Record Nr. UNINA9910298588003321 Autore Guo Nan Titolo Infrared Photodetectors Based on Low-Dimensional Materials / / by Nan Guo Singapore:,: Springer Singapore:,: Imprint: Springer,, 2018 Pubbl/distr/stampa **ISBN** 981-13-2838-2 Edizione [1st ed. 2018.] Descrizione fisica 1 online resource (61 pages) Springer Theses, Recognizing Outstanding Ph.D. Research, , 2190-Collana 5053 621.362 Disciplina Soggetti Optical materials Electronic materials Lasers **Photonics** Electronics Microelectronics Optical and Electronic Materials Optics, Lasers, Photonics, Optical Devices Electronics and Microelectronics, Instrumentation Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Introduction and Background -- Photovoltaic and photo-thermoelectric Nota di contenuto effects in Graphene photodetector -- Multispectral active infrared imaging by Graphene photodetector -- Anomalous responsivity in InAs nanowire phototransistors based on majority carrier transport -- Twodimensional material/nanowire hybrid photodetector -- Conclusion and Prospect. This book is focused on the study of physical mechanisms and device Sommario/riassunto

> design for achieving high-performance infrared photodetection based on low-dimensional materials. Through theory analysis, material characterization and photo-electric measurements, it provides

solutions to the trade-off problems which are commonly encountered in traditional infrared photodetectors and presents novel methods to improve the responsivity, detectivity and response speed. Researchers and scientists in the field of opto-electronic device can benefit from the