

What is solar thermal energy?

The encyclopedia Solar Thermal Energy covers technologies that convert solar radiation into useful heat. Includes a glossary of key terms and definitions.

When was solar thermal energy invented?

The major developments that have led to currently available technologies for solar thermal energy applications were initiated mainly after the first oil shock in 1973.

What are the different types of solar thermal technologies?

There are three primary types of solar thermal technologies: solar parabolic trough plants, solar tower power plants, and solar dish power plants. These technologies concentrate solar energy in different ways, with mirrors that are normally constructed from glass. Other techniques are also being explored.

What is design of solar thermal power plants?

Design of Solar Thermal Power Plants introduces the basic design methods of solar thermal power plants for technicians engaged in solar thermal power generation engineering. This book ... read full description Since the beginning of the 21st century, energy and environmental problems have become increasingly more conspicuous.

What is the history of solar energy?

The history of solar energy dates back to the 19th century. Solar energy can be traced back to this time, with the development of both solar cells and solar thermal power generation. By the end of 2014, there were close to 180 GW of solar generating capacity around the world. Solar energy is generated by nuclear fusion reactions within the Sun.

How to design a thermal automation system in a power plant?

The lighting system of the power plant shall use a power supply network with separate normal and emergency lighting. Thermal automation design shall include meteorological instruments, a solar radiometer set, a meteorological station, thermal inspection, a thermal alarm, thermal protection, thermal control, and a thermal automation laboratory.

Technologies for Solar Thermal Energy: Theory, Design and Optimization presents concepts surrounding industrial process heat and thermal power generation, including detailed theory and practical considerations for design, ...

Covers a wide range of technologies and applications that actively convert solar radiation into useful heat. Includes a glossary of key terms and definitions. Features peer-reviewed contributions from leading experts.

Part of the book ...

Three ways of using solar energy are highlighted: Photovoltaics (obtained through photovoltaic solar panels and used to generate electricity), solar thermal energy (collected through solar collectors and transformed into thermal energy) and ...

clean energy power generation methods, solar thermal power generation can turn the traditional power grid into a technology of energy Internet because of its unique advantages. The thermal ...

Solar Power Generation is a concise, up-to-date, and readable guide providing an introduction to the leading renewable power generation technology. It includes detailed descriptions of solar photovoltaic and solar thermal generation ...

This book provides recent trends and innovation in solar energy. It covers the basic principles and applications of solar energy systems. Various topics covered in this book include introduction and overview of solar energy, solar PV ...

The characteristic of parabolic dish can be mentioned as having high temperature application, which is possibly appropriate for solar thermal power and solar thermal steam generation. 101, 102 The range of ...

