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## Technology : Embedded

Domain : IEEE transaction in the areas of Networking, Wireless Sensor Network, Zigbee.

IE001 Year 2008	A Cellular-Based Routing Algorithm for Ad-Hoc Wireless Networks	This project proposes a routing algorithm for an ad-hoc network which is in the coverage of a cellular network. To perform routing in this ad-hoc network, the proposed algorithm exploits topology information of ad-hoc network that are obtained from base station in cellular network.
IE002 Year 2008	A framework for a distributed key management scheme in heterogeneous wireless sensor networks	This paper proposes a unified framework for distributed key management schemes in heterogeneous wireless sensor networks. Models are developed to evaluate its performance in terms of connectivity, reliability, and resilience. Simulation results show that, even with a small number of nodes, the performance of a wireless sensor network can be improved substantially.
IE011 Year 2008	An Efficiency Security Model of Routing Protocol in Wireless Sensor Networks	This Project proposes a new model of routing called an Efficiency Security Model of Routing (ESMR). In routing stage, ESMR only uses public key cryptography when new nodes enter the wireless sensor network and does not use symmetric cryptography at all., reputation mechanism is proposed against inside attackers in ESMR.
IE012 Year 2008	An integrated ZigBee automation system: An energy saving solution	ZigBee is a latest wireless technology which provides low data rate, low power consumption and low cost. One of the ultimate goals of ZigBee is to provide an energy saving solution. In this paper, the details of system design for ZAS are described including the system overview, deployment as well as the power management algorithms.
IE015 Year 2008	BACnet over ZigBee, A new approach to wireless data link channel for BACnet	This paper proposes a BACnet over ZigBee model that adopts ZigBee communication channel as a wireless data link layer protocol in a BACnet - A Data Communication Protocol for Building Automation and Control Networks
IE022 Year 2008	Implementation and Study of a Greenhouse Environment Surveillance System Based on Wireless Sensor Network	This paper developed a wireless sensor network system based on ZigBee technology for greenhouse which consists of sensor nodes, the cluster, clustering nodes and task management nodes. Since in this system energy efficiency is one of the most decisive factors of designing node, a new protocol of managing slots was used, which adopted slots scheduling algorithm to resolve beacon conflict.
IE023 Year 2008	Industrial Control using Wireless Sensor Networks	The real time control over wireless network systems still is a problem but the are some sporadic events in control systems such as alarms and events that can be less critical than periodic loops so that delay may have no effect on them. The main purpose of this paper is to show the performance of the wireless sensor networks using ZigBee standard in industrial control systems.
IE031 Year 2008	The Application of a Wireless Sensor Network Design Based on ZigBee in Petrochemical Industry Field	With the development of embedded computer and sensor technology, wireless sensor networks (WSN) capable of sensing, actuation, and the ability to communicate, have been developed. This paper discusses the advantages of WSN and analyses the application of WSN in petrochemical industry field.
IE032 Year 2007	The Wireless Sensor Network for Home-Care System Using ZigBee	This paper uses ZigBee in developing a home care sensor network system with temperature sensor, humidity sensor, and light sensor. The biosensor transmits measured signals to the remote wireless monitor. The remote wireless monitor is constructed of ZigBee and personal computer. When the measured signals over the standard value, the personal computer sends message to the concerned person.
IE035 Year 2007	Wireless Access Monitoring and Control System based on Digital Door Lock	This paper presents a prototype of the proposed system and shows a scheme for the implementation. To implement the system with ZigBee network protocol, four types of modules are developed, ZigBee module, digital door lock module, human detection module, and ZigBee relay module. ZigBee module is designed to support wireless sensor network and also used for the ZigBee tag to identify the access objects.

IE037 Year 2008	ZigBee Wireless Vehicular Identification and Authentication System	The RF Tag is placed in a vehicle that will be approaching the entrance. Vehicle identification is performed by reading the serial number in the RF tag and driver authentication is done by means of a password entered through the RF tag. Both information are read and sent to a central database for verification.
IE043 Year 2008	Remote Sensing and Control of an Irrigation System Using a Distributed Wireless Sensor Network	This paper describes the implementation of variable rate irrigation, a wireless sensor network, and software for real-time in-field sensing and control of a site-specific precision linear-move irrigation system. Field conditions were monitored by in-field sensor stations distributed across the field based on a soil property map, and periodically sampled and wirelessly transmitted to a base station
IE069 Year 2008	An Internet-Based Interactive Embedded Data-Acquisition System for Real-Time Applications	This paper describes the implementation of a industrial data acquisition system using TCP/IP protocol. The embedded system is connected to the network and the embedded system data acquisition can be monitored from any computer in the network.
IE070 Year 2008	Design of Equipment Remote Monitoring System Based on Embedded Web	This paper describes the implementation of data monitoring using the internet. Data is acquired in a remote place and connected to the existing network using TCP/IP protocol. The data is accessed and can be monitored from anywhere in the world using internet.
IE071 Year 2008	Providing Group Tour Guide by RFID's and Wireless Sensor Networks	This paper describes the advantages of Wireless sensor network and its application in real life. The paper also describes the advantages of Rfid and its application in providing real time information to tourist who want to get information about specific data using wireless sensor network.
IE072 Year 2008	Ultra Low Power Wireless Weather Station	This paper describes the implementation of a novel weather monitoring system located at a remote location and acquisition of data from the same using wireless technology.

## Technology : Embedded

Domain : IEEE transaction in the areas of Security, Cryptography .

IE016 Year 2008	Cryptanalysis and Improvement of a Remote User Authentication Scheme using Smart Cards	The user authentication mechanism is an important part of the network security to protect unauthorized access. Based on cryptographic techniques, several schemes have been proposed for ID-based authentication schemes with smart cards. In this paper, we propose dynamic ID-based and ID-based remote user authentication schemes using smart cards those can eliminate the flaws those are found in previous scheme.
IE021 Year 2008	Implementation and Analysis of New Lightweight Cryptographic Algorithm Suitable for Wireless Sensor Networks	In WSN, energy consumption affects the network lifetime and so we need to choose the energy- and memory-efficient cryptographic algorithm suitable for wireless sensor networks. In this paper, we consider HIGHT, designed to be proper to ubiquitous 8-bit computing devices (e.g. sensor node or RFID tag), for wireless sensor networks. We can conclude that HIGHT is outstanding in security and efficiency and can be recommended for TinySec.
IE025 Year 2008	Pair-wise network topology authenticated hybrid cryptographic keys for Wireless Sensor Networks using vector algebra	This paper proposes a novel hybrid cryptographic scheme for pair-wise network topology authenticated (TAK) keys in a WSN using vector algebra. The proposed scheme is deterministic, pair-wise keys are not pre-distributed but generated starting from partial key components and each key in a pair node can be generated only if nodes have been authenticated (key authentication).

