oxadiazole; Pyrazoles; Pyrrole; Schiff bases; Thiazolidinones; Ure and thiourea derivatives

Document Type: Article

Source: Scopus

Mohamed, G.G.^a, Soliman, M.H.^b

Synthesis, spectroscopic and thermal characterization of sulphiride complexes of iron, manganese, copper, cobalt, nickel, and zinc salts. Antibacterial and antifungal activity

(2010) *Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy*, 76 (3-4), pp. 341-347. Cited 22 times.

DOI: 10.1016/j.saa.2010.03.016

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Abstract

Sulpiride (SPR; L) is a substituted benzamide antipsychotic which is reported to be a selective antagonist of central dopamine receptors and claimed to have mood-elevating properties. The ligation behaviour of SPR drug is studied in order to give an idea about its potentiality towards some transition metals in vitro systems. Metal complexes of SPR have been synthesized by reaction with different metal chlorides. The metal complexes of SPR with the formula $[MCl_2(L)_2(H_2O)_2] \cdot nH_2O$ [$M = Mn(II), Co(II), Ni(II), Cu(II)$ and $Zn(II)$; $n = 0-2$] and $[FeCl_2(HL)(H_2O)_3]Cl \cdot H_2O$ have been synthesized and characterized using elemental analysis (CHN), electronic (infrared, solid reflectance and 1H NMR spectra) and thermal analyses (TG and DTA). The molar conductance data reveal that the bivalent metal chelates are non-electrolytes while Fe(III) complex is 1:1 electrolyte. IR spectra show that SPR is coordinated to the metal ions in a neutral monodentate manner with the amide O. From the magnetic and solid reflectance spectra, octahedral geometry is suggested. The thermal decomposition processes of these complexes were discussed. The correlation coefficient,

the activation energies, E^* , the pre-exponential factor, A , and the entropies, ΔS^* , enthalpies, ΔH^* , Gibbs free energies, ΔG^* , of the thermal decomposition reactions have been derived from thermogravimetric (TG) and differential thermogravimetric (DTG) curves. The synthesized ligand and its metal complexes were also screened for their antibacterial and antifungal activity against bacterial species (*Escherichia coli* and *Staphylococcus aureus*) and fungi (*Aspergillus flavus* and *Candida albicans*). The activity data show that the metal complexes are found to have antibacterial and antifungal activity than the parent drug and less than the standard. © 2010 Elsevier B.V. All rights reserved.

Author Keywords

Biological activity; Molar conductance; Spectroscopy; Sulpiride; Thermal analyses; Transition metal complexes

Document Type: Article

Source: Scopus

Kandil, A.T.^a, Aly, M.M.^b, Moussa, E.M.^b, Kamel, A.M.^a, Gouda, M.M.^b, Kouraim, M.N.^b

Column leaching of lanthanides from Abu Tartur phosphate ore with kinetic study

(2010) *Journal of Rare Earths*, 28 (4), pp. 576-580. Cited 5 times.

DOI: 10.1016/S1002-0721(09)60157-5

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Abstract

The dynamic leaching of lanthanides from a west desert phosphate ore, Egypt (Abu Tartur) by hydrochloric acid, nitric acid and sulfuric acid solutions was investigated in this study as a function of acid concentration, flow rate and the presence of some additives such as boric acid. Also the kinetics of leaching of lanthanides was investigated as a function of temperature. It was found that the leaching process could be described by a shrinking-core model, with activation energy about 5.9, 13.8 and 21.9 kJ/M for leaching by HCl, HNO₃ and H₂SO₄, respectively. Based on the experimental results, an empirical equation related to the rate constant of lanthanides leaching to leaching temperature was established for the purpose of process design. © 2010 The Chinese Society of Rare Earths.

Author Keywords

Abu Tartur; column leaching; hydrochloric acid; kinetics; lanthanides; nitric acid; rare earths; sulfuric acid

Document Type: Article

Source: Scopus

Ali, A.F.^a, Shawky, D.M.^b

A novel approach for protein classification using Fourier transform

(2010) *World Academy of Science, Engineering and Technology*, 68, pp. 247-251.

