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Nota di contenuto	Front Matter -- Solar Power Plants: State of the Art / Gilles Flamant -- Solar Resource Management, Assessment and Forecasting / Stphane Thil, Stphane Grieu -- Optics of Concentrating Systems / Franois Hnault, Benjamin Grange, Quentin Falcoz -- Solar Receivers / Benjamin Grange -- Heat Transfer Fluids for Solar Power Plants / Gilles Flamant -- Numerical Simulations of Flows and Heat Transfers of Solar Receivers / Franoise Bataille, Adrien Toutant, Dorian Dupuy -- Materials for Concentrated Solar Power / Audrey Soum-Glaude, Antoine Grosjean -- Thermal Energy Storage / Aubin Touzo, Quentin Falcoz, Gilles Flamant -- Hybrid PV-CSP Systems / Alexis Vossier, Joya Zeitouny -- Synthetic Fuels from Hydrocarbon Resources / Sylvain Rodat, Stphane Abanades -- Solar Fuel Production by Thermochemical Dissociation of Water and Carbon Dioxide / Stphane Abanades, Sylvain Rodat -- List of Authors -- Index
Sommario/riassunto	The Sun, our star, has inspired the research of many scientists and engineers and brings hope to many of us for a paradigm shift in energy. Indeed, the applications of solar energy are manifold, primarily because it concerns both light and heat. Photovoltaic (PV) conversion is the most well-known among these, but other modes of conversion include photochemical, photobiological, photoelectrochemical, thermal and thermochemical. This book covers the entire chain of conversion

from the Sun to the targeted energy vector (heat, electricity, gaseous or liquid fuels). Beginning with the state of the art, subsequent chapters address solar resources, concentration and capture technologies, the science of flows and transfers in solar receivers, materials with controlled optical properties, thermal storage, hybrid systems (PV-thermal) and synthetic fuels (hydrogen and synthetic gas). Written by a number of experts in the field, Concentrating Solar Thermal Energy provides an insightful overview of the current landscape of the knowledge regarding the most recent applications of concentrating technologies.