IE026 Year 2008	Protection and Recovery of Disk Encryption Key Using Smart Cards	Disk security has been improved by storing the encryption key in a hardware token such as a smart card or USB device. There must be some way to recover the encryption key when the token is lost, but to prevent information leakage the encryption key should not be known by the system administrator and should not be able to be recovered by malicious users inside the system.
IE046 Year 2008	Efficient implementation of eSTREAM ciphers on 8-bit AVR microcontrollers	This project does the study of how efficient modern stream ciphers in the eSTREAM project can be implemented on small embedded microcontrollers that are also constrained in memory resources. For the evaluation process, we follow a two-stage approach and compare with efficient implementations of the AES block cipher.

## Technology : Embedded

Domain : IEEE transaction in the areas of GSM, GPS .

IE018 Year 2008	Design and Implementation of Remote Monitoring System Based on GSM	In this system, GSM network is a medium for transmitting the remote signal via SMS. The system includes two parts which are the monitoring center and the remote monitoring station. While the monitoring center consists of a mobile with GSM module, the remote monitoring station includes a GSM module, a MCU, a display unit, various sensors, data gathering and processing unit.
IE033 Year 2008	Using a mobile device to enhance customer trust in the security of remote transactions	This paper presents a new scheme for online payment systems based on a mobile personal device and existing credit card electronic payment protocols. The model focuses on trust to enhance the feeling of security in the use of credit cards for online payment systems. A mobile personal device is used to control the payment process of customers in a transaction so as to give them the feeling of being in control of the payment process.
IE014 Year 2008	Automatic power meter reading system using GSM network	This project proposes an e-billing system on the power provider side. This is used to manage all received SMS meter reading, compute the billing cost, to publish billing notification to its respective consumer through SMS. A working prototype of this system can be build to demonstrate the effectiveness and efficiency of automatic meter reading on use of GSM network.
IE056 Year 2008	Body Temperature and Electrocardiogram Monitoring Using an SMS based Telemedicine System	This paper presents a scheme to monitor the critical body parameters using telemedicine concepts. Telemedicine is the process of acquiring medical data from a remote location using wireless or existing network.
IE059 Year 2008	A novel approach on the Hydrologic Remote Measurement System in Coalmining Insustry	This paper describes a novel method to acquire data from a remote location in the coal industry. As working in the coal industry is hazardous this implementation improves the safety of working in the coal industry.

## Technology : Embedded

Domain : IEEE transaction in the areas of Smart Card, Rfid .

IE004 Year 2008	A new electronic cash model	In this paper we study and design a smart card based system which replaces physical cash for all transactions.
IE005 Year 2008	A new scheme of credit based payment for electronic commerce	In this paper we implement a credit card scheme for payment in electronic commerce.
IE006 Year 2008	A Proposed Solution for Managing Doctor's Smart Cards in Hospitals Using a Single Sign-On Central Architecture	This paper describes a single sign-on solution for the central management of health care provider's smart cards in hospitals. The proposed approach is made possible through the introduction of a national healthcare telematics infrastructure in which every physician and every patient will automatically be given an electronic health smart card and a corresponding health professional card.
IE007 Year 2008	A security-enhanced one-time payment scheme for credit card	This paper describes a security architecture to implement online payment using credit card.
IE008 Year 2007	A Smart Card Based Prepaid Electricity System	This Project features a 3-tier smart card secure solution for a novel prepaid electricity system. The proposed system uses an IP-based controller in addition to a power meter, providing efficient online control of the amount of electricity consumed by the user. The user will be notified if his credit balance goes below certain threshold
IE028 Year 2008	Security Design for Multi-service Smart Card Systems	This project proposes a secure multi-service system model which allows users to access different services with a single password. The privacy and service confidentiality are achieved through a set of protections-password protection, user identity protection, and service transaction protection to guarantee the user's anonymity to all service systems and ensure high unlinkability between different services.
IE034 Year 2008	Verification and validation communication layer of embedded Smart Card system	Smart card system works by installing a smart card reader at the entrance and connects through network which consist database and system application. The staff access can be validated through an authentication process that compares serial number on the card with a serial number stored on database. Embedded system by using microcontroller can reduce cost of system installation and easy to maintaining.
IE044 Year 2008	The Electronic Passport and the Future of Government-Issued RFID-Based Identification	Passports and other identification documents may be enhanced using recent advancements in technology. This paper examines policy regarding these electronic approaches and developments toward electronic data storage and transmission. Radio-frequency identification (RFID) devices for electronic passports and other existing identity documents are discussed.
IE060 Year 2008	Security Architecture for RFID Application in Home Environment	This paper presents an architecture to implement a security architecture for an Rfid system. Rfid is connected to the serial port of an embedded system and a unique security architecture is developed so that only authenticated tags can be utilized.
IE061 Year 2008	Hospital Automation System RFID-Based Technology Embedded in Smart Devices (Cards,Tags and Bracelets)	This paper presents an architecture to implement Rfid tags in hospital management. All patients are provided with Rfid tags which is directly linked to the hospital software. Devices used to measure critical parameters are also linked to the system using Rfid tags.

IE062 Year 2008	Intrusion Detection in RFID Systems	This paper presents an architecture for intrusion detection using Rfid tags. Rfid reader is connected to the USART of microcontroller and the paper is implemented
IE064 Year 2008	Policy and Role Based Mobile RFID Privacy Data Management System	In this paper a role based architecture for protecting individual privacy using Rfid is implemented. This architecture not only implements the Rfid tags in a embedded system but also enhances security to the user.
IE065 Year 2008	Automatic control of students attendance in classrooms using RFID	This paper implements a unique automatic attendance monitoring system in classes using Rfid tags.
IE066 Year 2008	Design and Implementation of a RFID-based Power Meter and Outage Recording System	This paper describes a unique digital meter using Rfid technology. As the system is automated it is used to not only monitor power usage but also can be used to monitor power outage.

