1. Record Nr. UNINA9910337594503321 Autore Amiri Iraj Sadegh Titolo Introducing CTS (Copper-Tin-Sulphide) as a Solar Cell by Using Solar Cell Capacitance Simulator (SCAPS) / / by Iraj Sadegh Amiri, Mahdi Arianneiad Cham:,: Springer International Publishing:,: Imprint: Springer,, Pubbl/distr/stampa 2019 ISBN 3-030-17395-X Edizione [1st ed. 2019.] Descrizione fisica 1 online resource (80 pages) Collana SpringerBriefs in Electrical and Computer Engineering, , 2191-8112 Disciplina 621.31244 Soggetti **Energy storage** Electronic circuits Electronics Microelectronics **Energy Storage Electronic Circuits and Devices** Electronics and Microelectronics, Instrumentation Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto Chapter1: Development of Solar Cell Photovoltaic: Introduction and principle working -- Chapter2: Solar Energy based Semiconductors: Working functions and mechanisms -- Chapter3: CTS (CU2SNS3) solar cell structures and implemented methodology -- Chapter4: CTS solar cell performance analysis and efficiency characterizations -- Chapter5: A Summary of semiconductor solar cells and future works. Sommario/riassunto This book discusses the enhancement of efficiency in currently used solar cells. The authors have characterized different structures of the solar cell system to optimize system parameters, particularly the performance of the Copper-Tin-Sulphide solar cell using Solar Cell Capacitance Simulator (SCAPS). This research can help scientist to overcome the current limitations and build up new designs of the system with higher efficiency and greater functionality. The authors have investigated the corresponding samples from various viewpoints,

including structural (crystallinity, composition and surface

morphology), optical (UV-vis-near-IR transmittance/reectance spectra) and electrical resistivity properties. .