Path-Finding in Multi-Agent, Unexplored and Dynamic Military Environment Using Genetic Algorithm

Original Research, D1
Saeedvand S, Naser Razavi S and Ansaroudi F.
**ABSTRACT:**
Path-finding in multi-agent, unexplored and dynamic military environment is one of the most important issues for solving various challenges. Necessary constraints to find path in a dynamic and unexplored environment are considered and Genetic algorithm is used.

**Keywords:**
Multi-Agent System, Path-finding, Chromosome

**PII:** S232251141500002-4

**Optimal Design of Bearingless Permanent Magnet-Type Synchronous Motors for Generating Maximum Levitation Force**
Original Research, D2
Honarjou M., Faraji H. and Shirzadi A.

ABSTRACT: One maintenance task that still exist with conventional motors are bearing lubrication and renewal. Bearingless motors are more efficient in terms of cost and maintenance. The design of a bearingless permanent magnet synchronous motor is presented in this research. The levitation force of the winding pole-pair is investigated. The simulation is done in Maxwell software.

Keywords: Bearingless Permanent Magnet Synchronous Motor, Maximum Levitation Force, Optimization, Thickness of PM.

PII: S232251141500003-4

Studying an Improved Interval-Only Algorithm for the De-Interleaving of Radar Pulses

Original Research, D3
Daryasafar N and Dehghani H.

ABSTRACT: In the electronic intelligence system (ELINT) a process known as radar signals de-interleaving is evaluated. The purpose is to determine the radar signals in real time. In general, the different methods have some limitations in the previous work. In this paper a novel algorithm processing is studied. The de-interleaving of the radar pulses is analyzed in this paper and their block diagrams and implementations steps as well as their ability in Deinterleaving of radar pulses are analyzed.
ABSTRACT: This contribution addresses forward kinematic analysis of 2-(6UPS) Hybrid Manipulators. The novelty lies in the application of Neural Network to solve the direct kinematics problem of the manipulator, providing a closed form solution with less than 1% error. Keywords: 2-(6UPS) Manipulators, Stewart Mechanism, Direct Kinematics.
Current Measurement with Optical Current Transformer

Original Research, D5
Alavi O.

ABSTRACT: Applying an optical current transformer (optical CT) to substations has several advantages, e.g. high accuracy and stability. The output signal of the optical CT is transmitted through optical fibers contained in an insulator. As an application of the optical CT, a new fault location system has been developed.

Keywords: OCT, Fiber Optic, Current Sensor, Protection

Reliability Constrained Energy and Reserve Scheduling of Microgrids Including High Penetration of Renewable Resources
ABSTRACT:

Due to environmentally and economically advantages, high deployment of renewable energy sources (RES) such as wind or solar has been one of the methods to reduce fossil fuel usage. On the other hand, the reliability and economics of the system are factors to consider when determining the optimal requirement reserve. This paper presents a method for energy and reserve scheduling in high penetration scenarios of RES. The method is applied on a modified IEEE 14-bus system and compared with stochastic dispatch. The results show that the proposed method can provide a better tradeoff between reliability and economics.

Keywords: Microgrids, renewable energy sources (RES), energy and reserve scheduling, expected energy not supplied (EENS).

PII: S232251141500007-4

Optimal Charge-Discharge Scheduling of Electric Vehicles Considering Their Battery Lifetime

ABSTRACT:

Due to environmentally and economically advantages, high deployment of renewable energy sources (RES) such as wind or solar has been one of the methods to reduce fossil fuel usage. On the other hand, the reliability and economics of the system are factors to consider when determining the optimal requirement reserve. This paper presents a method for energy and reserve scheduling in high penetration scenarios of RES. The method is applied on a modified IEEE 14-bus system and compared with stochastic dispatch. The results show that the proposed method can provide a better tradeoff between reliability and economics.

Keywords: Microgrids, renewable energy sources (RES), energy and reserve scheduling, expected energy not supplied (EENS).

PII: S232251141500008-4

Introducing a New High-Order Chaotic System with an Equilibrium Point and Stabilizing It Using LQR Controller

ABSTRACT:

In this paper, a new high-order chaotic system is proposed. This system has an equilibrium point on center and its stability is analyzed using Lyapunov’s direct method. To apply a control scheme that maximizes its stability, a Linear Quadratic Regulator (LQR) controller is designed and the chaotic system is stabilized under the controller. The stability of the chaotic system is verified using the graphical Lyapunov method.

Keywords: Chaotic System, High-Order Chaos, Lyapunov Exponent, Equilibrium Point, LQR Controller.