## Technology : Embedded

### Domain : Non-IEEE projects

RE02	Biometric Voting Machine	The goal of this project is to enrol all fingerprints into the Biometrics based Voting machine. This can be verified before an individual casts his vote. The same person cannot be allowed for voting again for that particular election. The results can be viewed by registered election commission officer only.
RE03	Implementation of a Novel Collision Avoidance System for Automobiles	The goal of this project is to build a low cost embedded system device using ultrasonic sensor. It is kept on the front side of the vehicles and the ultrasound is continuously transmitted and then received to calculate the distance of the obstacle and accordingly vary the acceleration of the vehicle.
RE04	Neck Movement Operated wheel chair for Quadriplegia	The goal of this project is create a control system which will operate an electric wheel chair based on the movements of the neck. We use accelerometer to detect motion of the neck and accordingly control the movement of the wheel chair.
RE05	Fuzzy logic based Embedded Power Manager	Our goal is to develop an embedded fuzzy logic system that can be used in shopping malls or office to automatically regulate lighting and fan based on fuzzy data set and to increase lighting depending on the number of people present. This drastically saves power cost in shopping malls to an extent of 25% -35% depending on the rule set given.
RE06	Multi-Parameter Measurement System using SCADA	The goal of the project is to monitor the Temperature and Level of the water in a container. Temperature will be transmitted to the data monitoring unit through RS232 protocol. The Float sensor will monitor the water container level. If it is low then it will open the solenoid valve to fill the container and when the container is full solenoid valve is closed.

RE07	Cell Controlled Robot	The proposed system provides a new resolution for remote robot control. Using a simple Mobile phone, user can control robot from anywhere at anytime. This system shows that the use of mobile phones extremely extend the controllable scope of robot in time and location, which provides much convenience for remote users.
RE08	Embedded system-based mobile patient monitoring device	The design of a mobile medical device that can be used to monitor the human temperature using a stand-alone single chip microcontroller. Once the desired programmed trigger level is reached, the microcontroller automatically messages an emergency signal to the pre-stored mobile numbers.
RE09	Embedded system-based mobile patient monitoring device	This project implements a patient monitoring system using embedded techniques. In this project critical parameters from the patient is acquired from the patient using sensors and transmitted to a remote monitoring system.
RE10	SCADA based Load Shedding Management over TCP/IP Stack	The goal of this project is to create a SCADA system, which is part of a WAN to control individual transformers from a central place. The time for load shedding also can be indicated wherein once the desired time has elapsed it switches on the transformer's contactors automatically.
RE11	Secure Voter ID using SmartCard	The goal of this project is to issue all voters with a password protected smart cards for voting. The card cannot be reused for voting again, for that particular election. A supervisor must initialize the voting machine by a validation code in order to load the election information into the voting machine. Information about the election is stored on a file on the server. Once the supervisor confirms the ballot, voting may begin.
RE12	GSM Based Library Management System	The customer sends message to the library management system (LMS) to start the transaction. The LMS receives the message and after validation, sends the control options to the customer. Depending on the option selected the system will issue a book, extend the due date or search for a particular book from the database. It will send the result to the customer.
RE13	RFID based Home Automation	The goal of this project is to develop a home automation system using RFID Technology. We are going to design a system so that we will be able to control the appliances present in home like Fan, Light, Motor, etc., through different RFID Tag using automation system.
RE14	Home Automation using Mobile Technology	The goal of this project is to develop a home automation system using GSM Technology. We are going to design a system so that we will be able to control the appliances present in home like fan, motor, light, etc., through your mobile via text message.
RE15	Congestion Control in ATM using Generalized Cell Rate Algorithm	When congestion in a network lasts even less than the time taken to establish a connection, traffic shaping may be used by varying the sustained and peak cell rates. The algorithm employed in our project to suit the above type of traffic shaping is the Generalized Cell Rate Algorithm (GCRA). Of the two types of the GCRA (Virtual Scheduling Algorithm and Leaky Bucket Algorithm), we will implement the Leaky Bucket Algorithm.
RE16	M Commerce using Mobile	The goal of this project is to create a payment gateway through which payments can be made using a mobile phone. The user has to register for this service. When he wants to pay, he sends an SMS to the service provider giving the malls Unique M code and the amount. The service provider after checking his unique pin code, approves the amount and sends an SMS to the user as well as to the Mall's mobile phone dedicated for this operation
RE17	Embedded PNR enquiry System for Railways	The goal of this project is to build a PNR enquiry system for railways which enables the users to know Status of their tickets by using SMS facility in their Mobile working on the GSM Standard. The User has to send a SMS Message specifying his PNR number. The centralized server will check it and a reply will be sent back to User's Cellular phone.

RE18	TCP/IP based Patient Monitoring System	The goal of our project is to build a system wherein the data is acquired from the patient using a micro controller. Micro controllers are linked via a TCP/IP, which is connected to a PC located in the nurse station. Software running in the PC displays the details like temperature level, saline level, etc. of each patient. Patient emergency switches are also provided, which if activated will be displayed in the nurse station.
RE19	Wireless Data Acquisition System	The goal of this project is to design a wireless communication system to collect reports from an embedded device. The embedded device is placed remotely and continuously monitors some critical parameters like temperature, gas intensity etc., and transmits to a remote PC, where the data is stored and is graphically displayed on the PC.
RE20	Implementation of SMS Server for Query Based Response	Mobile computing has ushered in a new galore of value-added utility services for the mobile phone users. The Goal of this project is to design a low cost embedded device for SMS server for query based response. Here we will build an embedded system which will be preprogrammed in such a way that it will respond to the user depending on the query sent to it via SMS.
RE21	Hotspot Info System	We design a wireless based kiosk wherein information like nearby hotels, petrol bunk, hospital, police station and directions for nearby junctions can be obtained into the on board computer of the car by communicating with the hotspot which in turn is connected to a central computer. The advantage of this system is that costly electronics to implement high-end technologies like GIS/GPS can be eliminated.
RE22	Driver Information for Anti Collision	The goal of the project is to build a proposed integrated driver assistance system, which will merge the functionality of ultrasonic sensor to support the driver in reduced visibility. Also if the driver is drunk then the vehicle is not started and if the driver is in normal condition, vehicle is started. This system helps in preventing the accidents due to the alcohol usage while driving
RE23	RFID based Department Store Management System	The goal of this project is to build an Embedded System which will identify any products near the reader and display the Product name, cost, expiry date etc. on a PC, while billing. If the Embedded system near the exit detects any item with a RFID tag, it will close the door and sound an alarm to notify the authorities of a possible theft.
RE24	Congestion management using credit resynchronization in ATM networks	The goal of our project is to effectively implement the concept of "Credit Resynchronization" for managing and hence controlling congestion in a network.
RE25	Remote Automobile Diagnostic tool	We use sensors to detect whether the distance between the brake shoe and the wheel is correct and monitor the CO2 concentration at the exhaust. This data along with vehicle number is transmitted using RF to the server located in the service centre. As the vehicle enters the service bay the data is available to the mechanic who can avoid the manual examination.
RE26	GSM based distributed Transformer Monitoring System	The proposed on-line monitoring system integrates a global service mobile (GSM) Modem, with stand alone single chip microcontroller and sensor packages. It is installed at the distribution transformer site. If there is any abnormality or an emergency situation the system sends SMS (short message service) to designated mobile telephones containing information about the abnormality.
RE27	Fuzzy logic based toxic gas monitoring system and SMS alert system	In this project we are going to design a fuzzy logic based system in Toxic Gas monitoring system to display gas level value in LCD Display, to sound the alarm or voice announcement. In case emergency it alerts the people and also the nearest hospital and fire station using GSM.
RE28	Finger print based medical information system	The goal of this project is to build an embedded finger print based medical information system, which consists of embedded microcontroller, Finger print scanner and LCD display. Where every person has to presents his fingerprint, which is usually mounted the medical information like blood group, contact address are stored in microcontroller and display in LCD.

