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List of Paper Publications AY 2018-19

S.No	Title of the paper	Name of the author/s	Name of the Journal	Pg. No
1	Low power aware pulse triggered flip flops using modified clock gating approaches	Jyothula Sudhakar	World Journal of Engineering	3
2	Equal-channel angular extrusion of AL 5083 alloy with copper shielding	Ananda Babu Varadala, Gurugubelli S.N, Bandaru S.	Emerging Materials Research	4
3	A novel approach over inverse kinematic analysis of 5-axis hybrid parallel manipulator for contour trajectory	Suryam L.V, Pradeep A.V, et al.	International Journal of Mechanical Engineering and Technology	5
4	Equal channel angular extrusion of semi-circular AA 5083 covered with copper casing	Ananda Babu Varadala, Gurugubelli S.N, et al.	Emerging Materials Research	6
5	Evaluation of dual rail complete detection circuitry using asynchronous delay insensitive frameworks	Jyothula Sudhakar, Durga A.L, Sushma K.	International Journal of Simulation: Systems, Science and Technology	7
6	Microstructural characterization of 6063 aluminium alloy nano-composites	Satyanarayana K.R, Nagendrababu M, Swami Naidu G, et al.	International Journal of Mechanical and Production Engineering Research and Development	8
7	Text mining with HADOOP: document clustering with TF_IDF and measuring distance using euclidean	Laxmi Lydia E, Vijaya Kumar K., Amaranatha Reddy P, Ramya D.	Journal of Advanced Research in Dynamical and Control Systems	9
8	Existence of symmetric positive solutions for lid stone type integral boundary value	Sreedhar N, Prasad K.R, Balakrishna S.	Turkish World Mathematical Society Journal of Applied and	10




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	problems		Engineering Mathematics	
9	A novel architecture for the realisation of IOT-enabled ECG signal quality assessment using wavelet decomposition for baseline wander removal	Chukka Ramesh Babu., Kumar C.S.	Defence S and T Technical Bulletin	11
10	Experimental investigation and comparison of flank wear and surface roughness in turning of AISI4340 steel using ceramic coated and uncoated carbide inserts	Allu Venkata Pradeep, Suryam L.V., Satya Prasad S.V, Vahini K.	International Journal of Mechanical and Production Engineering Research and Development	12
11	Application of response surface methodology in evaluating the performance of conventional, wiper, cryogenically treated and coated (TIN, TIALN and TICN) carbide inserts in turning of AISI 52100 steel	Allu Venkata Pradeep, Lingaraju D., Ramakrishna S.	International Journal of Agile Systems and Management	13
12	Personalized privacy preserving incremental data dissemination through optimal generalization	Reddy S.R.P, Raju K.V.S.V.N., Valli Kumari V.	Journal of Engineering and Applied Sciences	14
13	Land cover classification using landsat-8 optical data and supervised classifiers	Ramana Rao K.V, Rajesh Kumar P.	International Journal of Engineering and Technology(UAE)	15
14	Low contrast image enhancement using renyi entropy	Dhurairajan V, Kumari T.S, Bhavani C.A.	Defence S and T Technical Bulletin	16
15	Theoretical study on P-type D-pi-A sensitizers with modified pi-spacers for dye- sensitized solar cells	Kadali Chaitanya, Zhi-Dan Sun et al.	Journal of Molecular Modeling	17




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Document details - Low power aware pulse triggered flip flops using modified clock gating approaches

1 of 1

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World Journal of Engineering

Volume 15, Issue 6, 3 December 2018, Pages 792-803

Low power aware pulse triggered flip flops using modified clock gating approaches(Article)

Jyothula, S.

Department of Electronics and Communication Engineering, Vignan's Institute of Engineering for Women, Visakhapatnam, India

Abstract

Purpose: The purpose of this paper is to design a low power clock gating technique using Galeor approach by assimilated with replica path pulse triggered flip flop (RP-PTFF). **Design/methodology/approach:** In the present scenario, the inclination of battery for portable devices has been increasing tremendously. Therefore, battery life has become an essential element for portable devices. To increase the battery life of portable devices such as communication devices, these have to be made with low power requirements. Hence, power consumption is one of the main issues in CMOS design. To reap a low-power battery with optimum delay constraints, a new methodology is proposed by using the advantages of a low leakage GALEOR approach. By integrating the proposed GALEOR technique with conventional PTFs, a reduction in power consumption is achieved. **Findings:** The design was implemented in mentor graphics EDA tools with 130 nm technology, and the proposed technique is compared with existing conventional PTFs in terms of power consumption. The average power consumed by the proposed technique (RP-PTFF clock gating with the GALEOR technique) is reduced to 47 per cent compared to conventional PTF for 100 per cent switching activity. **Originality/value:** The study demonstrates that RP-PTFF with clock gating using the GALEOR approach is a design that is superior to the conventional PTFs. © 2018, Emerald Publishing Limited.

