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（小兔—2005）

2005 年 1 月 14 日到 15 日

元智大学 2619 & 3104

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Responsibilities of the Presenter

- Presenters should arrive at the session in which they are presenting 15 minutes before the start of the session and introduce themselves to the session Chairperson.
- At this time the slides may be uploaded onto the computer in the presentation room. The chairperson of the session will assist.
- At the end of each session a group picture will be taken of the presenters.

Responsibilities of the Chairperson

- The chairperson should arrive 30 minutes before the start of the session for which they are chairing.
- He/she will assist the presenters to upload their viewgraphs onto the computer before the start of the session.
- During the session, he/she will introduce the speaker. The chairperson is also responsible for making sure the session runs on time. At 10 minutes into the talk the chairperson will clap on his desk once. At 12 minutes the chairperson will clap twice on the desk. At 15 minutes he will require the speaker to stop, even if the speaker has not finished his/her presentation.
- After a presentation is finished, the chairperson will ask for questions, and if none, will then allow the next presenter to speak.
- At the end of each session a group picture will be taken of the chairperson with the presenters.

Responsibilities of the Audience

- Members of the audience should refrain from talking during the presentation.

Session 1 January 14, 2004 from 8:00 to 10:30 AM

Chair: Charlie *Location: 2619*

New Approach to Intelligent Control Systems with Self-Exploring Process

Liang-Hsuan Chen and Cheng-Hsiung Chaing
Dept. of Electrical Engineering, Yuan Ze University, Taoyuan 320 Taiwan, ROC
s937110@mail.yzu.edu.tw

Abstract: For generating new behavior in a unpredictable environments, most traditional intelligent controller systems are lack flexibility. For dealing with these problems, we investigated the new approach of intelligent control system called self-exploring-based intelligent control system.

INSPEC codes: C33 - Control applications

Fuzzy PI Control Design for an Industrial Weigh Belt Feeder

Yanan Zhao and Emmanuel G. Collins, Jr.

Abstract: An industrial weigh belt feeder is used to transport solid materials into a manufacturing process at a constant feedrate. It exhibits nonlinear behavior because of motor friction, saturation, and quantization noise in the sensors, which makes

INSPEC codes: (C33) Control applications; (C01) General control topics;

Audio Morse Code Recognition and Translation System Design

Y. J. Chang and Y. S. Chen
Dept. of Electrical Engineering, Yuan Ze University, Taoyuan 320 Taiwan, ROC
s901031@mail.yzu.edu.tw

Abstract: This paper presents an automatic system, which can recognize audio files with Morse codes, as well as translate them into useful characters. Our experiments confirm the feasibility of the proposed system.

INSPEC classification: (C78) Other computer applications;

The Design of Signal Scaling for a 16-QAM DMT Transceiver Realized on a DSP Platform

Daniel Hung
Dept. of Communications Engineering, Yuan-Ze University, Taoyuan 320, Taiwan, R.O.C.
s938439@mail.yzu.edu.tw

Abstract: A DMT signal scaling design procedure to obtain the best transceiver noise performance is presented. The experimental results demonstrate that under the proper scaling BER of the DMT transceiver can approach a very small value.

INSPEC Codes: (B60) Communications;

Solutions for Product Configuration Management-An Empirical Study

Jinn-Yi Yeh, Tai-Hsi Wu, Ju-Ming Chang
Department of Industrial Engineering, Da-Yeh University, Taiwan (R.O.C.)
Author E-mail address: s939504@mail.yzu.edu.tw

Abstract: This paper presents a decision-making scheme through constructing a product family model (PFM).The genetic algorithm (GA), used to find a near-optimal configuration/solution. The other is mathematical programming (MP), used to verify the solution of GA.

