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PROCEEDINGS OF "CONFERENCE ON RECENT ADVANCES IN BIOMATERIALS DEC 17-18 '10"

HELD AT SAVEETHA SCHOOL OF ENGINEERING, SAVEETHA UNIVERSITY, THANDALAM, CHENNAI-602 105, TAMILNADU, INDIA

SAVEETHA UNIVERSITY
(Established Under Section 3 of UGC Act 1956)

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"Conference on Recent Advances in Biomaterials Dec 17-18 '10"
Held at Saveetha School of Engineering, Saveetha University, Thandalam, Chennai-602 105, Tamilnadu, India

SCOPE OF THE CONFERENCE

"The conference will provide a platform for discussing current advancements and future trends in biomaterials for medical and pharmaceutical applications. Through the synergistic approach of applied chemistry and physics, material science, electronics, mechanical engineering, biochemistry and medicine, this Conference on biomaterials includes how the deeper insight into biological events and its interplay with nanotechnology may support the development of a generation of novel materials, micro-nano-devices and molecular level approaches suited to solve relevant biomedical problems both for therapy and diagnostics. The conference will provide an excellent opportunity to meet and forge collaboration with large number of experts with diverse specializations including engineering, basic sciences, medical and dental professionals, etc. For the research scholars and students, CRAB 2010 will be an eye opener and an excellent opportunity to meet experts from various institutions in India and abroad."

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THEME 7
FINITE ELEMENT MODELIN OF BIOIMPLANTS

Abstract id:8

VARIOUS MAGIC LABELINGS OF GENERALIZED PETERSEN GRAPHS

J.Joy Priscilla, R.Sattanathan

Saveetha Engineering College, D.G.Vaishnav College, Chennai, Email: joypriscilla_77@yahoo.com

A generalized Petersen graph P(n,m), $n \geq 3$, $1 \leq m < \frac{n}{2}$ is a 3-regular graph with 2n vertices $u_1, u_2, \ldots u_n, v_1, v_2, \ldots v_n$ and edges (u_i,v_i), (u_i,u_{i+1}), (v_i,v_{i+m}) for all $i \in \{1,2,\ldots n\}$, where the subscripts are taken modulo n. P(5,2) is the standard Petersen graph. In this paper we study some important magic labelings of generalized Petersen graphs.

Keywords: Vertex magic labeling, Edge-magic labeling, Consecutive magic labeling, Edge-antimagic labeling, Petersen graphs

Abstract id:12

POWER QUALITY IMPROVEMENT USING SYMMETRICAL MULTIPULSE MODULATED THREE-PHASE AC REGULATOR FEEDING THREE-WIRE LOAD

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A three-phase a.c. controller using power MOSFETs operating in high-frequency chopping mode has been developed and simulated with resistive load. Power MOSFET embedded discrete component four quadrant switch (4QSW) realizations are used in the controller. The symmetrical multipulse modulation (SMM) technique is adopted, wherein; several equidistant pulses per half cycle (M) are used. Microcontroller based gate drive circuits are used for triggering the 4QSWs at the appropriate instants. The output voltage is smoothly varied using symmetrical multipulse modulation by varying the duty cycle, and the relevant MATLAB simulation results are furnished. It is shown that the lower order harmonics are substantially reduced in this method compared to the phase control scheme, certain harmonics, even being eliminated for certain values of M.

Keywords: MOSFETs, 4QSWs, symmetrical multipulse modulation (SMM)

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Abstract id:17

VARIOUS MAGIC LABELINGS OF GENERALIZED PETERSEN GRAPHS

J.Joy Priscilla, R.Sattanathan

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A generalized Petersen graph P(n,m), n ≥ 3, $1 \le m < \frac{n}{2}$ is a 3-regular graph with 2n vertices $u_1, u_2,\ldots u_n, v_1, v_2,\ldots v_n$ and edges (u_i,v_i), (u_i,u_{i+1}), (v_i,v_{i+m}) for all $i \in \{1,2,\ldots n\}$, where the subscripts are taken modulo n. P(5,2) is the standard Petersen graph. In this paper we study some important magic labelings of generalized Petersen graphs.

Keywords: Vertex magic labeling, Edge-magic labeling, Consecutive magic labeling, Edge-antimagic labeling, Petersen graphs

Abstract id:26

OPTIMIZING TRANSPORTATION PROBLEM BY DEVIATION METHOD

M. Priya

Department of Maths, S S E, Saveetha university

This paper represents a method called "Deviation Method", for solving transportation problems which are balanced. Using this method, Optimum solution to the Transportation Problem can be obtained directly without finding the initial solution and checking for optimality. Comparisons with other methods are uniformly favorable to this method, which runs more than twice as fast as the best alternative.

