Hybrid Energy Production System with PV Array and Wind Turbine and Pitch Angle Optimal Control by Genetic Algorithm (GA)
ABSTRACT: In the 21st century because of expensive fossil fuels, usage of clean energy such as solar energy, wind energy, etc. will be increased. In the wind power system, the power of wind is converted into electrical power by a wind turbine. After that, the power is transmitted to the grid through a power electronic converter. In the power electronic converter, the power is controlled by the MPPT controller. The MPPT controller should control the power in a way that the maximum power is delivered to the grid. The wind turbine, being a variable speed machine, is controlled by the pitch angle. In high speed of wind, the optimal control of pitch angle is essential. Genetic algorithm has been used for optimal control of pitch angle. The MPPT controller is controlled by the genetic algorithm to maximize the power to the grid.

Keywords: Wind Turbine, Photo Voltaic (PV), Genetic Algorithm (GA), MPPT, 12Pulses 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. This situation causes voltage instability. The application of SVC with PID controllers is used for damping LFO. The 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 ... 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 Techniques.
Zali Varghahan B and Chehel Amirani M.


ABSTRACT: This paper proposes the use of threshold techniques and artificial neural networks (ANN) for cleaning and enhancing scanned images. The process of cleaning images is a preprocessing step for the handwritten recognition system, which is the focus of this paper.

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

PII: S232251141200005-1

Video Streaming over Wireless Mesh Networks

Original Research, A4

Original Research, A5
ABSTRACT: Wireless mesh networks (WMNs) have emerged as a key technology for next-generation wireless networking. Wireless mesh networks provide a range of services, including wireless channel specifications, with focuses on video surveillance systems.

Keywords: Wireless mesh network; Client; Router; Video
A Lak, Nazarpour D, Ghahramani H.


ABSTRACT: A long transmission line needs controllable series as well as shunt compensation for power flow control and voltage stability. This paper presents the use of a Static Var Compensator (SVC) for improving voltage stability in such line. The SVC installed on the right side of the line can improve the power transfer capability and can prevent out-of-step oscillation by installing the SVC. The MATLAB/Simulink software program was used to verify the effectiveness of each control method.

Keywords: Sub-Synchronous Resonance (SSR), Static VAR Compensator (SVC), Fuzzy Logic Controller (FLC), Adaptive Neuro-Fuzzy Inference System (ANFIS), Fast Fourier Transform (FFT).

PII: S232251141200007-1

Mitigating SSR in Hybrid Wind-Steam Turbine with TCSC Based Fuzzy Logic Controller and Adaptive Neuro Fuzzy Inference System Controller

Original Research, A7

Hosseini H. and Tousi B.
ABSTRACT: The increasing requirement to the clean and renewable energy has led to the rapid development of wind power systems all around the world. This paper proposes a novel method for designing a Power System Stabilizer (PSS) and Automatic Voltage Regulator (AVR) by the Imperialist Competitive Algorithm (ICA). The effectiveness of the proposed method has been compared with the Fuzzy Logic-based PSS and AVR controllers for the three-area power system. The results show that the ICA-based controllers provide better performance in terms of system stability and dynamic response.

Keywords: 3 to 5 keyword or phrases.

PII: S232251141200008-1

A Novel Method for Designing PSS-AVR by Imperialist Competitive Algorithm (ICA) for three-area AGC System

Original Research, A8

Hosseini H. and Tousi B.
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<th>ABSTRACT:</th>
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<td>Keywords:</td>
<td>Automatic Generation Control (AGC), proportional integral control</td>
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Abstract – Automatic Generation Control (AGC) is a very imperative issue in power system operation for providing electric power demand. The application of automatic generation control (AGC) is important for maintaining the system frequency and tie line power. The use of linear controllers such as PI controllers is common in AGC, because the response of this kind of controller is proportional to the error and its derivative. However, for cases with large excursions of load, such linear controllers may not be appropriate. In this paper, a new scheme for automatic generation control using imperialist competitive algorithm (ICA) has been proposed. Finally, the results have been compared.