RE29	Remote Unmanned Weather station using GSM	The goal of our project is to have a micro controller device connected with temperature & moisture sensor which is placed in remote location. A GSM device is connected with that device to send and receive SMS. The device will monitor the weather changes and record them in memory. The user receives a SMS with currently recorded data when the user send a request SMS to the device.
RE30	GSM based machine monitoring system	The goal of this project is continuously monitor the machine voltage, oil level and temperature level. If any one of the above said parameters varies abnormally, the GSM modem automatically sends message to corresponding person so that the operator can rectify the problem in the initial stages.
RE31	Patient Monitoring Nurse Station	The goal of our project is to build a system wherein the data is acquired from the patient using a microcontroller. Software running in the PC displays the temperature of each patient for ease in monitoring. Patient switches are provided to each patient which if activated will be displayed in the nurse station
RE32	Non Contact Based Ticketing System	The goal of the project is to create a low cost secure electronic purse, which the cardholder preloads with value. The card should be used at both entry as well as exit points to deduct the fare from the card according to the stages travelled.
RE33	RFID key - Keyless system for automobile security	This project Tag based anti-theft systems for the automotive industry and this will add the flexibility of Keyless Entry to its family of ignition immobilizers. The goal of the project is to build a low cost embedded system device for remote keyless entry and ignition system using RFIDsmart card.
RE34	Development of Zigbee based Street Light Control System	To reduce uneasiness of handling and difficulty of maintenance in operating light control system, we designed new street light control system by using Zigbee communication technique. In this thesis, we describe on the H/W design of new street light control system designed by using Zigbee communication protocol
RE35	Automatic toll collection using RFID	The project aims to eliminate the delay on toll roads. It is a technological implementation of a road pricing concept. It determines whether the cars passing are enrolled in the program, alerts enforcers for those that are not, and debits electronically the accounts of registered cars without their stopping, or even opening a window.
RE36	GPS based Electronic Messaging in Trains	The Global Positioning System (GPS) is a satellite-based navigation system made up of a network of 24 satellites. The goal of this project is to display live data (like station name) as the train is passing through stations using GPS technology.
RE37	Intelligent Railway Gate Expert System	Our aim is to design an embedded intelligent railway gate system, which will be able to think like a human being based on the data acquired from transducers. Decision is taken when to close the railway gate. The system is so designed such that the gates are always closed ninety seconds before the train passes.
RE38	ZigBee based intelligent transport management system	As the global economy and population grows, the volume of goods transported is increasing and transport companies are facing congestion issues. We propose a system with the use of ZigBee to have intelligent communication to avoid mix up between the vehicle and the material.
RE39	Biometric based machine control	The goal of this project is to build an embedded finger print based security system for high cost machinery. Only the authorised or trained personnel whose finger print is stored in the embedded system will be allowed to operate the machine. Also the most critical settings can be changed only if the authorised supervisor or manager is verified.

RE40	Real time passenger information system using ZigBee	The goal of this project, to improve the service level and increase passenger satisfaction by providing real time information on vehicle location.
RE43	ZigBee based station name display with voice train	The goal of this project is to design a system, which can detect the location of the train using GPS and record the data continuously and transfers the data to server through Zigbee communication, Once data the data reaches the station, the system will make announcement of train details.
RE45	Passport Verification Based RFID	Our project through light on these areas. The information about the person will be stored in the data base. If they show their tag then immediately the stored information about them will be displayed in the PC along with their photo. The added advantage is that, we are also using password here. Even fake passports cannot be used by unknown persons since password is used.
RE46	Unmanned bus ticket issuing system for passengers	The goal of the project is to create a low cost secure electronic purse, which the card holder preloads with money. The card should be used at both entries as well as exit points to deduct the fare from the card according to the stages travelled. Once the 80% of prepaid value is used, the customer is required to add value to the card before it becomes zero to use it again

## Technology : LabVIEW

Domain : IEEE transaction in the areas of ZigBee, Bluetooth, GSM .

IL31 Year 2007	An integrated ZigBee automation system: An energy saving solution	ZigBee is a latest wireless technology which provides low data rate, low power consumption and low cost. One of the ultimate goals of ZigBee is to provide an energy saving solution. In this paper, the details of system design for ZAS are described including the system overview, deployment as well as the power management algorithms.
IL37 Year 2007	BACnet over ZigBee, A new approach to wireless datalink channel for BACnet	This paper proposes a BACnet over ZigBee model that adopts ZigBee communication channel as a wireless data link layer protocol in a BACnet - A Data Communication Protocol for Building Automation and Control Networks
IL42 Year 2008	Design and Implementation of a Bluetooth based General Purpose Controlling Module	In this project, a general purpose controlling module is designed with the capability of controlling and sensing devices simultaneously. The communication between the controlling module and the remote server is done using Bluetooth technology. The server can communicate with many such modules simultaneously.
IL44 Year 2008	Design and Implementation of Remote Monitoring System Based on GSM	In this system, GSM network is a medium for transmitting the remote signal via SMS. The system includes two parts which are the monitoring center and the remote monitoring station. While the monitoring center consists of a computer and a GSM module, the remote monitoring station includes a GSM module, a MCU, a display unit, data gathering and processing unit.
IL63 Year 2008	Integration of Wireless Sensor Network Services into other Home and Industrial networks; using Device Profile for Web Services (DPWS)	Wireless sensor networks (WSN) have recently been proposed for applications in home and industrial automation. The DPWS has been chosen to implement the integration of the different forms of networking services. DPWS uses web services, XML, WSDL and SOAP protocol to connect various devices and services in home and industrial applications. This paper will describe our idea of how DPWS can be used to integrate a wireless sensor network into other IP-based networks.