ISSN code 0890-0604

ROBUST ADAPTIVE FUZZY CONTROL FOR WING ROCK SYSTEMS

Chih-Min Lin, Te-Yu Chen, Ming-Chia Li and Chiu-Hsiung Chen
Department of Electrical Engineering, Yuan-Ze University, Chung-Li, Tao-Yuan, 320, Taiwan, Republic of China
E-mail: cml@saturn.yzu.edu.tw

Abstract: The robust adaptive fuzzy control (RAFC) system is comprised of the computation and the robust controllers. The design methodology is applied to control a wing rock system. Simulation results achieve tracking performances for the system.
Codes: 0-7803-8560-8/04/$20.00©2004IEEE

2.4 GHz Power Amplifier Design with 1.5 W Output Power for WLAN Applications

Frank Chen
Dept. of Communications Engineering, Yuan Ze University, Taoyuan 320 Taiwan, ROC
S928421@mail.yzu.edu.tw

Abstract — This paper presents a heterojunction bipolar transistor power amplifier design with current mirror bias network linearizer for the IEEE 802.11g wireless applications. The power amplifier is implemented by the InGaP/GaAs technology with almost no additional die area and DC current consumption.
Codes: B13 Microwave technology

Session 2: January 14, 2004 from 10:30 to 12:30 AM

Chair: Frank Chen *Location: 2619*

Use VHDL to accomplish a 8-bit full adder without process

Wu shao mao , Liu chih chun(kingsley) and cadman
Dept. of Electrical Engineering, Yuan Ze University, Taoyuan 320 Taiwan, ROC
S901042@mail.yzu.edu.tw

Abstract: In order to be familiar with the VHDL code and control the whole circuit, this time we have some limitation—do not use any loop syntax—during design. By this case we can be a better designer in the future.

INSPEC codes: (B20) COMPONENTS, ELECTRON DEVICES AND MATERIAL;

Design of Arithmetic Logic Unit for specially requirement in Vary Large Scale Integration

Po An Shen and Ying Hao Ma
Dept. of Electrical Engineering, Yuan Ze University, Taoyuan 320 Taiwan, ROC
s901050@mail.yzu.edu.tw ; s901049@mail.yzu.edu.tw

Abstract: Design an Arithmetic Logic Unit (ALU) with two 4bits input. ALU can be an adder , subtracter or accumulator . The Logic Unit inside ALU can compare two inputs or transform input into 2's complement .

INSPEC codes**:** (B22) Printed circuits, hybrid integrated circuits and molecular electronics;

ADC (Analog to Digital Converter) in VLSI tech

Fanta
Dept. of Electrical Engineering, Yuan Ze University, Taoyuan 320 Taiwan, ROC

Abstract:Design an 8bits ADC circuit and realize it by VLSI .In a form of Interpolating and folding , accord to TSMC 0.35 Process . Finally, using LAKER to picture and simulate in H-spice.

Inspect Code:(04EX797)

Novel Java RMI Middleware Design for Active Networks

Meng-Chun Wueng, Fu-Fang Yang, and Cheng-Zen Yang
Dept. of Computer Science and Engineering, Yuan Ze University, Taoyuan 320 Taiwan, ROC
{jun,jally,czyang}@syslab.cse.yzu.edu.tw

Abstract: ActiveRMI is proposed to enhance the invocation performance of Java RMI by employing active networks infrastructure with a code caching scheme. In ActiveRMI, system availability is increased; and system load and network traffic is reduced.

INSPEC codes: (B62) Telecommunication;

High Step-up DC-DC Converter for Fuel Cell Generation System

Chung-you Lin
Dept. of Electrical Engineering, Yuan Ze University, Taoyuan 320 Taiwan, ROC
mario3430@hotmail.com

Abstract: Fuel cell has the power quality of low voltage. A newly-designed high step-up DC-DC converter is developed in the PEMFC system constructed on the basis of voltage-clamped and soft-switching techniques for increasing the conversion efficiency.

INSPEC codes: (B86) Industrial applications of power

Incorporation, Characterization, and Conversion of Negative Rules into Fuzzy Inference Systems

Jerry S. Branson and John H. Killy
Dept. of Electrical and Computer Engineering, University of Louisville, Louisville, KY 40292 USA
jlilly@louisville.edu

Abstract: The paper considers the incorporation of negative examples into FIS and the modification of control surface due to the negative rule. Finally, it was used into an inverted pendulum controller and a simple steering control of a robot.

