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

Saeedvand S, Naser Razavi S and Ansaroudi F.

PII: S232251141500001-X

Original Research, D1
ABSTRACT: Path-finding in multi-agent, unexplored and dynamic military environment is one of the most important issues for solving many socio-economic problems. 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 effective in this field. In this paper, an algorithm has been introduced for the optimization of the winding pole pair in the amount of levitation force 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) field, radar signals are used both technically and legally. In this paper, the block diagrams and implementations steps as well as their ability in Deinterleaving of radar pulses are analyzed.
Direct Kinematics solution of 2-(6UPS) Hybrid Manipulator based on Neural Network

Original Research, D4
Rahmani A, Ghanbari A, Mahboubkhah M.

ABSTRACT: This contribution addresses forward kinematic solution of modular hybrid manipulator which includes two same Stewart Mechanism. The proposed Neural Network (NN) structure is employed to solve the direct kinematic problem for the 2-(6UPS) manipulator. The results obtained by the NN model are compared with the results obtained by the use of the Closed Form Solution (CFS). The proposed NN method shows proper performance of the proposed network in less than %1 error.
Current Measurement with Optical Current Transformer

ABSTRACT:
Applying an optical current transformer (optical CT) to substations has several advantages, e.g. high accuracy and high bandwidth. The optical CT works by passing current through a thin wire that is surrounded by a sensing fiber. When current passes through the wire, it generates a magnetic field that is detected by the sensing fiber. The optical CT can be used to monitor the current flowing in power lines and detect any faults. 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 power is expected by 2015. However, these sources are highly intermittent and the reliability and economics of power systems must be ensured to guarantee a sufficient level of supply. Therefore, energy and reserve scheduling is the key to maintain system reliability and ensure the optimal requirement reserve. The expected energy not supplied (EENS) is a measure of reliability so that the optimal requirement reserve is determined by a 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 power is expected by 2015. However, these sources are highly intermittent and the reliability and economics of power systems must be ensured to guarantee a sufficient level of supply. Therefore, energy and reserve scheduling is the key to maintain system reliability and ensure the optimal requirement reserve. The expected energy not supplied (EENS) is a measure of reliability so that the optimal requirement reserve is determined by a 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 a Linear Quadratic Regulator (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 guaranteed using a Linear Quadratic Regulator (LQR) controller. Lyapunov Exponents and Poincaré section are used to analyze the chaotic behavior of the system and its stability.

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