Relevant Topic Prominence

Topic: [Latches](#) | [Shift Registers](#) | [Low Power](#)

Prominence percentile: 74.515

Author keywords

[Clock gating](#) [GALEOR](#) [LECTOR](#) [MTCMOS](#) [Pulse triggered flip flops](#)

ISSN: 17085284

Source Type: Journal

Original language: English

DOI: 10.1108/WJE-09-2017-0309

Document Type: Article

Publisher: Emerald Group Publishing Ltd.

Jyothula, S.; Department of Electronics and Communication Engineering, Vignan's Institute of Engineering for Women, Visakhapatnam, India;

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Cited by 3 documents

Vaithyanathan, D. , Mishra, A.K. , Bhardwaj, T.

Power Consumption and Delay Comparison of a Modified TCFF with Existing FF Implemented using FinFET and Load Test Circuit Analysis

(2021) *Proceedings of the IEEE Madras Section International Conference 2021, MASCON 2021*

Sabu, N.A. , Batri, K.

Power and area-efficient register designs involving EHO algorithm

(2020) *Circuit World*

Prasanth, V. , Babulu, K. , Kamaraju, M.

Dynamic power optimization of 32 bit MIPS processor using clock gating for low power applications

(2019) *International Journal of Recent Technology and Engineering*

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Varadala AB, Gurugubelli SN and Bandaru S
Equal-channel angular extrusion of Al 5083 alloy with copper shielding
Emerging Materials Research,
<https://doi.org/10.1680/jemr.18.00043>

Research Article

Paper 1800043
Received 20/05/2018, Accepted 14/08/2018

Keywords: alloys/material properties/
material structure

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Equal-channel angular extrusion of Al 5083 alloy with copper shielding

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The microstructural homogeneity, hardness and tensile strength of aluminium alloy 5083, with and without copper shielding (CS), processed by equal-channel angular extrusion (ECAE) are investigated in this work. The two opposite longitudinal faces of the rectangular billets are shielded with copper sheets of various thicknesses (1.0, 1.5, 2.0 and 2.5 mm) and ECAE'd at room temperature in route A (no rotation of billet) up to four times. The required extrusion load is drastically reduced due to the smaller coefficient of friction between the CS and channels of the steel die. The shielded copper reduces the effect of the dead metal zone and microcracks and improves strain uniformity in the extruded alloy. The hardness and tensile strength of the extruded alloy with CS are increased extensively due to newly formed submicron-sized grains in the homogeneous structure. Also, the ductility of ECAE'd alloy with CS is higher compared to that of the alloy extruded without shielding. It is noticed that the increase in the thickness of CS does not have a noteworthy effect on the structural and mechanical behaviour of the extruded alloy.

1. Introduction

The need for lightweight aluminium (Al) alloys (AAs) with high strength and hardness is very high in various engineering applications, including aerospace, defence and automobiles.^{1,2} Materials with submicron grains and better mechanical properties can be developed using severe plastic deformation (SPD) processes.^{3,4} The high amount of strain induced in the materials, processed through SPD techniques, refines the grain size and improves mechanical properties.^{5,6} Equal-channel angular extrusion (ECAE) is a widely used SPD technique and produces submicron-sized grains in the material without any cross-sectional changes.^{7,8} A die with two similar cross-sectioned channels, with a specified channel intersection angle (θ) and outer corner angle (ψ), is used to perform the ECAE process.⁹ During the process of ECAE, a high amount of strain is induced in the extruded material.¹⁰ The dead metal zone, formed at the outer corner of the die, imposes non-uniform strain distribution, which affects the structural homogeneity of the extruded alloy.¹¹ In 2012, Djavanroodi *et al.*¹² investigated the significance of the processing route on the strain distribution and found that it is very less when following the processing route A. Shaeri *et al.*¹³ performed ECAE on AA 7075 with copper casing and found significant improvement in the strain distribution and mechanical properties. Djavanroodi *et al.*¹⁴ assessed the effect of processing routes (A, B₁, B₂ and C) on the uniform distribution of strain and

the hardness of the copper tube. They reported that structural homogeneity and hardness are less in processing route A. From the literature, it is observed that the structural and mechanical behaviour of square and rectangular billets shielded with copper processed in route A needs to be investigated.

In this study, ECAE of aluminium 5083 alloy with copper shielding (CS) of various thicknesses was performed at room temperature in route A. The significance of shielding and its thickness on the grain refinement, microhardness and tensile strength of AA 5083 were investigated.

