Research Title

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Abstract

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PII: S232251141200001-1

Hybrid Energy Production System with PV Array and Wind Turbine and Pitch Angle Optimal Control
ABSTRACT: In the 21st century because of expensive fossil fuels, usage of clean energy such as solar energy, wind energy, etc. will be increased. Therefore, optimal control of wind energy is very important. This paper presents a new method for optimal control of the pitch angle in a wind turbine system. In order to control the pitch angle at high speed of wind, genetic algorithm has been used. The optimal control of the pitch angle will result in the maximum power point tracking (MPPT). Therefore, the wind turbine system will work in its maximum efficiency.

Keywords: Wind Turbine, Photo Voltaic (PV), Genetic Algorithm (GA), MPPT, 12-Pulses Inverter, Optimal Control

PII: S232251141200002-1

Optimum Design of PSS and SVC Controller for Damping Low Frequency Oscillation (LFO)
ABSTRACT: The development of the demand for electrical energy leads to loading the transmission system close to their limits that ... simulation show that the SVC with PID controllers is more effective in damping LFO compared to PSS with PID controllers.

Keywords: 3 to 5 keyword or phrases.
Original Research, A3

Kalbkhani H, Chehel Amirani. M.


ABSTRACT

Lip detection is used in many applications such as face detection and lips reading. In previous works, researchers have considered the skin area as the only useful region. This work presents a new algorithm for lip detection that considers both skin and non-skin areas. The proposed algorithm is compared to a previous work on CVL face database. Our experiments show that new algorithm gives better results than previous works on this database.

Keywords: lip detection, skin, saturation, standard deviation.

PII: S232251141200004-1

Enhancement and Cleaning of Handwritten Data by using Neural Networks and Threshold Technique
Original Research, A4

Zali Varghahan B and Chehel Amirani M.


ABSTRACT: This paper propose the use threshold technical and artificial neural network (ANN) for clean and enhancement scanned image. Process of cleaning image is the preprocessing for system handwritten recognition that we do this work in this paper.

Keywords: threshold technical, artificial neural network, handwritten recognition, clean image, multilayer perceptron

PII: S232251141200005-1

Video Streaming over Wireless Mesh Networks

Original Research, A5
ABSTRACT: Wireless mesh networks (WMNs) have emerged as a key technology for next-generation wireless networking. They have become an essential component of modern communication systems, especially in areas with poor infrastructure or inaccessible locations. WMNs consist of multiple routers connected through wireless links, allowing them to form a scalable and flexible network infrastructure. Due to their topology, WMNs are particularly suitable for multimedia applications, such as video encoding and wireless channel specifications, with focuses on video surveillance systems.

Keywords: Wireless mesh network; Client; Router; Video

PII: S232251141200006-1

Novel Methods with Fuzzy Logic and ANFIS Controller Based SVC for Damping Sub-Synchronous Resonance and Low-Frequency Power Oscillation
**ABSTRACT:**

A long transmission line needs controllable series as well as shunt compensation for power flow control and voltage stability enhancement. In this paper, the Synchronous Condenser (SC) is used for this purpose. The Generalized Co-simulation environment for Power System (GCoS) software program was used to simulate and verify the effectiveness of the proposed control methods. A 400 kV 500 km long transmission line with 2250 MW power flow and 35.7 ohm ohm per km line resistance was modeled. A 1.5 MVAR static var compensator (SVC) was installed at the middle of the line for each control technique. The results showed that SVC control has the best performance in both voltage stability and power flow control compared to Fuzzy Logic Controller (FLC) and Adaptive Neuro-Fuzzy Inference System (ANFIS) control methods.

**Keywords:**

Sub-Synchronous Resonance (SSR), Static VAR Compensator (SVC), Fuzzy Logic Controller (FLC), Adaptive Neuro-Fuzzy Inference System (ANFIS), Fast Fourier Transform (FFT).
ABSTRACT: The increasing requirement to the clean and renewable energy has led to the rapid development of wind power systems all over the world. There are a number of challenges in designing wind power systems, but the most complex challenge is the control of wind power systems. In this paper, a new method for designing Power System Stabilizers (PSS) and Automatic Voltage Regulators (AVR) for three-area AGC system is presented. The proposed method is based on Improvised Competitive Algorithm (ICA) and it is designed at the optimal controller parameters. The proposed method is compared with other methods and results show the efficiency of the proposed method. 

Keywords: 3 to 5 keyword or phrases.
Abstract – Automatic Generation Control (AGC) is a very imperative issue in power system operation for providing electric parameters by using imperialist competitive algorithm (ICA) has been proposed. Finally the results have been compared.

Keywords: Automatic Generation Control (AGC), proportional Integral Derivative (PID), Automatic Voltage Regulator (AVR), imperialist competitive algorithm (ICA)