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Abstract

Discovering new biological knowledge from the high-throughput biological data is a major challenge to bioinformatics today. To address this challenge, we developed a new approach for protein classification. Proteins that are evolutionarily- and thereby functionally- related are said to belong to the same classification. Identifying protein classification is of fundamental importance to document the diversity of the known protein universe. It also provides a means to determine the functional roles of newly discovered protein sequences. Our goal is to predict the functional classification of novel protein sequences based on a set of features extracted from each protein sequence. The proposed technique used datasets extracted from the Structural Classification of Proteins (SCOP) database. A set of spectral domain features based on Fast Fourier Transform (FFT) is used. The proposed classifier uses multilayer back propagation (MLBP) neural network for protein classification. The maximum classification accuracy is about 91% when applying the classifier to the full four levels of the SCOP database. However, it reaches a maximum of 96% when limiting the classification to the family level. The classification results reveal that spectral domain contains information that can be used for classification with high accuracy. In addition, the results emphasize that sequence similarity measures are of great importance especially at the family level.

Author Keywords

Artificial neural networks; Bioinformatics; Feature extraction; Protein sequence analysis

Document Type: Article

Source: Scopus

El-Mahdy, T.S.^{a,b}, Abdalla, S.^c, El-Domany, R.^b, Mohamed, M.S.^b, Ross, J.I.^a, Snelling, A.M.^a
Detection of a new erm(X)-mediated antibiotic resistance in Egyptian cutaneous propionibacteria
 (2010) *Anaerobe*, 16 (4), pp. 376-379. Cited 7 times.

DOI: 10.1016/j.anaerobe.2010.06.003

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Abstract

A total of 107 antibiotic-resistant propionibacteria were isolated from the face of 102 Egyptian acne patients, dermatology staff and controls. Erythromycin-clindamycin-resistant propionibacteria were chosen to detect erm(X) gene and it was detected in 29 of 107 (27%) strains. However, just 7 strains had IS. 1249I, 3 of them had also Tn. 5432. The erm(X) gene which is not carried on Tn. 5432 confers inducible resistance to telithromycin by erythromycin or clindamycin. The DNA sequences of the PCR amplification products of this new erm(X)-mediated antibiotic resistance showed >99% identity to the erm(X) gene isolated from a *Corynebacterium jeikeium*. Southern blotting analysis of the erm(X)-specific probe shows that there were two copies of this resistance gene integrated within the chromosomal DNA. This is the first report of erm(X) being carried by *Propionibacterium acnes* outside Europe. Whilst the gene is associated with Tn. 5432 in some strains, the data suggests other genetic element carrying erm(X). The high carriage of erm(X) may affect the efficacy of clindamycin and macrolides for acne treatment in Egypt. © 2010 Elsevier Ltd.

Author Keywords

Acne; Clindamycin; Erm(X); Erythromycin; Propionibacteria; Resistance

Document Type: Article

Source: Scopus

Ahmed, F.L., Rezaq, A.A., Attia, A.R.M.

Additional effect of defatted wheat germ protein isolate on nutritional value and functional properties of yogurts and biscuits

(2010) *Australian Journal of Basic and Applied Sciences*, 4 (8), pp. 3139-3147.

Nutrition and Food Science Department, College of Home Economics, Helwan University., 65 St. Elmatbaa Elahlia Bolaq Abu Elalaa, Cairo, Egypt

Abstract

Wheat germ is one of the potential sources of proteins at a relative low cost. This study aimed to investigate the effect of additional defatted wheat germ protein on nutritional value and quality of yogurts and biscuits. Defatted wheat germ proteins (DWGP) were extracted by one-step alkaline extraction using alkaline extraction at pH 9.5 and following isoelectric precipitation at pH 4.0. Yogurts were manufactured with 3, 6 and 9 g DWGP/100ml milk. Biscuits were prepared with 10, 20 and 30g DWGP/100g wheat flour (WF). Results found fortified yogurts had higher contents of protein, carbohydrate, and ash. Apparent viscosity and firmness, pH and total solids % values were higher. Prepared yogurts with 3 and 6 g DWGP/100ml milk had significant higher scores of appearance and viscosity. Fortified biscuits had higher contents of protein and ash. Values of weight change %, thickness, volume, lightness, yellowness and saturation index were lower than that of the control. Biscuits with 10 and 20g DWGP/100 g WF had higher color, firmness, and general acceptable scores than that of control. Conclusion: DWGP incorporation into milk yogurts and biscuit up to a level of 6g/100ml milk and 20g /100g WF, respectively had a higher acceptable for sensory and physical properties. © 2010, INSInet Publication.