2. Experimental section

AA 5083 with 4.5% magnesium (Mg) is considered as the work material in this study. Square and rectangular billets of various dimensions were sectioned from as-received rolled plate in O-grade condition. The geometry, dimensions and notations of the billets and CS are listed in Table 1. All the faces of the billets were prepared with more surface finish to reduce the coefficient of friction during ECAE. Copper sheets with 1.0, 1.5, 2.0 and 2.5 mm thicknesses were used as shielding to the rectangular billets due to their high ductility. Initially, all the billets and copper sheets were annealed for 1 h at 530 and 400°C, respectively. Oil-hardened non-shrinking steel was used as die material. The ECAE die used in this study had a channel angle



Document details - A novel approach over inverse kinematic analysis of 5-axis hybrid parallel manipulator for contour trajectory

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International Journal of Mechanical Engineering and Technology

Volume 9, Issue 11, November 2018, Pages 198-210

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A novel approach over inverse kinematic analysis of 5-axis hybrid parallel manipulator for contour trajectory(Article)

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Authors > Keywords >

Abstract

In the recent past, the PKM technology was brought to the next level by invention of Hybrid Parallel Kinematic Machines (HPKMs) because both serial and Parallel Kinematic Machine features are incorporated in these machines. Kinematics and dynamics play a crucial role in functioning of any parallel kinematic machine. The Inverse kinematic analysis is tedious for finding the velocity and acceleration of legs in PKMs having more than three Degree of freedom (DOF). In this paper, 5-axis Hybrid parallel kinematic machine with hemisphere workspace has been modeled and assembled in CATIA. The inverse kinematic analysis of PKM was carried out in digital mockup unit (DMU). The variations in velocities and accelerations of all the three legs and joint angles were found along work plane axes at desired feed rate. On the other hand, the regression equations were generated for velocity and acceleration of each leg, joint angles with respect to position and time, while the tool travels along the v-shape contour trajectory. © IAEME Publication

SciVal Topic Prominence ⓘ

Topic: Parallel Manipulator | Stewart Platform | Biomechanics

Prominence percentile: 98.235 ⓘ

Author keywords

5-Axis HPKM Contour trajectory DMU Inverse Kinematics

ISSN: 09766340
Source Type: Journal
Original language: English

Document Type: Article
Publisher: IAEME Publication

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Document details - Equal channel angular extrusion of semicircular AA 5083 covered with copper casing

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Emerging Materials Research

Volume 7, Issue 3, 8 August 2018, Pages 160-163

Equal channel angular extrusion of semicircular AA 5083 covered with copper casing(Article)

Varadala, A.B., Gurugubelli, S.N., Bandaru, S.

^aDepartment of Mechanical Engineering, Vignan's Institute of Engineering for Women, Visakhapatnam, India

^bDepartment of Metallurgical Engineering, Jawaharlal Nehru Technological University Kakinada, University College of Engineering Vizianagaram, Vizianagaram, India

^cDepartment of Mechanical Engineering, Vignan's Institute of Information Technology, Visakhapatnam, India

Abstract

The microstructural evolution and mechanical behaviour of semicircular AA 5083 billets subjected to equal channel angular extrusion (ECAE), without and with copper casing (CC), are investigated in this work. The semicircular billets, circumferentially covered with and without CC, are extruded up to three passes in route A at room temperature. Even the coarse grain structure of the initial material is significantly refined, the microcracks and the structural defects were observed in the billets extruded without CC due to non-uniform strain distribution. The use of CC on the circumference of the semicircular billets reduces the dead zone effect on the structural homogeneity and minimises the formation of microcracks on the outer periphery of the extruded material. The uniform distribution of the effective strain imposed on the billets ECAE'd with CC enhances the development of equi-axed ultrafine grains at low pressing loads. The newly formed ultrafine grains with a size of few hundreds of nanometres significantly increase the mechanical properties of the ECAE'd AA 5083 with the CC. The obtained results were in good agreement with the earlier reports in which ECAE was carried with back pressure arrangement. © 2018 ICE Publishing: All rights reserved.

SciVal Topic Prominence

Topic: Equal Channel Angular Pressing | Superplasticity | Plastic Deformation

Prominence percentile: 99.306

Author keywords

alloys material structure mechanical properties

Indexed keywords

Engineering controlled terms: Alloying Billets (metal bars) Copper Extrusion Microcracks

Engineering uncontrolled terms: Equal channel angular extrusion Extruded materials Material structure Mechanical behaviour Non-uniform strain Structural defect Structural homogeneity Uniform distribution

Engineering main heading: Mechanical properties



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Varadala, A.B., Gurugubelli, S.N., Bandaru, S.

An Effective and Economical Method to Improve Structural Homogeneity and Mechanical Properties of Al-Mg Alloy Processed by ECAE

(2020) Lecture Notes in Mechanical Engineering

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Document details - Evaluation of dual rail complete detection circuitry using asynchronous delay insensitive frameworks

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International Journal of Simulation: Systems, Science and Technology

Volume 19, Issue 3, June 2018, Pages 10.1-10.7

Evaluation of dual rail complete detection circuitry using asynchronous delay insensitive frameworks(Article)

Shakar, J., Durga, A.L., Sushma, K.

Department of ECE, Vignan's Institute of Engineering for Women, Vishakapatnam, A.P, India

Abstract

This paper proposes a testable design of Delay-Insensitive nanoscale framework using different registers such as normal Sleep Convention Logic (SCL) register, modified SCL register and SCL scan cell. Combinational logic blocks in nanoscale frameworks cannot rouse until a complete DATA set is accessible at the input of their preceding register, input-completeness to DATA is also unequivocally ensured. These are characterized in terms of speed and power. Dual rail pipelined versions are developed, and those comparisons are carried out by several parameters mainly focus on power dissipation, delay, slew rate, rise time and fall time. © 2018, UK Simulation Society. All rights reserved.