IL79 Year 2007	The Wireless Sensor Network for Home-Care System Using ZigBee	This paper uses ZigBee in developing a home care sensor network system with temperature sensor, humidity sensor, and light sensor. The biosensor transmits measured signals to the remote wireless monitor. The remote wireless monitor is constructed of ZigBee and personal computer. When the measured signals over the standard value, the personal computer sends message to the concerned person.
IL83 Year 2008	ZigBee Wireless Vehicular Identification and Authentication System	The RF Tag is placed in a vehicle that will be approaching the entrance. Vehicle identification is performed by reading the serial number in the RF tag and driver authentication is done by means of a password entered through the RF tag. Both information are read and sent to a central database for verification.

## Technology : LabVIEW

Domain : IEEE transaction in the areas of Instrumentation .

IL01 Year 2008	A double filtering algorithm based on wavelet and application in de-noising of gearbox fault signal	In this paper, a double filtering algorithm is proposed for de-noising of gearbox malfunction vibration signal, which is produced by combining adaptive wavelet transform de-noising and wavelet threshold de-noising. In first phase, a optimal wavelet is obtained by making its scale factor a optimized. In the second phase, the classical wavelet threshold de-noising algorithm is used to de-noise.
IL07 Year 2008	A Melt Temperature PID Controller Based on RBF Neural Network	Traditional melt temperature PID controllers have difficulties in PID parameter tuning. So, they suffer from low accuracy in temperature controlling and the dissatisfaction in processing of the present PID controllers. A new kind of PID controller based on radial basis function (RBF) neural network is proposed. The proposed controller can not only obtain a higher accuracy in temperature controlling, but also infinitely approach the nonlinear system with lower computations, quicker convergence and more system stability.
IL16 Year 2008	A novel neuro-fuzzy controller genetically enhanced using LabVIEW	The main goal of this paper is to design an intelligent controller for LabVIEW. The designed controllers were based on LabVIEW, which allows us to move from design to implementation in only few steps. The proposed controller could be used as an educational tool in a classroom for the study of different intelligent control methods which could be understood and analyzed step by step in LabVIEW.
IL23 Year 2009	A Systematic Method for Gain Selection of Robust PID Control for Nonlinear Plants of Second-Order Controller Canonical Form	A systematic method to select gains of a discrete proportional-integral-derivative (PID) controller is presented. The PID controller with the gains obtained by the proposed method can robustly control nonlinear multiple-input-multiple-output (MIMO) plants in a second-order controller canonical form. This is made possible by the finding that the discrete PID controls is equivalent to the discrete form of time-delay control (TDC) (a robust control method for nonlinear plants with uncertainty).
IL34 Year 2007	Application of LabVIEW to Automated Measuring Dynamic Balancing of Motorcycle Crankshaft	A new method to measure dynamic balancing of motorcycle crankshaft based on Lab VIEW is introduced. It is composed of crankshaft, connecting rod and slider. When the crankshaft rotates, its centrifugal forces are generated which result in the supporting structure (also called vibration table) vibrating. Data acquisition, signal processing and analyzing can be completed by virtual instrument based on LabVIEW.
IL50 Year 2008	Diesel engine common rail pressure control based on neuron adaptive PID	The overflow control method of pressure in common rail has been studied through theory and experiment. The single neuron adaptive PID controller has been designed, and has been worked out under the Labview environment. The experimental study's results have been compared against those from experiment with common PID controller. The comparison shows that the effect of single neuron PID control is superior to that of common PID control; in addition, single neuron adaptive PID controller has smaller error.

IL59 Year 2008	Implementation and Study of a Greenhouse Environment Surveillance System Based on Wireless Sensor Network	This paper developed a wireless sensor network system based on ZigBee technology for greenhouse which consists of sensor nodes, the cluster, clustering nodes and task management nodes. Since in this system energy efficiency is one of the most decisive factors of designing node, a new protocol of managing slots was used, which adopted slots scheduling algorithm to resolve beacon conflict.
IL60 Year 2008	Industrial Control using Wireless Sensor Networks	The real time control over wireless network systems still is a problem but there are some sporadic events in control systems such as alarms and events that can be less critical than periodic loops so that delay may have no effect on them. The main purpose of this paper is to show the performance of the wireless sensor networks using ZigBee standard in industrial control systems.
IL62 Year 2008	Integrating Flexible Electrophoretic Display And One-Time Password Generator in Smart Cards	This paper presents a smart card that integrates a one-time password generator and a flexible display. Asking a card user to enter a time-variable password provides added security by ensuring the card owner actually holds the credit card when making card-not-present transactions.
IL68 Year 2008	Protection and Recovery of Disk Encryption Key Using Smart Cards	Disk security has been improved by storing the encryption key in a hardware token such as a smart card or USB device. There must be some way to recover the encryption key when the token is lost, but to prevent information leakage the encryption key should not be known by the system administrator and should not be able to be recovered by malicious users inside the system.
IL70 Year 2007	Remote Monitoring System of Power Network Based on Virtual Instrument and Wavelet Transform	This remote monitoring system of power network was developed by using the virtual instrument technology, network technology and database technology. The basic structure of the system is Browser/Server mode. In the system, the wavelet transform was applied to virtual instrument by using script node in LabVIEW, and utilizes denoising method of sqtwolog soft threshold to eliminate the high-frequency noise.
IL76 Year 2008	The Application of a Wireless Sensor Network Design Based on ZigBee in Petrochemical Industry Field	With the development of embedded computer and sensor technology, wireless sensor networks (WSN) capable of sensing, actuation, and the ability to communicate, have been developed. This paper discusses the advantages of WSN and analyses the application of WSN in petrochemical industry field.
IL77 Year 2007	The Application of Immune Genetic Algorithm in PID Parameter Optimization for Level Control System	This work discusses the use of an Evolvable Proportional-Integral-Derivative (PID) controller that consists of a hardware whose gains can be set by Evolutionary Computation techniques, such as Genetic Algorithms in water level control system. An evolutionary immune inspired algorithm, named Immune Genetic Algorithm (IGA), is used for tuning the controller so that closed-loop step response specifications are satisfied

## Technology : LabVIEW

Domain : IEEE transaction in the areas of Image Processing, Signal Processing, Water Marking .

