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                     of rotor poles in a permanent-magnet machine using level set method
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                     Framework for the optimization of online computable models; A
                     modified lambda algorithm for optimization in electromagnetics;
                     Simple sensitivity calculation for inverse design problems in electrical
                     engineering; Optimal household energy management using V2H
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                     Optimization of EMI filters for electrical drives in aircraftAdaptive level
                     set method for accurate boundary shape in optimization of
                     electromagnetic systems; Amodified immune algorithm with spatial
                     filtering for multiobjective topology optimisation of electromagnetic
                     devices; Use of compensation theorem for the robustness assessment
                     of electromagnetic devices optimal design; Multi-physics optimisation
                     of an energy harvester device for automotive application; Stochastic
                     modeling error reduction using Bayesian approach coupled with an
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n-level output space mapping for electromagnetic design optimizationHigh-speed functionality optimization of five-phase PM machine using third harmonic current; Topology optimization of magnetostatic shielding using multistep evolutionary algorithms with additional searches in a restricted design space ; Adaptive unscented transform for uncertainty quantification in EMC large-scale systems; Ant colony optimization for the topological design of interior permanent magnet (IPM)machines; Multiobjective approach developed for optimizing the dynamic behavior of incremental linear actuators Radial output space mapping for electromechanical systems designMinimum energy control of descriptor positive discrete-time linear systems; Current spectrum estimation using Prony's estimator and coherent resampling; Optimal shape design of flux barriers in IPM synchronous motors using the phase field method; Conformal antennas arrays radiation synthesis using immunity tactic; Multi-level design of an isolation transformer using collaborative optimization; Model-free discrete control for robot manipulators using a fuzzy estimator

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| Sommario/riassunto | This special issue presents a selection of papers related to the 12th International Workshop on 'Optimization and Inverse Problems in Electromagnetism (OIPE 2012)', held in Ghent, Belgium, on September 19-21, 2012.The aim of the OIPE workshop is to discuss recent developments in optimization and inverse methodologies and their applications to the design and operation of electromagnetic devices. It is intended to establish an occasion when experts in electromagnetism and other areas (in e.g. engineering, mathematics, physics), involved in research or industrial activities, can discuss on the th |