Table of Contents

Special Issue on Mathematical and Heuristic Modeling and Optimization of Energy Systems, Part 2

Guest Editorial Preface

iv N. I. Voropai, Energy Systems Institute, Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia

Research Articles

1 Generation Scheduling Based on Two-Level Optimization Problem
   I. A. Nechaev, Energy Systems Institute, Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia
   S.I. Palamarchuk, Energy Systems Institute, Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia

12 Models of Imperfect Competition in Analysis of Siberian Electricity Market
   N.I. Aizenberg, Energy Systems Institute, Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia
   M.A. Kiseleva, Energy Systems Institute, Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia

28 PMU Placement Based on Heuristic Methods, when Solving the Problem of EPS State Estimation
   I. N. Kolosok, Energy Systems Institute, Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia
   A. M. Glazunova, Energy Systems Institute, Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia

65 Optimal Training of Artificial Neural Networks to Forecast Power System State Variables
   Victor Kurbatsky, Energy Systems Institute, Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia
   Denis Sidyrov, Energy Systems Institute, Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia
   A. G. Massel, Energy Systems Institute, Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia

   L. V. Massel, Energy Systems Institute, Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia
   V. L. Arshinsky, Energy Systems Institute, Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia
   A. G. Massel, Energy Systems Institute, Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia

92 Thermal Properties Study of a Solar Water Heater Tank with a Mantle Exchanger
   Mourad Chikhi, Unite of Solar Equipment Development UDES/EPST CDER, Bou-Ismail, Algeria
   Rabah Sellami, Unite of Solar Equipment Development UDES/EPST CDER, Bou-Ismail, Algeria
   Nachida Kassbdaj Manzouk, Unite of Solar Equipment Development UDES/EPST CDER, Bou-Ismail, Algeria

101 Optimal Operational Strategy for PV/Wind-Diesel Hybrid Power Generation System with Energy Storage
    Vincent Anayochukwu Ant, Department of Electronic Engineering, University of Nigeria, Nsukka, Enugu State, Nigeria