SciVal Topic Prominence ⓘ

Topic: Asynchronous Circuits | Clock | Network on Chip

Prominence percentile: 79.901 ⓘ

Author keywords

Delay Dual rail delay insensitive multi-threshold null convention logic Power dissipation Sleep convention logic Slew rate

Funding details

Funding sponsor	Funding number	Acronym
Department of Science and Technology, Ministry of Science and Technology, India See opportunities by डीएसटी	ECR/2017/000142	डीएसटी
Science and Engineering Research Board See opportunities by SERB		SERB
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Funding text #1 This research was supported by Science & Engineering Research Board (SERB), Department of Science & Technology, Government of India, under ECRA grant (ECR/2017/000142)		
Funding text #2 This research was supported by Science & Engineering Research Board (SERB), Department of Science & Technology (DST), Government of India, under ECRA grant (ECR/2017/000142)		
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Document details - Microstructural characterization of 6063 aluminium alloy nano-composites

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International Journal of Mechanical and Production Engineering Research and Development

Volume 8, Issue 2, 30 April 2018, Article number IJMPERDAPR201897, Pages 851-856

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Microstructural characterization of 6063 aluminium alloy nano-composites(Article)(Open Access)

anarayana, K.R., Surendra Babu, B., Ramesh Chandra, B., Nagendrababu, M., Swami Naidu, G.

^aDepartment of Mechanical Engineering, GITAM University, India

^bDepartment of Mechanical Engineering, JNTUHC OE, India

^cDepartment of Mechanical Engineering, VIEW, India

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Abstract

Microstructural characterization of Al6063 Nanocomposites plays a vital role in the field of Materials Engineering. Many of the earlier researchers showed that the evolution of Al6063 stabilized the application in wide fields of engineering and sciences. The present research has focused to probe the Al6063 nano composite using X-ray diffraction (XRD), Transmission Electron Microscopy (TEM) and Scanning Electron Microscopy Photogrammetry (SEM). Compositions of Al6063, Al6063 with 0.5 wt% γ -Al₂O₃, 1 wt% γ -Al₂O₃, 2 wt% γ -Al₂O₃ and 3 wt% γ -Al₂O₃ were prepared and investigated for Microstructural Characterization. In XRD, SEM and TEM the nanopowder particles forms apparently bonds and their crystallographic structures are clearly identified. Instead of chemical reactions, nanoparticles implicated the improvements in higher fracture toughness and shown in Fractograph SEM of Al 6063 + 2 wt% γ -Al₂O₃ than the other compositions. In Fractograph SEM of Al 6063 + 3 wt% γ -Al₂O₃, the nanoparticles were widely spread and showing higher fracture toughness. © TJPRC Pvt. Ltd.

SciVal Topic Prominence

Topic: Metal Matrix Composites | Powder Metallurgy | Aluminum

Prominence percentile: 99.425



Author keywords

- Material characterization
- Material fabrication
- Material processing
- Materials science
- Microscopy
- Nanoscale materials
- Nanostructures
- Optical microscopy
- Spectroscopy & transmission electron microscopy

ISSN: 22496890

Source Type: Journal

Original language: English

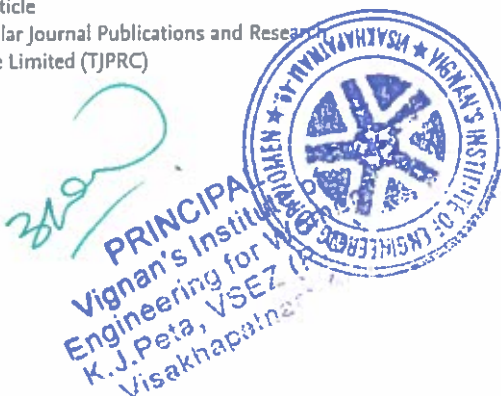
DOI: 10.24247/ijmperdapr201897

Document Type: Article

Publisher: Transstellar Journal Publications and Research

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Document details - Text mining with hadoop: Document clustering with TF_IDF and measuring distance using euclidean

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Journal of Advanced Research in Dynamical and Control Systems

Volume 10, Issue 14 Special Issue, 2018, Pages 1784-1792

Text mining with hadoop: Document clustering with TF_IDF and measuring distance using euclidean(Article)

Lydia, E., Vijaya Kumar, K., Amaranatha Reddy, P., Ramya, D.

