

CONTENT

RESEARCH ARTICLE

Simulation of Replica Allocation Algorithm in Adhoc Networks with Timestamping Method

BG Premasudha, Sreekanth P Krishnan and B Suryanarayana Adiga.....1

ABSTRACT:

Mobile Ad Hoc Network (MANET) is a self-organizing, rapidly deployable network of wireless nodes without infrastructure. Mobile nodes of a MANET also function as routers. Disconnection often occurs due to mobility and causes frequent network division. Disconnected partitions decrease data accessibility. In replica allocation, the data items will be copied or replicated and will be stored in more than one machines so that even if a machine cannot access the owner of a data, it can access the data from some other machines which have the replica. In this paper we have simulated a replica allocation algorithms using OMNeT++ and also used the time stamping property to avoid inconsistencies of data in the network.

KEYWORDS: Ad hoc networks, replica allocation, data accessibility, mobile computing environment, time stamping, OMNeT++

Development of Virtual Structural Dynamics Lab (VSDL): Modal Analysis Tool

MK Gupta and AJ Singh.....6

ABSTRACT:

With the advent of computer and computer based analytical methods it is very easy today to perform complex and time consuming calculation within a second ; and the humanity learn what a fraction of seconds means whether it comes in context of Earthquake, Tsunami or Hurricane. Due to increasing demands of high rise buildings the subject Structural Dynamics added to syllabus of Under Graduate as well as in Post Graduate students to understand the concept of structural dynamics and this is very important for the practicing structural engineers also. But calculations and interpretation of results involves very time consuming calculations and without using computers it becomes almost impossible when numbers of storey increases above five stories. While performing manual calculations chances of errors are very high so, we have to depend on the software available to perform Dynamic Analysis and source code of them are not open type so novices find difficulty understand it properly. In view of above all difficulties; this project aims in developing a spreadsheet open source program using Visual Basic for applications in Microsoft Excel on Modal Analysis of structural dynamics. Modules of 2-Degrees of Freedom, 3-Degrees of Freedom and 4-Degrees of Freedom developed; testing and verification performed intensively to check the results with standard reference books of structural dynamics.

KEYWORDS: Structural Dynamics, Virtual Structural Dynamics Lab, Spreadsheet for Structural Dynamics, Degrees of Freedom Systems.

A Stance on Challenges with Current Internet and Approaches for Future Internet

AK Dwivedi, VK Patle and OP Vyas.....11

ABSTRACT:

The expansion of the Internet, worldwide network of interconnected computer networks based on the TCP/IP standard communication protocol, was driven over last 30 years by the exchange of data between hosts such as server platforms and Personal Computers (PCs). Today, the Internet has become essential for enabling data information flow exchanges all over the world enabling in turn a wide range of applications and services. The aim of this contribution to explore the challenges currently faced by Internet community, trying to identify the root of problem and finally presents the directions where Internet can move.

KEYWORDS: Internet, Layered Architecture, Service Oriented Architecture, Future Internet, Clean Slate Approach

Growth and Instability: An Inter Zonal Analysis of Kharif and Rabi Crops in Chhattisgarh

G. Shankar, Alok Shrivastava and R. R. Saxena.....18

ABSTRACT:

With the advent of modern agricultural technology, especially during the period of the Green Revolution in the late sixties and early seventies, there is a continuous surge for diversified agriculture in terms of crops, primarily on economic considerations. The present study aimed at examining the compound growth rate and instability status of during Kharif and Rabi season crops of Chhattisgarh. Zone wise time-series data for a period from 1974-75 to 2004-05 on area, production and productivity of each of the individual major crops were utilized for the study. The study revealed that the rice and sesamum were the crop in which high growth rate accompanied by high instability in all the three agro climatic zones of Chhattisgarh. In last 33 year during kharif season none crop exhibited high growth rate with decreasing instability in Chhattisgarh plain but for northern hilly region and baster plateau showed continuous high growth rate. In Rabi season gram was the crop depicted continuous fluctuation i.e. increasing instability with high compound growth rate. while lathyrus was the crop exhibited decreasing instability accompanied by high growth rate in case of zone I while in case of northern hilly region and baster plateau growth rate were below 2%. The all the three agro climatic zones of Chhattisgarh during last three decade high growth rate accompanied by high instability in the production of the selected Kharif and Rabi season crop.

KEYWORDS: Kharif and Rabi season, compound growth rate, Instability, Analysis

Synthesis and characterization of some Cobalt Phthalocyanine Carboxylamide used in the Merox Process

Rumi Choudhary, PK Chaudhari, Amit Keshav and RK Singh.....24

ABSTRACT:

Phthalocyanines (Pc) are widely used as catalysts in the process of removal of mercaptans in petroleum refining industries. Conventional separation processes using organic solvents could not be used in the above process as many Pc compounds have intermolecular interactions with macrocycles and the complexes are practically insoluble in these solvents. Considerable efforts have been made to generate new Pc derivatives possessing enhanced solubility characteristics. It has been found that Pc compounds bearing liophilic/hydrophilic substituents on the periphery such as different metals modulate the catalytic activity to a great extent. In the present paper, new Pc catalysts were synthesized [cobalt phthalocyanine tetra-carboxylamide (CoPc(CONH₂)₄) and cobalt phthalocyanine

di-carboxylamide (CoPc(CONH₂)₂) using facile synthetic route and characterized by C,H,N,MS,UV-Vis and IR. The activity of the generated catalysts could be further compared with the simple unsubstituted metal phthalocyanine and some commercial catalysts.