Keywords: "Deviation Method"

Abstract id:27

PRECAUTION AND PREVENTIONS OF MERCURY TOXICITY IN DENTISTRY – CLINICIAN'S CONCERN

M. Priya

Department of Maths, S S E, Saveetha university

In this paper we use number theoretic properties to classify ordinary graphs that are finite and have no isolated vertices, the classifications depends on whether there is an assignment of real values, usually rational integer values, to the edges of the graph such that the set of assigned values and the set of vertex sums of these values summed at each vertex over all the edges incident to the vertex will be the pair of sets with prescribed properties.

A graph G with 'p' vertices and 'q' edges is said to be magic if there exists a bijection $\lambda : V(G) \cup E(G) \to \{1,2,3.....p+q\}$ Such that for all edges UV of G.

$\lambda(u) + \lambda(v) + \lambda(uv) = k\lambda$, which is called magic constant and λ is called magic labeling of G.

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A graph G is called super magic if it has a magic labeling λ with all the conditions stated above and with an extra property that
$\lambda[V(G)] = \{1,2,3,.....p\}$
In this paper we can prove some necessary conditions for a regular graph to admit magic and super magic labeling.

Key Words: a bijection

Abstract id:34

FUZZY BASED POWER QUALITY IMPROVES THE TRANSIENT RESPONSE OF DOUBLY FED INDUCTION GENERATOR –BASED WIND TURBINES

J.S. Sathiyanarayanan, J. Jayashree
GKM college of Engg and Tech, Chennai

Problem of power quality is quite severe in wind energy conversion systems using induction generators. For power generation from wind induction generator are found to be the most appropriate choice. A statistical review was done to collect the data on various power quality issues like voltage variations , frequency variations, harmonics distortion , transients, flicker etc arising with the increased use of induction generator in the power system . Major problem is seen in voltage profile and frequency deviations with changing natural conditions such as wind speed and variation in load. The transient response is actually a critical dynamic characteristic of doubly fed induction generator-based wind turbines ,especially in the presence of fast transient events, such as ,for example, fault in power system .In the Current Mode Control(CMC)for the rotor side converter of these induction generator ,which is aimed to improve the transient response in relation to the dynamic performance achieved conventional CMC. Consider two grid fault scenarios of balanced, unbalanced voltages will be identified for Fuzzy technique. The problem of transients is predominant at the time of connecting / disconnecting the capacitors banks.

Key Words: capacitors,, frequency variations, harmonics distortion , transients

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Abstract id:38

MODELING OF LOW POWER NANO SRAM DESIGN THROUGH MIXED MODE SIMULATION BASED ON IDEAL MEMORY GENERATION METHOD

P. Sudhakiran

Saveetha School Engineering

In modern ICs, the trend of integrating more on-chip memories on a die has led SRAMs to account for a large fraction of total area and energy of a chip. Energy-Efficient and low-power SRAM design has been an important research area in industry and academia for many years. A low-power SRAM design based on the theory of energy recovery that reduces the dissipation associated with write operations while operating at high speed. The energy-recovery SRAM was evaluated through SPICE simulations and compared with a standard design. Simulation results of a 256´256 memory configuration indicate that, for successive write operations, energy savings for the different SRAM functions vary from 59% to 76% at 200 MHz operating frequency compared to the conventional design. It compares area scaling capabilities of many kinds of SRAM margin-assist solutions for variability issues, which are based on various efforts by

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not only the cell topology changes from 6T to 8T and 10T but also incorporation of multiple voltage supply for cell terminal biasing and timing sequence controls of read and write.
In this paper memories must be created using a memory generator or by contacting the vendor. The ideal memory generator creates a VHDL simulation model, entity and architecture, and a layout file specifying the size and connections of the memory. The memory is instantiated from the VHDL code by using exactly the same name and port connections. We simulated in HSPICE extracted portions of the two SRAMs for a 90nm CMOS technology. The simulations showed that energy recovery resulted in significant energy savings (e.g., 59% to 76%) for the different SRAM parts at 200 MHz. The energy recovery and the standard SRAM designs cannot be directly compared because they have different switching behavior.

Key Words: VHDL, SRAM, HSPICE

Abstract id:88

IMPLANT BIOMATERIALS

Siddhartha Sasikumar

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The Biocompatibility Profiles Of Synthetic Substances Used For The Replacement Or Augmentation Of Biological Tissues Have Always Been A Critical Concern With The Health Care Disciplines.Special Circumstances Are Associated With Dental Implant Prosthetic Reconstruction Of The Oral-Maxillofacial Areas Because The Devices Extend From The Mouth Across The Protective Epithelial Zones, Onto Or Into The Underlying Bone.This Paper Elucidates The Properties Of Biomaterials And Their Biological Significance.

Key Words: Biocompatibility, Biological Significance

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