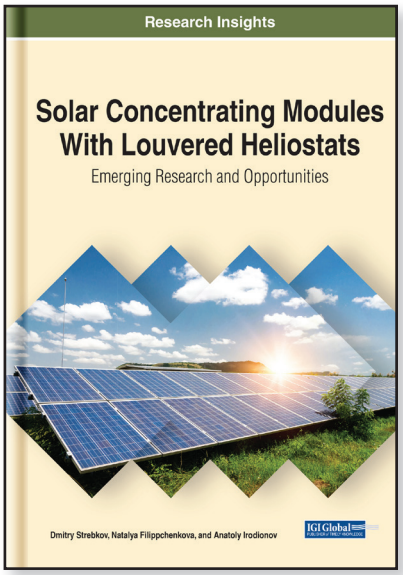
Solar Concentrating Modules With Louvered Heliostats: Emerging Research and Opportunities

Part of the Advances in Environmental Engineering and Green Technologies Book Series



Dmitry Strebkov (Federal State Budget Scientific Institution Federal Scientific Agroengineering Center VIM, Russia), Natalya Filippchenkova (Federal State Budget Scientific Institution Federal Scientific Agroengineering Center VIM, Russia) and Anatoly Irodionov (Federal State Budget Scientific Institution Federal Scientific Agroengineering Center VIM, Russia)

Description:

The development of solar energy is becoming increasingly widespread all over the world. One significant way to reduce the cost of energy generated by solar modules, as well as reduce the need for centralized energy supply, is the use of non-tracking concentrator solar modules integrated into the building structure. As this area of engineering gains interest from all sectors, it is crucial to understand how to increase productivity in order to make solar modules an excellent source of energy.

Solar Concentrating Modules With Louvered Heliostats: Emerging Research and Opportunities is an essential publication that formulates a scientifically based approach to the development of non-tracking solar modules with a system of linear louvered heliostats and the selection of the operating mode of the developed modules depending on various requirements of the consumer of thermal or electric energy. The proposed design can solve the problem of the lack of space for placing solar energy facilities in the city, as well as provide heat and electricity to consumers in the residential and public sectors and agricultural enterprises. The research results presented in the book can be used in the development of technological schemes and designs of photovoltaic, thermal, and cogeneration power plants with solar energy concentrators. Highlighting a wide range of topics including economic characteristics, artificial intelligence, and applications, this book is ideally designed for engineers, urban planners, policymakers, academicians, researchers, and students.

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Hardcover: $190.00 **Softcover:** $145.00 **E-Book:** $190.00 **Hardcover + E-Book:** $230.00

Topics Covered:

- Applications
- Artificial Intelligence
- Basic Characteristics
- Concentrators
- Economic Characteristics
- Neural Networks
- Photodetectors
- Receivers
- Solar Module Development
- Solar Power Plants
- Solar Radiation
- Technical Elements
- Theoretical Bases

Subject: Environmental, Agricultural, and Physical Sciences

Classification: Research Insights

Readership Level: Advanced-Academic Level (Research Recommended)

Research Suitable for: Advanced Undergraduate Students; Graduate Students; Researchers; Academicians; Professionals; Practitioners