INSPEC codes: (C13) Control theory;

Car-Following Collision Prevention Control Using Recurrent Cerebellar Model Articulation Controller

Chih-Min Lin Chiu-Hsiung Chen Chi-Jui Kao Wei-Liang Chin
Department of Electrical Engineering, Yuan-Ze University,
Chung-Li, Tao-Yuan, 320, Taiwan, R.O.C.
s937106@mail.yzu.edu.tw

Abstract: This paper presents an adaptive recurrent cerebellar-model-articulation-controller (RCMAC) for the car-following collision prevention system. Finally,Simulation results show that this method can provide a safe car-following control.
INSPEC codes: (C13) - Control theory ;

Session 3: January 14, 2005 from 13:30 to 15:30 PM

Chair:Fanta *Location: 2619*

Smart Appliance Home Control Network Development Procedure

Yu-Ping Tsou and Tim Lin
Energy & Resources Laboratories Industrial Technology Research Institute
0J200, ERL/ITRI Bldg.51,195 Sec.4,Chung Hsing Rd. Chutung, HisinChu, Taiwan 31040,R.O.C.
Eileen@itri.org.tw

Abstract: Appliance technology will be toward digitalized and smart in the 21 century. This paper depicts the power line control network communication technology for low speed smart appliance is the Simple Control Protocol provided by Microsoft.
INSPEC codes: (B6240J) Power line system; (C3370G) Data transmission;

Neuro-Fuzzy Control of a Robotic Exoskeleton With EMG Signals

Kazuo Kiguchi, Member, IEEE, Takakazu Tanaka, and Toshio Fukuda, Fellow, IEEE

Abstract：We have been developing robotic exoskeletons to assist motion of physically weak persons such as elderly, disabled, and injured persons.A hierarchical neuro-fuzzy controller for the robotic exoskeleton, and its adaptation method.

INSPEC codes: (C33) Control applications;(C30) CONTROL TECHNOLOGY

Near Field Test Facility Design

Wen-Lung Hsu and I-Fang Chen
Dept. of Electrical Engineering, Yuan Ze University, Taoyuan 320 Taiwan, ROC
whitejd@xiaotu.com

Abstract: Charge transport in MEH-PPV is found to be highly dependent on nanometer sized domains. Physical domain size and orientation are correlated with charge transport using time of flight technique and X-ray diffraction.

INSPEC codes: (B72) Measurement equipment and instrumentation systems

Particle filter for multi-target tracking

Chun-Hsien Lee and Jun-Wei Hsieh
Dept. of Electrical Engineering, Yuan Ze University, Taoyuan 320 Taiwan, ROC
s937116@mail.yzu.edu.tw

Abstract: Particle filter is a famous algorithm in object tracking. Basically, it combines Monte Carlo and Bayesian theory to predict the possible location of the moving object on the next frame in the time domain

INSPECT codes: (C78) Other computer applications；

Visual Halftone-based Secret Sharing System

Supervisor:Junwei Hsieh Author:Hongru Jhou
Department of Electric Engineering
Yuan Ze University
E-mail:s901110@mail.yzu.edu.tw

Abstract:A halftone-based secret sharing system is proposed to hide a visual secret image to several images. When decoding, this system uses a very simple overlapping operation to extract the desired secret from these visual images.

INSPEC codes: C6130B Graphics techniques C5260B Computer vision and image processing techniques

Development of Adaptive Sliding-Mode Control for Nonlinear Dual-Axis Inverted-Pendulum System

Rong-Jong Wai*, Jeng-Dao Lee, and Li-Jung Chang
Department of Electrical Engineering
Yuan Ze University, Chung Li 320, Taiwan, R.O.C.
E-mail:s937107@mail.yzu.edu.tw

Abstract-Since inverted-pendulum mechanism is highly nonlinear and time varying system, it's difficult to design. An adaptive sliding-mode control which is implemented to control a dual-axis inverted pendulum that is driven by PMSM is investigated to relax the requirement of the bound of lumped uncertainty in the traditional one.

INSPEC code: (C33) Control applications;

Vision-based Surveillance System for Parking Management

JunWei Hsieh and YenChih Lin
Dept. of Electrical Engineering, Yuan Ze University, Taoyuan 320 Taiwan, ROC
shieh@saturn.yzu.edu.tw

Abstract: "Vehicles and Humans Recognition" is one part of the system for parking lot management. We use geometric features and deterministic non-model based approach to classify the information we get from the video camera.

