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ISBN	1-315-37031-X 1-4987-2777-8 1-4987-2782-4
Edizione	[1st ed.]
Descrizione fisica	1 online resource (614 pages)
Disciplina	621.31/244
Soggetti	Building-integrated photovoltaic systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	1. Energy sources, energy uses, and global warming -- 2. The internal environment of a residence -- 3. Heat flow from a residence -- 4. Residential construction techniques -- 5. The seasons and solar angles -- 6. Transmission of light through the atmosphere -- 7. Solar gain and solar attenuation -- 8. Transmission of solar energy through glazing -- 9. Climate and the siting of a solar structure -- 10. Solar structures from early to modern -- 11. Passive solar collection -- 12. Non-concentrating, active solar collectors -- 13. Photovoltaic panels -- 14. Smart grids, FiTs, and net metering -- 15. Architectural considerations for capturing solar energy -- 16. Methods of energy storage.
Sommario/riassunto	This book presents techniques for building and optimizing structures with integrated solar energy systems. It describes active solar systems such as photovoltaics and parabolic concentrators as well as passive solar systems and covers optimal materials to use, daylighting, shading, solar blinds, rock and water energy storage and more. It discusses the best ways to site a solar structure considering exposure, elevation, slope, clearance, wind protection, etc. The book includes numerous full-color figures and more than 100 MATLAB® files.