Record Nr. UNINA9910677997203321 Autore Duffie John A. **Titolo** Solar engineering of thermal processes, photovoltaics and wind // John A. Duffie, William Beckman, with Nathan Blair Hoboken, New Jersey:,: Wiley,, [2020] Pubbl/distr/stampa ©2020 **ISBN** 1-119-54030-5 1-5231-3327-9 1-119-54032-1 1-119-54031-3 Edizione [Fifth edition.] Descrizione fisica 1 online resource (931 pages) Disciplina 621.47 Soggetti Solar energy Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Solar radiation -- Available solar radiation -- Selected heat transfer topics -- Radiation characteristics of opaque materials -- Radiation transmission through glazing: absorbed radiation -- Flat-plate collectors -- concentrating collectors -- Energy storage -- Solar process loads -- System thermal calculations -- Solar process economics -- Solar water heating: active and passive -- Building heating: active -- Building heating: passive and hybrid methods --Solar cooling -- Solar industrial process heat -- Solar thermal power systems -- Solar ponds: evaporative processes -- Simulations in solar process design -- Design of active systems: f-chart -- Design of active systems by utilizability methods -- Design of passive and hybrid heating systems -- Design of photovoltaic systems -- Wind energy. "The updated Fifth Edition of Solar Engineering of Thermal Processes, Sommario/riassunto Photovoltaics and Wind contains the fundamentals of solar energy and explains how we get energy from the sun. The authors--noted experts on the topic--provide an introduction to the technologies that harvest, store, and deliver solar energy, such as photovoltaics, solar heaters. and cells. The book also explores the applications of solar technologies

and shows how they are applied in various sectors of the marketplace.

The revised Fifth Edition offers guidance for using two key engineering software applications, Engineering Equation Solver (EES) and System Advisor Model (SAM). These applications aid in solving complex equations quickly and help with performing long-term or annual simulations. The new edition includes all-new examples, performance data, and photos of current solar energy applications. In addition, the chapter on concentrating solar power is updated and expanded. The practice problems in the Appendix are also updated, and instructors have access to an updated print Solutions Manual."--