INSPEC codes: (C61) Software techniques and systems;

Vision-based Surveillance System for Parking Management

Jun Wei Hsieh, Tsunling Ho
Dept. of Electrical Engineering, Yuan Ze University, Taoyuan 320 Taiwan, ROC
shieh@saturn.yzu.edu.tw

Abstract
"License Plate Recognition" is one part of the system. Histogram equalization process and morphology are used to detect license plates, and then the license plates are rectified if they are slanted. Lately, the contents of it will be recognized with the character analysis algorithm
INSPEC codes: C61 (Software techniques and systems)

Session 4: January 14, 2005 from 18:30 to 20:30 PM

Chair: Tsunling Ho *Location: 2619*

The Signal Transferring Principle of Basic RFID

Dr.Sau-Mau Wu and Yu Chun-Hao (Charlie)
Dept. of Electrical Engineering, Yuan Ze University, Taoyuan 320 Taiwan, ROC
chpckimo@yahoo.com.tw

Abstract:RFID is used as a wireless identification for transferring tags or information to other diveces . Basic RFID circuit and signal are implemented by computer program and hand writing analysis .
INSPEC code : (04TH8724)RFID Inplementation

An investigation into reducing static electricity in Substrate

T. H. Huang
Dept. of Electrical Engineering, Yuan Ze University, Taoyuan 320 Taiwan, ROC
huangcox@mail.cptt.com.tw

Abstract:The static electricity produce great influence in TFT-LCD production. We usually use ionizer bar and soft X-RAY to synthetic the static electric charge .To control lift pin action more smoothing when stripping off substrate can surmounted.

General codes: (E15.0000) production technology;

Quality of service support in IEEE 802.11 wireless ad hoc networks

Jamal N. Al-Karaki
Department of Electrical and Computer Engineering, Iowa State University, Ames, IA 50011, USA
Jamalr@computer.org

Abstract: Quality of service support in IEEE 802.11 wireless ad hoc networks In order to support the transmission of real-time data, a polling based scheme called the point coordination function (PCF) was introduced in IEEE 802.11.That is more import issue about QOS.
OCIS codes: (060.4250) Networks

Face detection and tracking system

C. C. Chen and J.W. Hsieh
Department of Electrical Engineering, Yuan Ze University, Taoyuan, Taiwan, ROC
s937114@mail.yzu.edu.tw

Abstract: A smart system that combines the Ada-Boosting algorithm on face detection and the mean shift prediction algorithm on face region tracking provides more applications on it.
INSPEC codes: (C78) Other computer applications;

A Comparative Analysis of Automatic Meter Reading Solutions

Dick Chen
Dept. of Electrical Engineering, Yuan Ze University, Taoyuan 320 Taiwan, ROC
s937153@mail.yzu.edu.tw

Abstract: In this study, a comparative analysis will be performed using Modbus over Tcp/ip based technologies to assess technology applicability, to evaluate overall system performance and life time costs and reliability.
INSPEC codes: C32 - Control equipment and instrumentation;

The Application of PID Controller

Chia H. Chuang, Jong C. Wang
Dept of Electrical Engineering, Yuan Ze University, Tao Yuan, R.O.C.
s937131@mail.yzu.edu.tw

Abstract: Control valves is operated by 'PID Controller' with system 'FCS'. In the procedure, 'FCS' orders 'PID Controller' to send commands and receive feedback signals to each valves in order to maintain all system be controllable.

INSPEC codes: C33-000.0000 General;000.0000

ELEVATOR CONTROL SYSTEM

Chen,Tsai-Tien
Dept. of Electrical Engineering, Yuan Ze University, Taoyuan 320 Taiwan, ROC
s937129@mail.yzu.edu.tw

Abstract: In the elevator control system. Utilizing advanced, 32 bit microcomputer technology, the microprocessors with IGBT(Insulated Gate Bipolar TranSistor) design to the elevator main controller, elevator car top, car operating panel, and hall operating stations.

INSPEC codes: (C33) Control applications;

Web Based System Implement for Image Processing

Miro Cho
Dept. of Electrical Engineering, Yuan Ze University, Taoyuan 320 Taiwan, ROC
S937150@mail.yzu.edu.tw

Abstract: With the WWW becoming a major source of information, a growing number of image are published and accessed on-line. We try to developing a Image Processing System based on Web with several popular Database tools.