Author Keywords

Cookies; Defatted wheat germ; Protein isolate; Yogurt

Document Type: Article

Source: Scopus

Shi, L.^a, Campbell, G.^b, Jones, W.D.^c, Campagne, F.^d, Wen, Z.^a, Walker, S.J.^e, Su, Z.^f, Chu, T.-M.^g, Goodsaid, F.M.^h, Pusztai, L.ⁱ, Shaughnessy, J.D.^j, Oberthuer, A.^k, Thomas, R.S.^l, Paules, R.S.^m, Fielden, M.ⁿ, Barlogie, B.^j, Chen, W.^b, Du, P.^o, Fischer, M.^k, Furlanello, C.^p, Gallas, B.D.^b, Ge, X.^q, Megherbi, D.B.^r, Symmans, W.F.^s, Wang, M.D.^t, Zhang, J.^u, Bitter, H.^v, Brors, B.^w, Bushel, P.R.^m, Bylesjo, M.^x, Chen, M.^a, Cheng, J.^y, Cheng, J.^z, Chou, J.^m, Davison, T.S.^{aa}, Delorenzi, M.^{ab}, Deng, Y.^{ac}, Devanarayan, V.^{ad}, Dix, D.J.^{ae}, Dopazo, J.^{af}, Dorff, K.C.^{ag}, Elloumi,