IL03 Year 2007	A Feature-Based Digital Image Watermarking for Copyright Protection and Content Authentication	In this paper, a feature-based robust digital image watermarking algorithm is proposed to achieve the goal of image authentication and protection simultaneously. The experimental results show that the proposed watermarking algorithm can resist most removal attacks. The changes or modifications of an image will be reflected in our hidden watermarks.
IL08 Year 2007	A New Adaptive Digital Audio Watermarking Based on Support Vector Regression	Based on support vector regression (SVR), a new adaptive blind digital audio watermarking algorithm is proposed. Experimental results show that our audio watermarking scheme is not only inaudible, but also robust against various common signal processing and also has high practicability.
IL12 Year 2008	A new robust digital image watermarking technique based on the Discrete Cosine Transform and Neural Network	This paper presents a new robust digital image watermarking technique based on discrete cosine transform (DCT) and neural network. The neural network is full counter propagation neural network (FCNN). The perceptual features of the original image have been used to determine the highest changeable threshold values of DCT coefficients.
IL24 Year 2007	Adaptive Wavelet Domain Audio Steganography with High Capacity and Low Error Rate	In this paper we introduce an adaptive wavelet domain Steganography with high capacity and low error rate. Our method have zero error rate for hiding capacity below 100 kilo bits-per-second (kbps) and 0.3% error for 200 kbps, in comparison to 0.9% error of normal wavelet domain LSB Steganography.
IL25 Year 2008	Adaptive Wavelet Packet Based Audio Steganography using Data History	In this paper we present a novel method for digital audio Steganography where encrypted covert data is embedded by adaptively modifying wavelet packet coefficients of host audio signal. Our method also has zero bit error in recovered data which is one of the most desired features of any Steganography
IL26 Year 2009	An adaptive Steganography technique based on integer wavelet transform	In this paper, we are proposing a novel technique for hiding data in digital images by combining the use of adaptive hiding capacity function that hides secret data in the integer wavelet coefficients of the cover image with the optimum pixel adjustment (OPA) algorithm. The proposed system showed high hiding rates with reasonable imperceptibility compared to other steganographic systems.
IL30 Year 2007	An Efficient Block-by-Block SVD-Based Image Watermarking Scheme	This paper presents a block based digital image watermarking that is dependent on the mathematical technique of singular value decomposition (SVD). In the proposed approach, the original image is divided into blocks, and then the watermark is embedded in the singular values (SVs) of each block separately. This makes the watermark more robust to the attacks such as noise, compression, cropping and other attacks.
IL43 Year 2008	Design and Implementation of a Robust Palm Biometrics Recognition and Verification System	The paper attempts to develop a comprehensive set of hand geometry features and develop an original algorithm from a fundamental level to robustly compute a selected set of features so as to minimize palm placement effect. These features are combined with chrominance features, to achieve recognition and verification accuracy, significant with respect to the <u>current state in palm biometrics research</u>
IL51 Year 2008	Digital Right Management Model Based on Cryptography and Digital Watermarking	This paper proposes a Digital Right Management model using both cryptography and digital watermarking technology integratively. This model encrypts digital content with high-performance symmetric key, and uses robust watermarking and fragile watermarking separately to embed copyright information.
IL56 Year 2008	Gunshot detection in audio streams from movies by means of dynamic programming and Bayesian networks	This paper treats gunshot detection in audio streams from movies as a maximization task, where the solution is obtained by means of dynamic programming. The proposed method seeks the sequence of segments and respective class labels, i.e., gunshots vs. all other audio types that maximize the product of posterior class label probabilities, given the segments' data.
IL57 Year 2008	High capacity error free wavelet Domain Speech Steganography	In this paper, we propose a new speech Steganography in wavelet domain. In this method, lifting scheme is used to create perfect reconstruction Int2Int wavelets. The data is hidden in some of the Least Significant Bits (LSB) of detail wavelet coefficients. The LSB bits for hiding are selected with a new adaptive algorithm. This algorithm does not hide information in silent parts, so there is no need for silent detection algorithms.

IL67 Year 2008	PKI Key Generation Based on Iris Features	In this paper, an iris feature-based PKI key generation is proposed. Contributions include a general approach for distinguishable iris feature generation and a PKI key generation mechanism. The proposed method differs from prior work of using pseudo random number to generate cryptographic keys. Thereby, a longer and more distinguishable bit stream can be generated for PKI key generation.
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## Technology : VLSI

### Domain : IEEE transaction in the areas of VLSI.

IV02 2008	An FPGA Implementation of Improved AODV Routing Protocol for Route Repair Scheme	In this project, nodes in the active path between source and destination act as a virtual source when link breakage occurs and there by the search process is continued till the link is formed to reach the original destination is reached. Comparison between original routing protocol and the improved algorithm is carried out by simulating them.
IV03 2008	Creating an Elliptic Curve arithmetic unit for use in elliptic curve cryptography	In this paper, we propose an EC arithmetic unit that is structured over a high performance, low gate number $GF(2^6)$ arithmetic unit. This proposed arithmetic unit is based on one dimensional systolic architecture that can perform $GF(2^2)$ multiplication and inversion with only the performance cost of inversion.
IV04 2007	FPGA Based Run Time Reconfigurable Gas Discrimination System	In this paper, we propose a novel time multiplexing hardware implementation using a dynamically reconfigurable field programmable gate array (FPGA) platform. The system is successfully tested for combustible gas identification application using our in-house gas sensors.
IV05 2007	FPGA Based Design of Elliptic Curve Cryptography Coprocessor	Elliptic curve cryptography plays a crucial role in networking and communication security. FPGA based architecture of elliptic curve cryptography coprocessor is proposed in this paper. The coprocessor is consisted of elements operation over binary finite fields, point adding and doubling on elliptic curve and scalar multiplication.
IV09 2007	FPGA implementation of low power parallel multiplier	This paper presents low power multiplier design methodology that inserts more number of zeros in the multiplicand thereby reducing the number of switching activities as well as power consumption. Use of look up table is an added feature to this design. Modifying the structure of adders further reduces switching activity.
IV10 2007	Compact Hardware Design Of Whirlpool Hashing Core	This paper presents a Whirlpool hashing hardware core suited for devices in which low cost is desired. The core constitutes of a novel 8-bit architecture that allows compact realizations of the algorithm. In the FPGA, the implementation consumes 376 slices and achieves the throughput of 81.5 Mbit/s.
IV11 2007	Implementation Of AES On a Dynamically Reconfigurable Architecture	This paper presents the design of AES/Rijndael on a dynamically reconfigurable architecture. A performance improvement of three orders of magnitude was shown compared to the reference code and up to 24times speed-up figure wrt fast C implementations over a RISC processor.
IV12 2007	Concurrent Error Detection In Reed Solomon Encoders And Decoders	In this paper, self-checking RS encoder and decoder architectures are presented. The RS encoder architecture exploits some properties of the arithmetic operations in $GF(2^m)$ . These properties are related to the parity of the binary representation of the elements of the Galois field.
IV13 2008	A Novel Carry-Look Ahead Approach to a Unified BCD and Binary Adder/Subtractor	In this paper, new architecture for efficient binary and binary coded decimal (BCD) adder/subtractor is presented. This employs a new method of subtraction unlike the existing designs which mostly use 10's complements, to obtain a much lower latency. Though there is a necessity of correction in some cases, the delay overhead is minimal.
IV22 2007	A Low Power BFSK Super-Regenerative Transceiver	The system is shown to preserve the low power qualities of the classic super-regenerative transceiver while obtaining the increased speed and reliability of BFSK modulation. Operation of the new system is explained at the system level and insight into the circuit design is also given. Simulations show the transceiver allows transmission rates on the order of 250kbps with a link power of less than 1.4mW.

