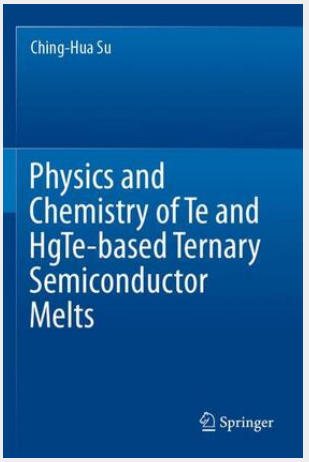
Su

Physics and Chemistry of Te and HgTe-based Ternary Semiconductor Melts



This book reviews the experimental measurements of density, thermal conductivity, viscosity, and electrical conductivity on the binary, pseudo-binary melts of the most advanced IR-detector material systems of HgCdTe and HgZnTe as well as the theoretical analyses of these results. The time-dependent measurements on the relaxation behavior of the thermophysical properties during rapid cooling of the melts were also performed to elucidate the characteristics of the structural fluctuation and transition of the melts. The author shows his research results which extend understanding of the solidification process in order to interpret and improve the experimental results of crystal growth and enhances the fundamental knowledge of heterophase fluctuations phenomena in the melts so as to improve the melt growth processes of all the semiconductor systems. An in-depth study on the thermophysical properties and their time-dependent structural dynamic processes taking place in the vicinity of the solid-liquid phase transition of the narrow homogeneity range HgTe-based ternary semiconductors as well as the structural analysis of the alloy homogenization process in the melt is needed to understand and to improve the crystal growth processes. This book is intended for graduate students and professionals in materials science as well as engineers preparing and developing optical devices with semiconductors. The theory of heterophase fluctuations of liquids is applicable to any many-body systems including condensed-matter physics and field theory.

160,49 €
149,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9783030755881
Medium: Buch
ISBN: 978-3-030-75588-1
Verlag: Springer International Publishing
Erscheinungstermin: 12.06.2022
Sprache(n): Englisch
Auflage: 1. Auflage 2021
Produktform: Kartoniert
Gewicht: 242 g
Seiten: 134
Format (B x H): 155 x 235 mm