^aDepartment of Computer Science Engineering, Vignan's Institute of Information Technology, Andhra Pradesh, India

^bDepartment of Computer Science Engineering, Vignan's Institute of Engineering for Women, Andhra Pradesh, India

^cDepartment of Computer Science & Engineering, VFSTR University, Andhra Pradesh, India

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Abstract

Considering huge amount of data in the existing globe, lot of various Data Mining algorithms have become more essential for computations which increases the use of applicational areas desperately. Furthermore, the dimensional space of the data in different fields often creates a problem in machine learning algorithms. With the Dimensional increase in data have a negative impact on supervised and unsupervised techniques. In this paper, the features are examined efficiently. The main goal is to achieve the term weight in the document by measuring its similarity based on TF-IDF with all positive values without any negative values and Euclidean Distance, also giving continuation for NMF method and K-means clustering. © 2018, Institute of Advanced Scientific Research, Inc. All rights reserved.

SciVal Topic Prominence

Topic: Non-Negative Matrix Factorization | Source Separation | Cluster Analysis

Prominence percentile: 96.308 1

Author keywords

Clustering of documents K-Means clustering Non negative matrix factorization Performance Text mining

Funding details

Funding sponsor	Funding number	Acronym
Department of Science and Technology, Ministry of Science and Technology, India See opportunities by डीएसटी		डीएसटी
Science and Engineering Research Board See opportunities by SERB		SERB

Funding text

This work is financially supported by the Department of Science and Technology (DST), Science and Engineering Research Board (SERB) under the scheme of ECR. We thank DST_SERB for the financial support to carry the research work.

ISSN: 1943023X
Source Type: Journal
Original language: English

Document Type: Article
Publisher: Institute of Advanced Scientific Research, Inc.

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JALEEL, H.Q. , STEPHAN, J.J. , NAJI, S.A.

Products dataset analysis using data mining techniques

(2021) *Journal of Engineering Science and Technology*

Lydia, E.L. , Moses, G.J. , Varadarajan, V.

CLUSTERING AND INDEXING OF MULTIPLE DOCUMENTS USING FEATURE EXTRACTION THROUGH APACHE HADOOP ON BIG DATA

(2020) *Malaysian Journal of Computer Science*

Laxmi Lydia, E. , Sharmili, N. , Nguyen, P.T.

Automatic document clustering and indexing of multiple documents using KNMF for feature extraction through Hadoop and lucene on big data

(2019) *Test Engineering and Management*

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Document details - Existence of symmetric positive solutions for Lidstone type integral boundary value problems

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Turkish World Mathematical Society Journal of Applied and Engineering Mathematics

Volume 8, Issue 1, 2018, Pages 295-305

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Authors > Keywords >

Abstract

This paper establishes the existence of even number of symmetric positive solutions for the even order differential equation $(-1)^n u^{(2n)}(t) = f(t, u(t))$, $t \in (0, 1)$, satisfying Lidstone type integral boundary conditions of the form $u^{(2i)}(0) = u^{(2i)}(1) = \int_0^1 \alpha_i + 1(x)u^{(2i)}(x)dx$, for $0 \leq i \leq n - 1$, where $n \geq 1$; by applying Avery[Henderson fixed point theorem. © Işık University, Department of Mathematics, 2018.

SciVal Topic Prominence

Topic: Positive Solution | Integral Boundary Conditions | Three-Point Boundary Value Problem


Prominence percentile: 84.860

Author keywords

Cone fixed point theorem Green's function Integral boundary conditions Positive solution

ISSN: 21461147
Source Type: Journal
Original language: English

Document Type: Article
Publisher: Isik University


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Document details - A novel architecture for the realisation of IoT-enabled ecg signal quality assessment using wavelet decomposition for baseline wander removal

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Defence S and T Technical Bulletin

Volume 11, Issue 2, 2018, Pages 192-201

A novel architecture for the realisation of IoT-enabled ecg signal quality assessment using wavelet decomposition for baseline wander removal(Article)

Chukka, R.B., Kumar, C.S.

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^bDepartment of Electronics and Communication Engineering, GITAM Institute of Technology, India

Abstract

In this paper, a technique to remove baseline wander (BW) from electrocardiogram (ECG) signals based on wavelet decomposition and also a novel signal quality assessment-aware Internet of Things (IoT)- enabled ECG telemetry system for continuous cardiac health monitoring applications are proposed. The main objectives of this paper are to design and develop a ECG signal quality assessment (SQA) method for automatically classifying the acquired ECG signal into GOOD or BAD, and real-time implementation of the proposed IoT-enabled ECG framework using ECG signals taken from the Massachusetts Institute of Technology-Beth Israel Hospital Arrhythmia (MITBIHA) database. The ECG signals are preprocessed using notch filter at 50Hz, with wavelet decomposition used to remove BW noise that is present in the ECG signal. The processed ECG signal performance is mathematically calculated in terms of sensitivity, correlation criterion and signal-to-noise ratio. The experimental results demonstrated that the proposed ECG SQA performs well in terms of sensitivity, correlation and signal-to-noise ratio. © Science & Technology Research Institute for Defence (STRIDE), 2018.

Dival Topic Prominence

Topic: Alarm Monitor | Alarm | Warning Systems

Prominence percentile: 91.876

Author keywords

- Baseline wander (BW)
- Electrocardiogram (ECG)
- Internet of Things (IoT)
- Signal quality assessment (SQA)
- Tele monitoring

ISSN: 19856571

Source Type: Journal

Original language: English

Document Type: Article

Publisher: Science and Technology Research Institute for Defence

Chukka, R.B.; Department of Electronics and Communication Engineering, Vignans Institute of Engineering for Women, India;

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Chukka, R.B. , Kumar, C.S.