F.^{ae}, Fan, J.^{ah}, Fan, S.^{ai}, Fan, X.^{aj}, Fang, H.^f, Gonzaludo, N.^{ak}, Hess, K.R.^{al}, Hong, H.^a, Huan, J.^{am}, Irizarry, R.A.^{an}, Judson, R.^{ae}, Juraeva, D.^w, Lababidi, S.^{ao}, Lambert, C.G.^{ap}, Li, L.^g, Li, Y.^{aq}, Li, Z.^{ae}, Lin, S.M.^o, Liu, G.^{ar}, Lobenhofer, E.K.^{as}, Luo, J.^u, Luo, W.^{at}, McCall, M.N.^{an}, Nikolsky, Y.^{au}, Pennello, G.A.^b, Perkins, R.G.^a, Philip, R.^b, Popovici, V.^{ab}, Price, N.D.^{av}, Qian, F.^f, Scherer, A.^{aw}, Shi, T.^{ax}, Shi, W.^{au}, Sung, J.^{av}, Thierry-Mieg, D.^{ay}, Thierry-Mieg, J.^{ay}, Thodima, V.^{az}, Trygg, J.^x, Vishnuvajjala, L.^b, Wang, S.J.^h, Wu, J.^{ba}, Wu, Y.^{bb}, Xie, Q.^{bc}, Yousef, W.A.^{bd}, Zhang, L.^{ba}, Zhang, X.^{ai}, Zhong, S.^{be}, Zhou, Y.^j, Zhu, S.^{ba}, Arasappan, D.^f, Bao, W.^g, Lucas, A.B.^{bf}, Berthold, F.^k, Brennan, R.J.^{au}, Buness, A.^{bg}, Catalano, J.G.^{ao}, Chang, C.^{ax}, Chen, R.^{bh}, Cheng, Y.^{bk}, Cui, J.^{ax}, Czika, W.^g, Demichelis, F.^{bi}, Deng, X.^{bj}, Dosymbekov, D.^{bk}, Eils, R.^w, Feng, Y.^{ah}, Fostel, J.^m, Fulmer-Smentek, S.^{bf}, Fuscoe, J.C.^a, Gatto, L.^{bl}, Ge, W.^a, Goldstein, D.R.^{bm}, Guo, L.^{bn}, Halbert, D.N.^{bo}, Han, J.^{ao}, Harris, S.C.^a, Hatzis, C.^{bp}, Herman, D.^{bq}, Huang, J.^{aj}, Jensen, R.V.^{br}, Jiang, R.^{ai}, Johnson, C.D.^{bs}, Jurman, G.^p, Kahlert, Y.^k, Khuder, S.A.^{bt}, Kohl, M.^{bu}, Li, J.^{bv}, Lee, L.^{bw}, Li, M.^{bx}, Li, Q.-Z.^{by}, Li, S.^{aj}, Li, Z.^a, Liu, J.^a, Liu, Y.^{ai}, Liu, Z.^a, Meng, L.^{ai}, Madera, M.^r, Martinez-Murillo, F.^b, Medina, I.^{bz}, Meehan, J.^f, Miclaus, K.^g, Moffitt, R.A.^t, Montaner, D.^{bz}, Mukherjee, P.^{ag}, Mulligan, G.J.^{ca}, Neville, P.^g, Nikolskaya, T.^{au}, Ning, B.^a, Page, G.P.^{cb}, Parker, J.^c, Parry, R.M.^t, Peng, X.^{cc}, Peterson, R.L.^{cd}, Phan, J.H.^t, Quanz, B.^{am}, Ren, Y.^{ce}, Riccadonna, S.^p, Roter, A.H.^{cf}, Samuelson, F.W.^b, Schumacher, M.M.^{cg}, Shambaugh, J.D.^{ch}, Shi, Q.^a, Shippy, R.^{ci}, Si, S.^{cj}, Smalter, A.^{am}, Sotiriou, C.^{ck}, Soukup, M.^h, Staedtler, F.^{cg}, Steiner, G.^{cl}, Stokes, T.H.^t, Sun, Q.^{ba}, Tan, P.-Y.^g, Tang, R.^b, Tezak, Z.^b, Thorn, B.^a, Tsyganova, M.^{bk}, Turpaz, Y.^{cm}, Vega, S.C.^{cn}, Visintainer, R.^p, Von Frese, J.^{co}, Wang, C.^{bj}, Wang, E.^u, Wang, J.^{ax}, Wang, W.^{cp}, Westermann, F.^w, Willey, J.C.^{cq}, Woods, M.^u, Wu, S.^{cr}, Xiao, N.^{cs}, Xu, J.^f, Xu, L.^a, Yang, L.^a, Zeng, X.^{ar}, Zhang, J.^h, Zheng, L.^h, Zhang, M.^a, Zhao, C.^{ax}, Puri, R.K.^{ao}, Scherf, U.^b, Tong, W.^a, Wolfinger, R.D.^g

The Microarray Quality Control (MAQC)-II study of common practices for the development and validation of microarray-based predictive models

(2010) *Nature Biotechnology*, 28 (8), pp. 827-838. Cited 288 times.

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Abstract

Gene expression data from microarrays are being applied to predict preclinical and clinical endpoints, but the reliability of these predictions has not been established. In the MAQC-II project, 36 independent teams analyzed six microarray data sets to generate predictive models for classifying a sample with respect to one of 13 endpoints indicative of lung or liver toxicity in rodents, or of breast cancer, multiple myeloma or neuroblastoma in humans. In total, >30,000 models were built using many combinations of analytical methods. The teams generated predictive models without knowing the biological meaning of some of the endpoints and, to mimic clinical reality, tested the models on data that had not been used for training. We found that model performance depended largely on the endpoint and team proficiency and that different approaches generated models of similar performance. The conclusions and recommendations from MAQC-II should be useful for regulatory agencies, study committees and independent investigators that evaluate methods for global gene expression analysis. © 2010 Nature America, Inc. All rights reserved.

