

1. Record Nr.	UNINA9910140800603321
Autore	Capper Peter
Titolo	Mercury cadmium telluride : growth, properties, and applications // edited by Peter Capper and James Garland
Pubbl/distr/stampa	Chichester, England : , : Wiley, , 2011 ©2011
ISBN	1-119-95757-5 1-282-78266-5 9786612782664 0-470-66946-2 0-470-66945-4
Edizione	[11th ed.]
Descrizione fisica	1 online resource (600 p.)
Collana	Wiley Series in Materials for Electronic & Optoelectronic Applications
Disciplina	661/.0726
Soggetti	Mercury cadmium tellurides Semiconductors - Doping Infrared detectors - Materials Electronic books.
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 at the end of each chapters and index.
Nota di contenuto	Mercury Cadmium Telluride; Contents; Series Preface; Preface; Foreword; List of Contributors; Part One - Growth; 1 Bulk Growth of Mercury Cadmium Telluride (MCT); 2 Bulk Growth of CdZnTe/CdTe Crystals; 3 Properties of Cd(Zn)Te Relevant to Use as Substrates; 4 Substrates for the Epitaxial Growth of MCT; 5 Liquid Phase Epitaxy of MCT; 6 Metal-Organic Vapor Phase Epitaxy (MOVPE) Growth; 7 MBE Growth of Mercury Cadmium Telluride; Part Two - Properties; 8 Mechanical and Thermal Properties; 9 Optical Properties of MCT; 10 Diffusion in MCT; 11 Defects in HgCdTe C Fundamental 12 Band Structure and Related Properties of HgCdTe13 Conductivity Type Conversion; 14 Extrinsic Doping; 15 Structure and Electrical Characteristics of Metal/MCT Interfaces; 16 MCT Superlattices for VLWIR Detectors and Focal Plane Arrays; 17 Dry Plasma Processing of Mercury Cadmium Telluride and Related II-VIs; 18 MCT

Photoconductive Infrared Detectors; Part Three - Applications; 19 HgCdTe Photovoltaic Infrared Detectors; 20 Nonequilibrium, Dual-Band and Emission Devices; 21 HgCdTe Electron Avalanche Photodiodes (EAPDs); 22 Room Temperature IR Photodetectors; Index

Sommario/riassunto

Mercury cadmium telluride (MCT) is the third most well-regarded semiconductor after silicon and gallium arsenide and is the material of choice for use in infrared sensing and imaging. The reason for this is that MCT can be 'tuned' to the desired IR wavelength by varying the cadmium concentration. Mercury Cadmium Telluride: Growth, Properties and Applications provides both an introduction for newcomers, and a comprehensive review of this fascinating material. Part One discusses the history and current status of both bulk and epitaxial growth techniques, Part Two is concerned with the w