Analysis and comparison of ECG signal quality assessments methods

(2020) *Advances in Intelligent Systems and Computing*

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International Journal of Mechanical and Production Engineering Research and Development

Volume 8, Issue 5, 2018, Article number IJMPERDOCT201838, Pages 337-346

Experimental investigation and comparison of flank wear and surface roughness in turning of AISI 4340 steel using ceramic coated and uncoated carbide inserts (Article) (Open Access)

Pradeep, A.V., Suryam, L.V., Satya Prasad, S.V., Vahini, K.

Department of Mechanical Engineering, Vignan's Institute of Engineering for Women, Visakhapatnam, India

Abstract

Carbide inserts are most widely used for machining alloy steels which have wide applications in the industries. The present work is to investigate the influence of cutting parameters on surface roughness and flank wear in comparison with coated and uncoated carbide inserts. In this context, a single layer of titanium nitride (TiN) coating of 2µm thickness has been applied by the process of physical vapor deposition (PVD) on the carbide tool insert. The experimentation is carried out on AISI 4340 medium carbon alloy steel at multi-level cutting parameters. In this regard, a partial level mixed factorial was considered and an L18 orthogonal array is generated by design of experiments (DOE) in MINITAB15. Analysis of Variance (ANOVA) at a confidence level of 95% is used to analyze the effect of turning parameters on the responses. It is found that the type of insert is the most influencing parameter for both surface roughness and flank wear. However, a feed is the next influencing parameter on surface roughness and speed, feed on the flank wear. Scanning Electron Microscope (SEM) analysis was done for the coated and uncoated cutting inserts and the machined surface of the workpiece at the optimized cutting parameters obtained through the main effects plots. It is known that TiN coating possesses high wear resistance, good thermal stability and low coefficient of friction, which results in the better performance of the coated inserts as compared to the uncoated inserts in all given machining conditions. The flank wear and surface roughness are affected by ploughing effect, burring and formation of built-up edges (BUE) which are found to be less in the coated inserts. © TJPRC Pvt. Ltd.

SciVal Topic Prominence

Topic: Surface Roughness | Carbide Tools | Inconel (Trademark)

Prominence percentile: 98.812 1

Author keywords

Carbide inserts Flank wear SEM analysis Surface roughness Titanium nitride coating

ISSN: 22496890
Source Type: Journal
Original language: English

DOI: 10.24247/ijmperdoct201838
Document Type: Article
Publisher: Transstellar Journal Publications and Research Consultancy Private Limited (TJPRC)

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Cited by 1 document

Trung, D.D.

Application of topsis and piv methods for multi-criteria decision making in hard turning process

(2021) *Journal of Machine Engineering*

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International Journal of Agile Systems and Management
 Volume 11, Issue 4, 2018, Pages 340-363

Application of response surface methodology in evaluating the performance of conventional, wiper, cryogenically treated and coated (TiN, TiAlN and TiCN) carbide inserts in turning of AISI 52100 steel(Article)

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Abstract

The performance of untreated/uncoated, wiper, deep cryogenically treated, and coated (TiN, TiAlN and TiCN) carbide inserts using response surface methodology in turning of AISI 52100 steel, was evaluated in this study. Type of insert, cutting speed, feed and depth of cut were the factors investigated. The response variables analysed were tool flank wear and surface roughness. Basing on RSM central composite design, an experimental plan (L18 OA) was developed. The ANOVA results signify that the suggested mathematical models could adequately elucidate the performance indicators within the range. The generated regression equation reveals that the flank wear is mainly influenced by the type of insert followed by cutting speed. The surface roughness was majorly affected by the type of insert followed by cutting speed. Machined surface topographies and tool flank wear mechanism were analysed by examining the SEM micrographs. RSM multi-response optimisation was executed so as to optimise the turning parameters. Copyright © 2018 Inderscience Enterprises Ltd.

SciVal Topic Prominence

Topic: Surface Roughness | Carbide Tools | Inconel (Trademark)

Prominence percentile: 98.812

Author keywords

Coated carbide Cryogenic treatment RSM Surface roughness Tool wear Wiper insert

ISSN: 17419174
 Source Type: Journal
 Original language: English

DOI: 10.1504/IJASM.2018.095513
 Document Type: Article
 Publisher: Inderscience Publishers

Pradeep, A.V.; Department of Mechanical Engineering, Jawaharlal Nehru Technological University, Kakinada, AP, India;

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Allu, V.P. , Raju, D.L. , Ramakrishna, S.

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(2019) *Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology*

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Performance investigation of deep cryogenically treated and tempered carbide inserts in turning of Inconel 718

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Journal of Engineering and Applied Sciences

Volume 13, Issue 11, 2018, Pages 4205-4216

Personalized privacy preserving incremental data dissemination through optimal generalization(Article)

Reddy, S.R.P., Raju, K.V.S.V.N., Valli Kumari, V.