OCIS codes: (100.2000) Image processing;

Session 5: January 15, 2005 from 08:00 to 10:00 (AM)

Chair: Miro Cho *Location: 3104*

Source/Load-Pull Characterization of InGaP/GaAs HBT for Power Amplifier Designs in OFDM System Applications

Chien-Chang Huang and Kuan-Yu Chen
Dept. of Electrical Engineering, Yuan Ze University, Taoyuan 320 Taiwan, ROC
S939107@mail.yzu.edu.tw

Abstract: In this paper the InGaP/GaAs HBT's are characterized by means of source/load-pulling measurements with OFDM signal stimulus for linear power amplifier designs. The resulting contours for various parameters including output powers, ACPR, and EVM are

OCIS codes: (B13) Microwave technology

Ethernet PONs:A Wurvey of Dynamic Bandwidth Allocation Algorithm

Michael P. McGarry,Martin Maier,Martin Reisslein
Arizona State University
Centre Tecnolôgic de Telecomunicacions de Catalunya

Abstract: Optical networks are poised to dominate the access network space in coming years. Ethernet passive optical networks uses dynamic bandwidth allocation schemes to allocate Fiber to the curb or home bandwidth.

OCIS codes: 060.4250 Fiber optics and optical communications Networks

Electro-Photography Printing Technology Apply In Fine Metal Line Pattern

Author：Yu,Cheng-Hung; Supervisor : Liou,Zong-Ping
Yuan Ze University ,No.135,Yuandong Rd, Jhongli City, Taoyuan Country 320
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Abstract: Beside commercial photograph, Ink Jet technology has been invented for industrial purpose in metal conductive wire. Fine metal line, below 3 mil, would be produced by improving printer's resolution and location precision and electroless plating process.

OCIS codes：100.3020 Image reconstruction-restoration; 100.5010 Pattern recognition and feature extraction; 150.3040 Industrial inspection; 230.0040 Detectors

Design of A Novel Nonzero-order Joint Transform Correlator System with Stokes Relations for Synthetic Aperture Radar Pattern Recognition

Chung-Cheng Lee, Chulung Chen
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(NSC-93-2215-E-155-001)

Abstract: We present a nonzero-order joint transform correlator system with the Mach-Zehnder for synthetic aperture radar pattern recognition. The proposed method can achieve optimum performance and remove directly the large zero-order term in one step.

OCIS code: (070.5010) Pattern Recognition and Feature Extraction.

A calibration method of parallel projection beams for 3-D profile measurement

Chung Ping Liu and Tien-Jung Fan
Dept of Mechanical Engineering ***Yuan Ze University, Taoyuan 320 Taiwan, ROC***
s939106@mail.yzu.edu.tw

Abstract： A calibration algorithm for the parallel projection beams of 3-D profile measurement system was presented. Through the calibration process and mathematical manipulations are required to assure the measurement accuracy.

OCIS codes: (120.6650) Surface measurements, figure;

Application and developments of ITO glass

Shaoen Chen
Dept. of Electrical Engineering, Yuan Ze University, Taoyuan 320 Taiwan, ROC
Shaoen522@hotmail.com.

Abstract: ITO target sputtered to glass to form thin film ITO glass. ITO is a glass with high transmission, low resistivity, easy patterning,and environmental resistence. It can be used on Display like LCD, PDP,etc.Also low E glass and Solar Cell.

OCIS codes: 310.6860 Thin films, optical properties

The New Re-writable Disc system for Digital Versatile Disc

Eiji MURAMATSU, Atsushi YAMAGUCHI, Kunihiko Horikawa, Masahiro KATO, Shoji TANIGUCHI, Satoshi JINNO, Masataka YAMAGUCHI, Hideo KUDO and Akiyoshi INOUE

AV & Recording Development Center, pioneer Electronic Corporation, 2610 Hanazono 4 chome, Tokorozawa-shi, Saitama 359, Japan

Abstract: The authors have developed a new re-writable disc system named digital versatile disc (DVD)-RE. The basic concept of this system consists of the following characteristics.

OCIS codes: (210.4810) Optical storage-recording materials;

Novel In-Service Supervisory System Using OTDR for Long-Haul WDM Transmission Link Including Cascaded In-Line EDFAs

Pilhan Kim, Student Member, IEEE, Hosung Yoon, Jae-eun Seo, Kitae Jeong, Ki-Won Ryoo, Kyu-Haeng Lee, and Namkyoo Park, Member, IEEE

Optical Communication Systems Laboratory, #015, School of EECS, Seoul National University, 151-742 Seoul, Korea

nkpark@plaza.snu.ac.kr

Abstract: A novel optical supervisory system for long-haul wavelength division multiplexing transmission link is proposed. It was possible to monitor the status of the WDM transmission link and EDFA at in-service states with negligible power penalty.