IV25 2007	A New Approach to QPSK Mechanism and Implementation	The work reported in this paper serves two purposes. First, an alternative comprehensive approach is proposed for the understanding of the mechanism behind QPSK. The second part of this work proposes a method by which complex modulation schemes, like QPSK, can be implemented using only first degree components in Simulink, avoiding all the hurdles of mathematically-complicated blocks.
IV27 2008	A Novel BPSK Demodulator for Biological Implants	A prototype was implemented for a 13.56-MHz BPSK demodulator in a 0.5- $\mu\text{m}$ CMOS technology. The circuit occupies 1 $\text{mm}^2$ chip area and consumes 3-mW power without any circuit optimization and can be further improved. Bit-error rate measurements have also been presented for a 20-kbs data rate.
IV33 2007	Delay-Based BPSK for Pulsed-UWB Communication	This paper proposes a practical and effective modulation technique applicable to pulsed-UWB systems that mimics the desirable, continuous spectrum of a BPSK signal without requiring an inversion in the signal path. This technique can be used for scrambling the spectrum of a PPM signal, or as a replacement for BPSK signalling. It has been implemented in an all-digital, delay line based UWB transmitter in 90 nm CMOS.
IV34 2008	Design and Implementation of a DPA Resistant AES Coprocessor	To improve the DPA resistance of cryptographic device in intellectual cards, a power analysis platform is constructed for AES. After analyzed the AES encrypt process, a MASK circuit, disturbance circuit for clock and disturbance circuit for power are designed and implemented in an AES coprocessor of ZTEIC Corporation's intellectual card.
IV35 2009	Design and implementation of a sub-threshold BFSK transmitter	In this paper we implement and test a robust sub threshold design flow which uses circuit level PVT compensation to stabilize circuit performance. We design and fabricate a sub threshold BFSK transmitter chip. The transmitter is specified to transmit baseband signals up to a data rate of 32 kbps. The sub-threshold circuit consumes 19.4 times lower power than the traditional standard cell based implementation on the same die.
IV38 2008	FPGA implementation of FHSS-FSK modulator	In this paper, we present the Binary Frequency Shift Keying (BFSK) modulator using the Frequency Hopping Spread Spectrum (FHSS) operating in the European band ISM 863-870 MHz. The modulator generates a 7 MHz wide single-sideband, frequency hopped spread spectrum waveform for wireless transmission in the 863-870 MHz. This modulator is designed using the Direct Digital Frequency Synthesizer (DDFS) which enables us to generate BFSK signal with the hopping frequencies.
IV39 2007	FPGA-Based Advanced Real Traffic Light Controller System Design	Traffic light controller (TLC) has been implemented using microcontroller FPGA, and ASIC design. FPGA has many advantages over microcontroller, some of these advantages are; the speed, number of input/output ports and performance which are all very important in TLC design, at the same time ASIC design is more expensive than FPGA. Most of the TLCs implemented on FPGA are simple ones that have been implemented as examples of FSM.
IV46 2007	Optimized Area and Optimized Speed Hardware Implementations of AES on FPGA	Two implementations of the AES on FPGA are introduced, the first design is called optimized area AES which is based on the basic architecture of the AES, the second one is called optimized speed AES which is based on the sub-pipelined architecture of the AES. An AES crypto processor with serial interface was implemented and it could be used with any of our designed encryptor or decryptor.
IV51 2009	A Fast Hardware Approach for approximate, Efficient Logarithm and antilogarithm computations	In this paper, we present an approach to compute $\log()$ and $\text{antilog}()$ in hardware. Our approach is based on a table lookup, followed by an interpolation step. The interpolation step is implemented in combinational logic, in a field-programmable gate array (FPGA), resulting in an area-efficient, fast design. The novelty of our approach lies in the fact that we perform interpolation efficiently, without the need to perform multiplication or division, and our method performs both the $\log()$ and $\text{antilog}()$ operation using the same hardware architecture.
IV58 2007	FPGA Implementation of Low Power Parallel Multiplier	This paper presents low power multiplier design methodology that inserts more number of zeros in the multiplicand thereby reducing the number of switching activities as well as power consumption. Use of look up table is an added feature to this design. Modifying the structure of adders further reduces switching activity

## Domain : Electrical

### Technology : Embedded

IEE02 IEEE 2008	A fast and reliable transformer protection system based on the transformer magnetizing characteristics and artificial neural networks	The goal of this project is to make transformer protection fast and reliable. Most transformers are equipped with protection systems to avoid damage to the transformers. As any outage of the transformer has severe technical and economical consequences for the network, so implementing fast relaying algorithms for transformer protection devices to satisfy high reliability of the whole power systems.
IEE06 IEEE 2007	A Novel Digital Control Technique for Brushless DC Motor Drives	This paper introduces a novel concept for digital control of trapezoidal BLDC motors. The digital controller was implemented via two different methods. Motor operation is allowed only at two operating points or states. Alternating between the two operating points results in an average operating point that produces an average operating speed. The novel controller is verified via computer simulations and an experimental demonstration is carried out with the rapid prototyping and real-time interface system dSPACE.
IEE07 IEEE 2007	A Novel ZVS-PWM Single-Phase Inverter Using a Voltage Clamp ZVS Boost DC Link	A novel zero-voltage-switching pulse-width-modulation (ZVS-PWM) single-phase inverter using a voltage clamp ZVS boost dc link is proposed in this project. The proposed voltage clamp ZVS boost dc link not only provides the switches in the section of conventional PWM buck inverter operate at ZVS, but it has a boost input voltage function and the switches in itself also operate at ZVS.

