Record Nr. UNINA9910254192003321 Autore Choudhury Balamati Titolo Terahertz Antenna Technology for Space Applications / / by Balamati Choudhury, Aniruddha R. Sonde, Rakesh Mohan Jha Singapore:,: Springer Singapore:,: Imprint: Springer,, 2016 Pubbl/distr/stampa **ISBN** 981-287-799-1 [1st ed. 2016.] Edizione Descrizione fisica 1 online resource (63 p.) Collana SpringerBriefs in Computational Electromagnetics, , 2365-6239 Disciplina 621.3813 Soggetti Microwaves Optical engineering Mathematical physics Electrical engineering Microwaves, RF and Optical Engineering Theoretical, Mathematical and Computational Physics Communications Engineering, Networks Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and indexes. Nota di contenuto Introduction -- Applications -- Terahertz Antennas -- Antenna Measurements and Testing -- Space Applications -- Conclusions. This book explores the terahertz antenna technology towards Sommario/riassunto implementation of compact, consistent and cheap terahertz sources, as well as the high sensitivity terahertz detectors. The terahertz EM band provides a transition between the electronic and the photonic regions thus adopting important characteristics from these regimes. These characteristics, along with the progress in semiconductor technology. have enabled researchers to exploit hitherto unexplored domains including satellite communication, bio-medical imaging, and security systems. The advances in new materials and nanostructures such as graphene will be helpful in miniaturization of antenna technology while simultaneously maintaining the desired output levels. Terahertz antenna characterization of bandwidth, impedance, polarization, etc.

> has not yet been methodically structured and it continues to be a major research challenge. This book addresses these issues besides including the advances of terahertz technology in space applications worldwide,

along with possibilities of using this technology in deep space networks.