OCIS codes:（060.2360）Fiber optics links and subsystems;

Session 6: January 15, 2005 from 10:30 to 12:30 (AM)

Chair: Yu,Cheng-Hung: Location: 3104

Optical memory effect in a deformed helix ferroelectric liquid crystal

Anil K. Sarabjot Kaur, Sukhwant S. Bawa, and Ashok M. Birafar

The authors are with the Polymeric and Soft Material Section, National Physical Laboratory, Dr. K. S. Kirshnan Road, New Delhi, India, 110012. A. M. Biradar's e-mail address is abiradar@mail.nplindia.ernet.in.

Abstract: Optical memory in a deformed-helix ferroelectric liquid crystal is proposed by deforming the helix under the application of a square-voltage pulse of known magnitude and frequency.

OCIS codes: (160.3710) Liquid crystals;

Inorganic Write-Once Disc for High Speed Recording

Hiroyasu INOUE, Kouji MISHIMA, Masaki AOSHIMA, Hideki HIRATA, Tatsuya KATO

and Hajime UTSUNOMIYA

Recording Media & Solutions Business Group ,TDK Corporation Chikumagawa the 1st. Technical Center,

462-1 Otai,, Saku. Nagano 385-0009, Japan

Abstract: We have developed an inorganic write-once disc based of the Blu-ray disc format. Our write-once disc has a double layer recording stack of a Cu alloy layer and a Si layer. These materials are environmentally friendly and low recording peak power. As a result of using our write strategy, we obtained a jitter value of less than 8% with optimum recording power of 5mW in the range of 36Mbps to 144Mbps.

OCIS codes: (210.4810) Optical storage-recording materials;

An investigation into optical image enhancement

Zheng-Min Tu ,Yung-Sheng Chen and Jun-Wei Hsieh

Dept. of Electrical Engineering, Yuan Ze University, Taoyuan 320 Taiwan, ROC

s937115@mail.yzu.edu.tw

Abstract: The illumination from different aspect may cause optical image recognize fail. My subject is to find an algorithm to enhance the image if the target image is blurred by different illuminant.© 2005 XiaoTu

OSA codes: (100.2980) Image enhancement:

Perfusion Area Estimation Using High-Frequency Ultrasonic Imaging

Sheng-Yi Lu and Chih-Kuang Yeh

Dept. of Electrical Engineering, Yuan Ze University, Taoyuan 320 Taiwan, ROC

s937117@mail.yzu.edu.tw

Abstract: Microvascular changes occur in many disease including cancer and diabetes. Blood velocity can be estimated based on destruction/reperfusion model. We proposed a correlation coefficient method using two image flames to determine the area of microcirculation.

OCIS codes: (170.7170) Ultrasound.

A Neuro-Fuzzy Scheme for Simultaneous Feature Selection and Fuzzy Rule-Based Classification

Debrup Chakraborty and Nikhil R. Pal, Senior Member, IEEE

Abstract: To propose a neuro-fuzzy scheme for designing classifier along with feature selection. And the network is trained by error back-propagation method. The aim is to reduce the size of the network without degrading the performance.

INSPEC codes: (C31) Control and measurement of specific variables;

Mobile IPv6 and the future of wireless Internet access

Lee Garber

10662 Los Vaqueros Circle, PO Box 3014, Los Alamitos,

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Abstract: Wireless technology is increasingly being used for Internet access and other IP based communications. To make it easier for wireless users to exploit this trend, the Internet Engineering Task Force designed Mobile IP version six.

OCIS codes: (060.4250) Networks

CNT-FED Driven Circuits Design and Research

Jared Yao and C.C Wang
Dept. of Electrical Engineering, Yuan Ze University, Taoyuan 320 Taiwan, ROC
jaredyao@teconano.com.tw

Abstract: The nano technology is very important tech in the world. We design and research field emission displays(FED) use carbon nano tubes(CNTs). This display cathode plate use CNTs and phosphor to apply anode. And we design the circuits to driven CNT-FEDs.

OCIS codes: (120.2040) Displays;

Kinoform using an electrically controlled birefringent liquid-crystal spatial light modulator

Jun Amako AND Tomio Sonehara
Seiko Epson Corporation, Owa 3-3-5, Suwa-shi, Nagano 392, Japan

Abstract: Discussing the characteristics and the structure of the LCSLM for the implementation of the programmable kinoform while comparing the computed results, optical reconstructions and how to modify the structure of the LCSLM.

