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Thermal Stability and Microstructure in the Electroless Ni-P-W Composite Coating; The Effect of AlN Contents on the Properties of SiC-AlN Particulate Composites ; Synthesis of the Magnesium-Based Nano/Amorphous-Composite Alloy Powder by the Combination Method of Melt-Spinning and Mechanical Alloying; Microstructure and Properties of Spark Plasma Sintering AlN/BN Ceramics
Electrical and Mechanical Properties of Metal-Particle-Dispersed PZT-Matrix Composites Aluminum Borate Whiskers Growing by Compensation of TiB2 ; Controlled Interphase in Carbon Fiber/Epoxy Composites by Molecular Self-Assembly Method; Alumina/Glass Composites Fabricated by Melt-Infiltration of Glass into Porous Alumina; In-Situ Synthesis of Metal Matrix Composite Coating with Laser Melting-Solidifying Processes; The Microstructure, Mechanical and Dielectric Properties of CNTs/Mullite Ceramics Composites Mechanical Behavior of a Hybrid Reinforced Magnesium Composite Fabricated by Pressure Infiltration Method Wettability at Al-Mg/Ceramic Interfaces; Influence of Cu Content on Interfacial Structure and Mechanical Properties of 3Al2O32SiO2 Fiber Reinforced Al Matrix Composites; Fabrication by SPS and Thermophysical Properties of High Volume Fraction SiCp/Al Matrix Composites; Solid State Reaction Synthesis and Thermoelectric Properties of Ag-Doped Mg2Si0.8Ge0.2 ; Environmental Performance Testing System for Thermostructure Materials Applied in Aeroengines ; Keywords Index; Authors Index

Sommario/riassunto

Composite materials have been at the center of research and development, in the materials community, for decades. The concept of combining metals, ceramics and polymers of various types, shapes and properties into a single composite material having properties that none of the constituents can themselves exhibit, has provided endless scope for human beings to invent. It has therefore stimulated numerous research and development efforts, and many applications. However, in spite of the advantages of composite materials, many underlying problems arising from the complexity of the systems have