图书基本信息

书名:《创新加工薄膜与纳米晶粉INNOVATIVE PROCESSING OF FILMS AND NANOCRYSTALLINE POWDERS》

13位ISBN编号: 9781860943164

10位ISBN编号: 1860943160

出版时间:2002-12

出版社: World Scientific Pub Co Inc

作者: Choy, Kwang-Leong (EDT)

页数:294

版权说明:本站所提供下载的PDF图书仅提供预览和简介以及在线试读,请支持正版图书。

更多资源请访问:www.tushu111.com

内容概要

The use of advanced engineering ceramic films and powders for structural and functional applications is expanding rapidly. Improved materials and innovative methods of fabrication are needed to enhance the engineering performance and reduce the production costs. This book highlights innovative/cost-effective material-processing methods, at a mature production stage and also in development. In addition, issues and strategies associated with scaling-up are emphasized.

书籍目录

PrefaceList of Contributors Chapter 1 Review of Advances in Processing Methods: Films and Nanocrystalline PowdersKwang-Leong ChoyChapter 2 Process Principles and Applications of Novel and Cost-Effective ESAVD Based MethodsKwang-Leong Choy 1. Background 2. Fundamental of ESAVD 2.1. Definition 2.2. Process Principles 2.3. Process Parameters 2.4. Electrostatic Atomisation and Spraying 2.5. Electrical Field 2.6. Thermal Field 2.7. Microstructure of ESAVD Deposits 2.8. Advantages 2.9. Comparison of ESAVD with Other Electrospraying Techniques 2.10. Applications 3. Case Studies 3.1. ESAVD of ThickFilms 3.2. ESAVD of Thin Films 3.3. Other Variants of ESAVD 4. Conclusions and Outlook Acknowledgements References Chapter 3 Application of Pulsed Injection MOCVD to the Deposition of Oxide Single Layers and Superlattices Jean-Pierre Schateur, Catherine Dubourdieu, V. Galindo, François Weiss and Adolfas Abrutis 1. Introduction 2. Deposition of Oxide Films from the Metal-Organic Vapour Phase 3. Experimental Set-up and 4.1. Oxide Films Grown by Pulsed Injection CVD 4.2. Oxide Multilayered Characterisation 4. Results Structures Deposited by Pulsed Injection CVD.. 5. Conclusions References Chapter 4 Novel Synthesis Nanocrystalline Diamond Films Stanislaw Mitura 1. Introduction 2. Experimental 2.1. Nucleation of Diamond Particles 2.2. Synthesis of Nanocrystalline Diamond Coatings 3. Characterisation 3.1. Structural Investigations 3.2. Characterisation of the Raman Spectra 3.3. AES and Micro X-ray Investigations of 3.4. Tribological Investigations 3.5. Corrosion Resistance 4. Medical Applications Substrate/Film Interface 4.1. Pre-clinic Investigation 4.2. Examples in Medicine 5. Mechanical Applications 6. Applications in Jewellery 7. Conclusions References AcknowledgementsIndex

版权说明

本站所提供下载的PDF图书仅提供预览和简介,请支持正版图书。

更多资源请访问:www.tushu111.com