OCIS code: (070.5010) Pattern Recognition and Feature Extraction.

Session 7: January 15, 2005 from 13:30 to 15:30

Chair: Jared Yao *Location: 3104*

Seeker Countermeasure Scene Modeling

Chin Hsu Leng and Wei Mu Yu
Dept. of Electrical Engineering, Yuan Ze University, Tao-Yuan 320 Taiwan, ROC
leng6liu@ms17.hinet.net

Abstract: Generic target and flare models are used in an IIR missile simulation for target/missile engagement scenario development. IR scene will be presented. Polarized IIR target detection and scene generation process will also be discussed.

OCIS codes: (110.3080) Infrared Imaging;

Long Distance Wireless Digital Image Transmission

Steven Chang and Ying J. Huang
Dept. of Electrical Engineering, Yuan Ze University, Taoyuan 320 Taiwan, ROC
s500a@ms49.hinet.net

Abstract: Using the frequency hopping module get long distance digital image wireless transmission of a JPEG files within a safety regulation. Verify performances of frequency hopping technology with some RF equipments.

OCIS codes: (110.2970) Image Detection Systems;

On-Line Heart Beat Recognition Using Hermite Polynomials and Neuro-Fuzzy Network

Tran Hoai Linh, Stanisław Osowski, *Member IEEE*, and Maciej Stodolski
Student:Linus ,Liu
Student ID:937154
Mail:s937154@mail.yzu.edu.tw

***Abstract*—The paper presents the neuro-fuzzy approach to the recognition and classification of heart rhythms on the basis of ECG waveforms. The important part in recognition fulfills the Hermite characterization of the QRS complexes. The Hermite coefficients serve as the features of the process. These features are applied to the fuzzy neural network for the recognition. The results of numerical experiments have confirmed very good performance of such solution.**

OTDR Measurement Application in CATV

Jason Lo
Dept. of Electrical Engineering, Yuan Ze University, Taoyuan 320 Taiwan, ROC
s937137@yzu.com.tw

Abstract: To measurement in-server optical transmission line in optical video distribution systems using subcarrier multiplexing techniques, we clarify how measurement light from an OTDR effects the signal transmission performance when the light into the ONU.

OCIS codes: (120.1880)Detection;

Novel analytical technique for SAW chemical sensors with multi-function measurement device Using FT-IR spectro-microscope

Chih-Wei Liu, and Cheng-Hao Ko
*Graduate School of Electro-Optical Engineering, Yuan Ze University, Chung-Li **320**, Taiwan, R. O. C.*
s938505@mail.yzu.edu.tw

Abstract: The surface acoustic wave (SAW) devices is extremely sensitive to external loading on its delay line area coated with chemically absorbing film, which makes it suitable for high sensitivity chemical and bio sensing.
OCIS codes: (230 1040) Acousto-optical devices

Metallic Photonic-Crystal Structures for Polarization Beam Splitter and Polarizer Fabricated by Nano Cu-interconnect Technology

Cheng-Hao Ko and Geng-Syun Hong
Graduate School of Elector-Optical Engineering, Yuan-Ze University, Taiwan, R.O.C
S938514@mail.yzu.edu.tw

Abstract:We present a polarization beam splitter by use of photonic-crystal structure in two dimensions. We employ the parameters of the copper interconnect technology of semiconductor manufacturing technology. It can be fabricated more quantity and easily.

OCIS codes: (230.1360) Beam splitters;

An X-Ray-LIGA-Fabricated Spectrometer Chip for Wavelength Demultiplexing

Ting-Tsan Huang and Cheng-Hao Ko
Graduate School of Electro-Optical Engineering, Yuan Ze University
135 Yuan-Tung Road, Chung-Li 320, Taiwan, R.O.C
s938509@mail.yzu.edu.tw

Abstract: We have designed, fabricated and measured a planar-waveguided concave micro grating for DWDM application in optical communications using the X-ray LIGA facility in NSRRC, Taiwan. The design is based on Rowland circle in meridian and planar waveguide .