IEE11 IEEE 2008	A ZVS DC-DC converter using non-dissipative snubber circuit	In this project full-bridge phase-shift PWM ZVS DC-DC converter using non-dissipative snubber circuit. The converter can achieve ZVS for all switches effectively. The principle and operation modes of the converter are analyzed in detail, and the necessary condition of soft switching is also analyzed. The digital control system of the converter is designed based on TMS320F2812 DSP. The proposed theory has been verified on a 24V/2A, 100 kHz experimental converter.
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IEE20 IEEE 2007	Digital Natural Sampling SPWM based on Inverse Operator Method	In this project, the inverse operator method was used to solve the NSPWM switch-points. Then the switch-points can be expressed in a series of Adomian polynomials. The precision of NSPWM switch-points is depended on how many Adomian polynomial terms are used in the calculation. More polynomial terms are included in the switch-point expression, higher precision can be obtained.
IEE25 IEEE 2008	High-Efficiency Boost Half-Bridge Converter With Fast Boost Current Transferring ZVS Operation	A new boost half bridge (BHB) converter is presented. It is composed of additional switch, diode and coupled winding to boost inductor of BHB converter. Using the transferring of boost inductor current to coupled winding in a short period, the cancellation of zero voltage switching (ZVS) current, which always occurs in convention one, is prevented.
IEE33 IEEE 2008	Self-tuning fuzzy controller for zero voltage switching power supply	This paper presents the self-tuning fuzzy controller (SFLC) for zero voltage switching power supply (ZVS). The main objective is to apply SFLC for output voltage controlling in case of load variation. The structure of SFLC consists of conventional fuzzy controller with scale factor self-tuning path which output performance is maintained by adjusting the scale of input membership function.
IEE34 IEEE 2008	Sensorless control of a BLDC motor with back EMF detection method using DSPIC	This paper proposes a scheme for sensorless control of a brushless dc (BLDC) motor by direct back EMF detection method using dsPIC30F3010. A mathematical model of the drive system is simulated with MATLAB SIMULINK Toolbox and the reference design incorporates both hardware and software parts of the system.

IEE40 IEEE 2008	Thermal monitoring on power transformers	In this project we are developing on-line thermal monitoring and vibration in order. The oil and winding temperatures are dependant to load. As the load increases to its nominal value, risk due to transformer paper insulation damage caused by disturbances becomes higher. Subsequently the situation will accelerate the transformer to ageing. By recognizing the raise and fall function of these temperatures to load we can identify the thermal characteristics of the transformer
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**Domain : Electrical**

**Technology : LabVIEW**

IEE02 IEEE 2008	A fast and reliable transformer protection system based on the transformer magnetizing characteristics and artificial neural networks	The goal of this project is to make transformer protection fast and reliable. Most transformers are equipped with protection systems to avoid damage to the transformers. As any outage of the transformer have severed technical and economical consequences for the network, so implementing fast relaying algorithms for transformer protection devices to satisfy high reliability of the whole power systems.
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IEEE 2002	Adaptive fuzzy-neural-network control for induction spindle motor drive	In the proposed controller, the induction spindle motor-drive system is identified by a fuzzy-neural-network identifier (FNNI) to provide the sensitivity information of the drive system to an adaptive controller. The backpropagation algorithm is used to train the FNNI online. Moreover, the effectiveness of the proposed induction spindle motor-drive system is demonstrated using some simulated and experimental results.
IEE14 IEEE 2008	Benefits of comprehensive and interactive on-line monitoring and expert systems for power transformers	Modern comprehensive monitoring systems for power transformers lead to increased operating reliability and reduction of operating and life-cycle costs. The simple and interactive user interface is an essential element for the application of the monitoring system and the built in simulator. With the use of the comprehensive monitoring system and the derived optimized operation, the lifetime of the transformer can be extended.
IEE15 IEEE 2008	Cable fault recognition using multiple wavelet neural networks	The aim of this project is to realize the online fault recognition instead of the current state-of-the-art of offline fault recognition of the power cable. In this method, the difference of the zero-order currents between the fault cable and the normal cable are selected as the original fault recognition features. Furthermore, an intelligent cable fault diagnosis system is designed.
IEE16 IEEE 2007	Characteristics of Inrush Current of Present Designs of Power Transformers	Accurate calculation of peak and % 2nd harmonic of inrush current is critical to appropriate selection of relay protection of a power transformer. In this project, a description is given of a rigorous calculation of magnitude and wave-shape of inrush current as a function of the transformer design parameters as well as parameters of the system to which the transformer is connected

IEE36 IEEE 2007	Simulation and analysis of starting transients in rotor-chopper-controlled doubly-fed induction motors	This project considers a starting method based on external rotor resistance control scheme that is used with wound-rotor induction machines. The so-called rotor-chopper-controlled topology is used to start an induction machine with maximum torque.
IEE37	Skin effect modeling of self excited induction generator in wind power application	. This project determines the performance of an SEIG considering the skin effect. The calculated results are compared with the experimental ones for a 7.5 hp industrial type induction machine (IM) in the case of no load condition.

IEEE 2008		
IEE38 IEEE 2007	Study on power transformer fault diagnosis method based on fuzzy tree	.in this project the fault analysis for transformers with the method of fuzzy fault tree based on fuzzy theory, which turns the fault rate into fuzzy math fault rate and processes probability estimation on the fault using expert graded method without statistical information. The way of it changed into fuzzy math is expatiated and an applied example is also been offered.
IEE40 IEEE 2007	Transformer Power Fault Diagnosis System Design Based On The HMM Method	This project aims at large-scale power transformer, introduces Hidden Markov Models theory into power transformer fault diagnosis field, and a fault diagnosis method using the HMM is put forward. Some issues and their settling methods about the HMM applying into power transformer brings are further analysed.
IL43 IEEE 2007	ZVS resonant DC-link inverter using soft switching boost converter	In this project, ZVS resonant DC-link inverter using soft switching boost converter is proposed. In the resonant inverter consisted of converter stage and inverter stage, converter stage switches $S_1$ , $S_2$ are turned on and off with zero-voltage-switching (ZVS) and zero-current-switching (ZCS), and inverter stage switches $S_3$ , $S_4$ , $S_5$ , $S_6$ and $S_7$ , are turned on and off with ZVS

**Domain : Electrical**

**Technology : VLSI**

IEE24 IEEE 2006	FPGA Implementation of a Multi-Level SPWM for Three-Level NPC Inverter	In this project, a new circuit implementation of a multi-level sinusoidal pulse width modulation (SPWM) for three-level neutral point clamped (NPC) inverter is presented. The SPWM control scheme is realized with only a single FPGA chip LFEC10 from LATTICE, Inc. and the programming language is very high speed integrated circuit hardware description language (VHDL).
IEE53 Year 2008	A Stochastic-Based FPGA Controller for an Induction Motor Drive With Integrated Neural Network Algorithms	In this paper an FPGA module is implemented for design of an controller of induction motor using neural network algorithms.
IEE54 Year 2008	An open-loop stepper motor driver based on FPGA	In this paper we study the implementation of an stepper motor driver using FPGA
IEE55 Year 2008	FPGA based control IC for multilevel inverter	