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Altri autori (Persone)	ZuckermanJ. J <1936-1987.> (Jerold J.) AtwoodJim D. <1940->
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Nota di contenuto	Inorganic Reactions and Methods; Contents; How to Use this Book; Preface to the Series; Editorial Consultants to the Series; Contributors to Volume 18; The Formation of Ceramics; Introduction; Ceramic Preparative Methods; Introduction; Preparation of Powders for Ceramic Processing; Purity, Particle Size Uniformity and Small Particle Size; Comminution Techniques; Solution Preparation; Coprecipitation; Sol Gel.; Freeze-Drying; Solvent Evaporation.; Vapor Phase Techniques; Reactions in the Vapor Phase.; Vapor Decomposition.; Direct Vaporization Condensation.; Thermal Decomposition Densification of Ceramic PowdersIntroduction; Forming; Pressing of Dry or Semi-Dry Powders.; Casting of Concentrated Suspensions.; (i)Slip Casting.; (ii) Tape Casting.; Plastic Deformation of Powder Mixtures.; (i) Extrusion; (ii) Injection Molding.; Drying; Physical Principles of Drying.; Drying Defects.; Binder Removal; The Process of Thermal Debinding.;

Models for Thermal Debinding.; Firing; Principles of Solid State Sintering.; Experimental Observations of Solid-state Sintering.; Pressure Sintering.; Liquid-Phase Sintering.; Crystal Growth from Melts and Solutions; Growth from Melts
Pulling from the Melt.(i) Dislocations.; (ii) Facets; (iii) Striations.; (iv) Nonstoichiometry.; Directional Solidification.; Controlled Heat Removal.; Float Zone Growth.; Flame Fusion Method.; Skull Melting.; Shaped Crystal Growth.; Fiber Growth.; Arc-Fusion Method.; Growth from High-Melting Solutions; Slow Cooling.; Solvent Evaporation.; Solute Transport in a Temperature Gradient.; Traveling Solvent Zone Methods.; Flux Reaction Techniques¹.; Electrocrystallization; Liquid-Phase Epitaxy (LPE).; Hydrothermal Synthesis of Ceramics; Growth from Other Solutions; Chemical Vapor Deposition
Fundamentals Thermodynamics.; Kinetics and Transport Considerations.; Film Growth and Morphology.; Reaction Pathways; Pyrolysis; Oxidation/Hydrolysis; Reduction.; Carbidization/Nitridation; Disproportionation; Plasma CVD (PCVD); Non-Conventional CVD Techniques; Laser/Photo CVD.; Hot Filament CVD.; Ion Beam CVD.; Aerosol CVD.; Technologically Significant Ceramics via CVD; Silicon Dioxide.; Aluminium Oxide.; Silicon Nitride.; Titanium Dioxide.; Titanium Nitride.; Boron Nitride.; Aluminum Nitride.; Silicon Carbide.; Metal Oxides and High T_c Superconductors.; Doping; Doping from Solids
Group I Dopants.Group II Dopants.; Group III Dopants.; Group V Dopants.; Group VI Dopants.; Doping from Liquids; Directly Applied Liquid Sources; Liquid Sources for Open-Tube Diffusion.; Doping from the Vapor; Ion Implantation; Gas Flow or Liquid Vapor.; External Thermal Oven.; Sputtering, Electron Bombardment, Oxide-Chloride Conversion.; Neutron Transmutation Doping; The Synthesis and Fabrication of Ceramic for Special Application; Introduction; Preparation of Glasses for Special Applications; Bonding, Kinetic, and Other Factors that Favor Glass Formation; Glass Formation.; Glass Structure. Composition of Glasses.

Sommario/riassunto

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