OCIS codes: (230 1950) Diffraction gratings

Session 8: January 15, 2005 from 16:00 to 18:00

Chair: Jason Lo *Location: 3104*

60-nm Resolution Phase-Contrast X-ray 3D Tomography for Nano-Scale Research

P. J. Wang and C. H. Ko

Graduate School of Optical-Electronic Engineering, Yuan-Ze University, Chung-Li, Taiwan, R. O. C

.s938504@mail.yzu.edu.tw

Abstract: A Transmission X-ray Microscopy is completing at NSRRC. It utilizes zone plate optical system and operates in 8-11 keV to achieve 60nm spatial resolution. TXM has phase contrast imaging capability and non-destructive inspection.

OCIS codes: (180.7460) X-ray microscopy.

Effect of pH on high-frequency impedance distribution and it's implication in thermal therapy

chen yan Zhou

Dept. of Electrical Engineering, Yuan Ze University, Taoyuan 320 Taiwan, ROC

ericjuju@ms45.hinet.net

Abstract: Present ,there is a lot of kind to method of treatment of cancert, There are its characteristics but we utilize the tumour tissue are more sour l than to normal tissue, To carry on the test assigned in impedance, Can offer the localization and part in the tumour position in the future ,and to heat and dispel and offer the reference data .

PACS codes: (87.80.-y) Biological techniques and instrumentation; biomedical engineering

High-Frequency Thermal Therapy System

Tsung-Chun Li

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Abstract: Non-invasive Therapy of tumour is the important direction of medical research now. We utilize the difference of pH value with normal tissue and tumour tissue, caused the phenomenon of electric current to be distribute diversity. Attempt to develop the study direction of tumour tissue thermotherapy.

PACS codes : (87.80.-y) Biological techniques and instrumentation; biomedical engineering

GaAs pHEMT Characterization for Power Amplifier Designs in OFDM System Application

Chien-Chang Huang and Sung-Mao Li

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Abstract: In this paper the GaAs pHEMT's are characterized by means of source/load-pull measurements with the OFDM signal stimulus for linear power amplifier (PA) designs and provide a criterion to an optimum design for digital communications.

OCIS codes: (B13) Microwave Technology;

Optimization of Ply Stacking Sequence of Laminated Composite Plates by Using Heuristic Search Techniques

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Abstract: Optimization systems were developed to optimize the ply stacking sequence of laminated composite plates by using heuristic search techniques. The results show the performance of the proposed method will efficiency save the amount of generations.

ISSN codes: 0045-7949

Tuning of PID controllers with fuzzy logic

Abstract: A comparison between different methods, based on fuzzy logic, for the tuning of PID controllers. Specifically considered are different control structures in which a fuzzy mechanism is adopted to improve the performances given by Ziegler-Nichols parameters.

INSPEC codes: C33 - Control applications

Effect of pH on high-frequency impedance distribution and it's implication in thermal therapy

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Present ,there is a lot of kind to method of treatment of cancert, There are its characteristics but we utilize the tumour tissue are more sour l than to normal tissue, To carry on the test assigned in impedance, Can offer the localization and part in the tumour position in the future ,and to heat and dispel and offer the reference data .
(Physics) 87.80.-y Biological techniques and instrumentation; biomedical engineering

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Session 9: January 15, 2005 from 19:00 to 21:00

Chair: chen yan Zhou *Location: 3104*

Summary of Mask Industry and Future Development

Mason Huang and R.J Lin
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Abstract: **Mask fabrication introduction and manufacturing marketing And mask develop history in the semiconductor. Future development focus on phase shift mask .And design the resolution enhanced technology - Optical Proximity Correction**

INSPEC codes: E15 - Production technology

Self-Organized Fuzzy System Generation from Training Examples

Ignaqcio Rojas, Hector Pomares, Julio Ortega, and Alberto Prieto, *Member, IEEE*
Abstract: Consider the problem of function approximation by means of fuzzy rules. Automatically adapting and optimizing the structure of the system (the number of membership functions for each variables and rules of the system) in a dynamic way.

INSPEC codes: (C12) Systems theory and cybernetics; (C10) System and control theory;

An investigation into the Drive-in process of TVS(Transient Voltage Suppressor Diode).

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Abstract: TVS character depends on PN junction, doping concentrate and Sheet Resistance. The primary objectives employ effective process simulation to controlled Drive-in time of voltage rang to improve product yield and reduce cost down.

General**:** (C31.0000) - Control and measurement of specific variables;