KEYWORDS: Phthalocyanines, catalyst, catalytic activity, solubility, derivatives.

Surface Water Treatment Using Ultrafiltration

AR Warade.....27

ABSTRACT:

This paper deals with the study of surface water treatment by ultrafiltration process for drinking purpose. Total Dissolved Solids contains organic and inorganic impurities. The experimental studies were carried out using an ultrafiltration pilot plant and raw water from Pravara River as feed. After the primary treatments the surface water was treated through microfiltration which removed the maximum total suspended solids. Then it was processed through Ultrafiltration membrane process which was capable for the removal of large amount of total dissolved solids from the surface water. After treatment of water by ultrafiltration it meets the water quality standards given by Maharashtra Pollution Control Board (MPCB), Central Pollution Control Board (CPCB) and world Health Organization (WHO).

KEYWORDS: CPCB, Microfiltration, MPCB, Surface water, Ultrafiltration

Analysis of R C Beams Strengthened With F R P Plates

Shraddha Sharma and Hitesh Sharma31

ABSTRACT:

Many factors affect the strength and ductility of beams strengthened with fiber-composite plate to address the effect of some of the basic variables the present paper focus on the objectives

(1) To present analytical model that predict the stresses and deformation in the concrete beams strengthened with epoxy- bonded fiber- composites plat. simplified analytical methods are presented to predict stresses and deformations in rectangular and T-beams strengthened with epoxy bonded FRP-plated.

The strains and stresses in the FRP plate, steel rebar and concrete as well as the curvature at midspan are calculated using an incremental deformation technique described in the following. For the convenience of calculation, strain in the extreme fiber of concrete, rather than the load, is increased in specified increments to generate the moment curvature curves.

KEYWORDS: Reinforced concrete beam, F.R.P , stress strain curve

Visualization and Analysis of Epidemical Data of Tumkur District Hospital using GIS.
BG Premasudha, Shivakumarswamy and BS Adiga42

ABSTRACT:

Disease data analysis and sharing is important for the collaborative preparation, response, and recovery stages of disease control. Disease phenomena are strongly associated with spatial factors. Web-based Geographical Information Systems (WGIS) provide a real-time and dynamic way to represent disease information on maps. WGIS provides excellent means for visualizing and analyzing epidemiological data, revealing trends, dependencies and inter-relationships. GIS serves as a common platform for convergence of multi-disease surveillance activities. This paper focuses on presenting a WGIS application created for studying distribution of malaria patients in Tumkur city, India. The application covers two main epidemiological issues: (i) defining the spatial distribution of malaria patients; and (ii) modelling spatial variation of malaria in the city. This study is useful to find out patient distribution, patient data classifications and accessibility to hospital. The spatial data infrastructure can enhance the efficiency and effectiveness of public health surveillance for India in district levels.

KEYWORDS: Web-GIS, Thematic mapping, surveillance, epidemics.

An Effective Method for Transferring Color to Gray Scale Image Using Luminance Matching Without Human Intervention
Yogesh Rathore, Avinash Dhole and Ram Nivas Giri47

ABSTRACT:

In this paper, we are proposing a fully automatic method for adding colors to grayscale images. In contrast to many previous computer-aided colorizing methods, which require intensive and accurate human intervention, this method needs only the user to provide a target gray level image for the process of 'colorization', a colorful image of the similar content as the grayscale image is automatically retrieved from the database of images, as an input source image. Then, the source and target image are both transformed into a perceptually de-correlated color space. In this color space a best matching source pixel is determined for each pixel of the target image. The matching criterion uses the first order statistics of the luminance distribution in a small window around the source and target pixels. Once a best matching source pixel is found, its chromaticity values are assigned (transferred) to the target pixel while the original luminance value of the target pixel is retained. The only requirement of the method is that the compositions of the source and target scenes resemble each other.

KEYWORDS: Image Coloring, image retrieval, Color Transfer, Luminance Matching

An Algorithm for Enhancing Security of Medical Image
Love Verma and Ram Nivas Giri50

ABSTRACT:

The traffic of digital images has grown rapidly in the Internet. Security of image becomes important for many sectors mainly for medical applications. Nowadays, the transmission of medical images is a daily routine; especially over wireless (battlefields, traffic accidents, etc). This work presents a hybrid algorithm

that combines image encryption and watermarking technique for safe transmission purpose. This method is based on the combination of public private keys and secret key ciphering, and watermarking. The encryption algorithm with secret key is applied to the image. We encrypt the secret key with an encryption method based on public-private keys. Then, this secret key is embedded in the encrypted image. We have applied and showed the results of our method to medical images. We describe how it is possible to combine the techniques of encryption and watermarking in images. Indeed, we constructed a new method with encryption algorithm with secret key for the image, with encryption based on public private key for the secret key and with watermarking method.

KEYWORDS: Image encryption, Watermarking, Stream cipher

ADMINISTRATIVE, EDITORIAL, ADVERTISING AND SUBSCRIPTION OFFICE

A and V Publication, E-282 'Saikripa' Sector-4, Pt. Deendayal Upadhyay Nagar, Raipur 492010. (CG) India

Phone No. +919406051618. E. mail: editor.rjet@gmail.com; Website: www.anvpublication.org