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Abstract

A need to unveil health information for several reasons such as for health services, payment in case of insurances, health care operations, research and so on is on high demand. Personal information is to be disseminated without revealing the individual's identity in all these circumstances. Tremendous work has been carried out to provide privacy for publishing static data. Existing anonymization methods such as k-anonymity and l-diversity models have led to a number of valuable privacy-protecting techniques for static data. This very postulation implies a substantial limitation as in many applications data collection is rather a persistent process. In places where data keeps on increasing on a daily basis, the current techniques are inadequate and suffer from poor data quality and/or vulnerable to inferences. A very diminutive work has been carried out in this direction and personalized privacy for incremental datasets has not been studied. In this study, we present a solution that presents incremental data dissemination in the context of personalized privacy using optimal generalization. An algorithm in incremental mode to handle personalized privacy issues with maximum diversity and minimum anonymity is proposed. The experiments on continuously growing real world and synthetic datasets show that the proposed scheme is efficient and produces publishable data of high utility.

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SciVal Topic Prominence

Topic: Anonymization | K-Anonymity | Big Data

Prominence percentile: 95.688

Author keywords

[High sensitive attribute](#) [Incremental data dissemination](#) [India](#) [Optimal generalization](#) [Personalization](#) [Privacy](#)

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Osman, H. , Siraj, M.M. , Maarof, M.A.

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(2021) 2021 3rd International Cyber Resilience Conference, CRC 2021

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 ISSN: 1816949X
 Source Type: Journal
 Original language: English

 DOI: 10.3923/jeasci.2018.4205.4216
 Document Type: Article
 Publisher: Medwell Journals

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Document details - Land cover classification using landsat-8 optical data and supervised classifiers

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International Journal of Engineering and Technology(UAE)

Volume 7, Issue 2, 2018, Pages 101-104

Land cover classification using landsat-8 optical data and supervised classifiers(Article)(Open Access)

Ramana Rao, K.V., Rajesh Kumar, P.

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Abstract

Land use and land cover information of an area has got importance in various aspects mainly because of various development activities that are taking place in every part of the world. Various satellite sensors are providing the required data collected by remote sensing techniques in the form of images using which the land use land cover information can be analyzed. Consistency of Landsat satellite is illustrated with two time periods such as Operational Land Imager (OLI) of 2013 and consecutive 2014 procured by earth explorer with quantified changes for the same period in visakhapatnam of hudhud cyclone. Since this city is consisting of mainly urban, vegetation, few water bodies, some area of agriculture and barren, five classes have been chosen from the study area. The results indicate that due to the hudhud event some changes took place. vegetation and built-up land have been increased by An increase of 19.1% (6.3 km²) and 11% (5.36 km²) has been observed in the case of vegetation and built up area where as a decrease of 1.2% (4.06 km²), 6.1% (1.70 km²) and 1.2% (0.72 km²) has been observed in the case of agriculture, barren land, and water body respectively. With the help of available satellite imagery belonging to the same area and of different time periods along with the change detection techniques landscape dynamics have been analyzed. Using various classification algorithms along with the data available from the satellite sensor the land use and land cover classification information of the study area has been obtained. The maximum likelihood algorithm provided better results compared to other classification techniques and the accuracy achieved with this algorithm is 99.930% (overall accuracy) and 0.999 (Kappa coefficient). © 2017 Science Publishing Corporation Inc.

SciVal Topic Prominence

Topic: Change Detection | Remote Sensing Image | Synthetic Aperture Radar

Prominence percentile: 97.722

Author keywords

Land cover classification LANDSAT-8 Maximum Likelihood Optical data

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Walidaroyani, A. , Ramdani, F. , Kurniawan, T.A.

Comparison of Land Cover Classification of Ir Sutami Dam Using Machine Learning and Multisource Satellite Imagery

(2021) ACM International Conference Proceeding Series

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ISSN: 2227524X
Source Type: Journal
Original language: English

DOI: 10.14419/ijet.v7i2.17.11567
Document Type: Article
Publisher: Science Publishing Corporation

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Document details - Low contrast image enhancement using Renyi entropy

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Defence S and T Technical Bulletin

Volume 11, Issue 1, 2018, Pages 113-122

Low contrast image enhancement using Renyi entropy(Article)

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Abstract

In this paper, an algorithm is proposed to enhance low contrast images using Renyi entropy. Renyi entropy concentrates on prominent amplitudes within a distribution, which allows the proposed enhancement algorithm to work in the edges efficiently without any artefacts. It is calculated from the 2D histogram which provides the information regarding the occurrence of each intensity value in the local grids. A mapping function is obtained from Renyi entropy that maps the input intensity to the corresponding output intensity in order to enhance the image. Further enhancement is achieved using discrete cosine transform (DCT) with the proposed algorithm. The experimental results show that the proposed algorithm provides better performance in terms of subjective and objective measures along with brightness preservation in the enhanced image. The method proposed for contrast enhancement can be effectively used in defence applications for the detection and identification of targets. © Science & Technology Research Institute for Defence (STRIDE), 2018.