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El-Hagary, M.^{a b c}

Effect of partial substitution of Cr³⁺ for Fe³⁺ on magnetism, magnetocaloric effect and transport properties of Ba₂FeMoO₆ double perovskites

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Abstract

Magnetism, magnetocaloric effect and transport properties of Cr doped double perovskites compound Ba₂Fe_{1-x}Cr_xMoO₆ with (0 ≤ x ≤ 1) were investigated by magnetization and electrical resistivity measurements. The samples show a cubic structure of cell parameter, a, decreases with increasing Cr content. The temperature variation in magnetization reveals a ferromagnetism for all samples with TC decreases significantly as the Cr doping content increases from 340 K to 310 K for x = 0 and 1, respectively. The saturation magnetic moment, μ_S, was found to decrease with increasing the Cr doped content from 3.63 μB/f.u. for x = 0 to 2.69 μB/f.u. for x = 1 which may relate to the increase of the anti-site disorder defects or magnetic dilution due to the substitution of Cr for Fe. The magnetocaloric effect is calculated from the measurement of initial isothermal magnetization versus magnetic field at various temperatures. The maximum magnetic entropy change, ΔSM_{max}, of Cr doped double perovskite is found to decrease with increasing of Cr content from 2.08 J/kg K for x = 0 to 0.55 J/kg K for x = 1 upon 1 T applied field change. Interestingly, the value of ΔSM_{max} = 2.08 J/kg K for x = 0 at 1 T was found to be about 64% that of pure Gd, which is thought to be the optimum magnetic refrigerant for use near room temperature. Thus, this perovskite is beneficial for the household application of active magnetic refrigerant materials. The zero field electrical resistivity measurements exhibit a change from metallic behavior at x = 0 to semiconducting like behavior for all doped samples (x ≥ 0.2) over the entire measurement temperature region from 4.2 K to 300 K. © 2010 Elsevier B.V.

Author Keywords

Double perovskite; Magnetic properties; Magnetocaloric effect; Transport properties

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Gadallah, Y.M.^{a b c}

Intellectual property policy for universities and research institutes and economic Development - The Egyptian case

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Abstract

This paper addresses the importance of the adoption of IPR policy by universities and research institutes in Egypt to drive up economic growth and development. A survey has been conducted to diagnose the status of IP commercialization in the public universities and research institutes in Egypt, especially after the entry into force of IP law number 82, in 2002. The survey starts by clarifying the relative importance of IPR policy for universities and research institutes based on the successful experiences in the developed countries. Then it analyzes the enforcement and administrative challenges and the current status of IP protection in Egypt. The survey reveals that there is no clear IPR policy or even IP management office in Egyptian universities and research institutes. At the same time, there are some individual quasi-IPR policies in some institutions. Egypt has still to take steps towards establishing a central IP management office in each institution, which is the lesson to be learned from the developed countries. Also, the Egyptian Supreme Council for Universities and the Academy for Scientific Research and Technology should set up a committee to design a suitable IPR policy for the public universities and research institutes considering the main characteristics of each university and institute.

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Al-Saeed, T.A.^a, Khalil, D.A.^{b c}

Diffraction effects in optical microelectromechanical system Michelson interferometers

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Abstract

We study the effect of diffraction on the performance of microelectromechanical system Michelson interferometers. By using a simple Gaussian model, we calculate the degradation of the interferometer visibility due to the diffraction effect. We then use this model to estimate the optimum detector diameter to maximize the fringe visibility at the interferometer output and study its effect on the resolution of Fourier transform spectrometers based on Michelson interferometers. © 2010 Optical Society of America.

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Ibrahim, N.A.^a, Khalifa, T.F.^b, El-Hossamy, M.B.^c, Tawfik, T.M.^c

Effect of knit structure and finishing treatments on functional and comfort properties of cotton knitted fabrics

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Abstract

This study demonstrated that the changes in functional and comfort properties of knitted cotton fabrics were determined by the knitted structure as well as type and concentration of finishing agent. To improve the comfort properties, one should ensure the smoothness of fabric surface, air permeability, heat transmittance as well as hydrophilicity of the knitted fabrics, by selecting the proper knit structure and/or by applying the proper finish such as bio-finish. Soft-finished fabric samples had lower tendency to shrinkage and lower stiffness unless compared with other finished fabrics. The functional properties of the finished cotton knits, i.e., antibacterial and water repellent, depend to a great extent on the type of finish. © The Author(s).

Author Keywords

Comfort properties; Cotton knits; Functional finishes; Performance

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