

Contents

General Approaches to Assessing Electrical Load of Agro-industrial Complex Facilities When Justifying the Parameters of the Photovoltaic Power System	1
Yulia Daus, Valeriy Kharchenko, and Igor Yudaev	
RBFNN for MPPT Controller in Wind Energy Harvesting System	27
Tigilu Mitiku Dinku and Mukhdeep Singh Manshahia	
Simulation Optimum Performance All-Wheels Plug-In Hybrid Electric Vehicle	39
Salem Al-Assadi	
Artificial Intelligence Application to Flexibility Provision in Energy Management System: A Survey	55
Oludamilare Bode Adewuyi, Komla A. Folly, David T. O. Oyedokun, and Yanxia Sun	
Machine Learning Applications for Renewable Energy Systems	79
Yasir Saleem Afridi, Laiq Hassan, and Kashif Ahmad	
New Technologies and Equipment for Smelting Technical Silicon	105
Mirtemir Kurbanov, B. M. Abdurakhmanov, Mukhsindjan Ashurov, and Valeriy Kharchenko	
Reconfiguration of Distribution Network Considering Photovoltaic System Placement Based on Metaheuristic Algorithms	135
Thuan Thanh Nguyen, Thang Trung Nguyen, and Cuong Viet Vo	
Technology of Secondary Cast Polycrystalline Silicon and Its Application in the Production of Solar Cells	157
A. L. Kadirov, B. M. Abdurakhmanov, H. B. Ashurov, and Valeriy Kharchenko	

Machine Learning Applications for Renewable-Based Energy Systems ... 177
Giorgio Graditi, Amedeo Buonanno, Martina Caliano,
Marialaura Di Somma, and Maria Valenti

**Bi-objective Optimal Scheduling of Smart Homes Appliances
Using Artificial Intelligence** 199
Govind Rai Goyal and Shelly Vadhera

**Optimal Placement of Photovoltaic Systems and Wind
Turbines in Distribution Systems by Using Northern Goshawk
Optimization Algorithm** 221
Bach Hoang Dinh, Thuan Thanh Nguyen, and Thang Trung Nguyen

Granulated Silicon and Thermal Energy Converters on Its Basis..... 243
B. M. Abdurakhmanov, M. M. Adilov, O. V. Trunilina,
and Valeriy Kharchenko

**Security-Constrained Unit Commitment with Wind Energy
Resource Using Universal Generating Function** 261
Robert T. F. Ah King and Doorgesh Balgobin

Index 283