SciVal Topic Prominence

Topic: Histogram Equalization | Image Enhancement | Graphic Methods

Prominence percentile: 95.315

Author keywords

2D histogram; Brightness preservation; Contrast enhancement; Discrete cosine transform (DCT); Renyi entropy

ISSN: 19856571
Source Type: Journal
Original language: English

Document Type: Article
Publisher: Science and Technology Research Institute for Defence

Dhurairajan, V.; Department of Electronics and Communication Engineering, Vignan's Institute of Engineering for Women, India;

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Vijayalakshmi, D. , Nath, M.K.
A Novel Contrast Enhancement Technique using Gradient-Based Joint Histogram Equalization

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Theoretical study on *p*-type D- π -A sensitizers with modified π -spacers for dye-sensitized solar cells

Wen Yan¹ · Kadali Chaitanya¹ · Zhi-Dan Sun¹ · Xue-Hai Ju¹

Received: 24 August 2017 / Accepted: 26 January 2018
© Springer-Verlag GmbH Germany, part of Springer Nature 2018

Abstract

Based on a prototype sensitizer W2, we designed triarylamine-based *p*-type sensitizers W2-1 to W2-7 that contain modified π -spacers (π'), a π -spacer and two anchors. For W2-1 to W2-4, instead of 2,1,3-benzothiadiazole in W2, thieno[3,4-b]-1,4-dioxin, thiophene, thieno[3,4-c][1,2,5]thiadiazole, thiazolo[5,4-d]thiazole are π' and thiophene as π -spacer. For W2-5 to W2-8, π' and π are same, with 2,1,3-benzothiadiazole, thieno[3,4-b]-1,4-dioxin, thieno[3,4-c][1,2,5]thiadiazole, thiazolo[5,4-d]thiazole, respectively, as the π' -spacers. Structure optimization, electronic level and absorption characters were calculated with density functional theory (DFT) and time-dependent DFT (TDDFT) at the CAM-B3LYP/6-311G (d,p). The solvent effect was involved using a polarized continuum model in chloroform. The results showed that the highest occupied molecular orbital and the lowest unoccupied molecular orbital guarantee sufficient hole injection (lower than -0.2 eV), and dye regeneration (lower than -0.2 eV). W2-4 has higher light-harvesting efficiency (LHE) (0.994) and larger overlap with the visible light from 400 nm to 600 nm. Finally, the results suggest that the driving force of hole injection, dye regeneration and charge recombination (ΔG_{inj} , ΔG_{reg} and ΔG_{CR}) of W2-4 are the best, with more negative ΔG_{inj} (-4.33), ΔG_{reg} (-1.74) and more positive ΔG_{CR} (1.92). Replacing 2,1,3-benzothiadiazole with thiazolo[5,4-d]thiazole as π' -spacers is a effective way to improve the performance of the dyes. An introduction of thiazolo[5,4-d]thiazole group can improve the absorption ability and hinder charge recombination.

Keywords Dye sensitized solar cells (DSSCs) · *p*-Type sensitizers · Density functional theory · Absorption spectrum

Introduction

Solar-to-electric-energy conversion has become an important technology due to its advantages over the use of fossil fuels, due to its inexhaustible, clean, environmentally friendly, and sustainable character [1]. The study of dye-sensitized solar cells (DSSC) attracts widespread interest as they are considered one of the most promising and low-cost solar cells. Grätzel and coworkers were the first to achieved notable success in this field, reporting a 7.1% conversion efficiency [2]. The cost of DSSC is much less than that of traditional *p-n*

silicon solar cells, and they also have greater versatility [3]. Later, high power conversion efficiencies of 13% were achieved with porphyrin sensitizers [4]. With the aim of pursuing more low-cost dyes, inexpensive metal complexes [5–7] and full organic dyes [8, 9] such as triarylamine-based dyes [10, 11] have also been investigated for DSSCs. Nevertheless, the problems that have hindered development of *p*-type dye sensitized solar cells [maximum efficiency reported [12] upon applying the Tris (acetylacetonato)iron(III)/(II) Redox Couple is $\sim 2.51\%$] have also prohibited the fabrication of high-efficiency tandem *pn*-DSSCs [13]. Therefore, a major goal in this field is to improve the efficiencies of *p*-type DSSCs [14, 15]. Unlike *n*-type DSSCs, in *p*-type DSSCs, the dye molecules absorb photons followed by the holes generated and injected into the valence band (VB) of the semiconductor, whereas electrons are pumped to highest occupied molecular orbital (HOMO) of the dye [16].

The synthesis of new dyes is time consuming; thus, theoretical investigation is considered as a highly efficient way to investigate the relationship between the molecular structures and chemical properties of dyes. Density functional theory

Electronic supplementary material The online version of this article (https://doi.org/10.1007/s00894-018-3596-9) contains supplementary material, which is available to authorized users.

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Published online: 24 February 2018



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