EUROMAT 2019 / Area A

SYMPOSIUM: A1

Title: Nitrides, borides, carbides, and carbon-based materials

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Abstract

An average of ~ 300 words
(Scope, description, Targeted Topics)

This symposium will cover recent research related to nitride, boride and carbide refractory materials as well as carbon-based materials. Due to their excellent mechanical properties and stability at high temperatures, these compounds have attracted considerable interest as engineering materials for applications in severe environment. In addition, these materials are now studied increasingly for their potential applications in socioeconomically important fields such as electronics, optics, energy, catalysis, gas storage, among others. This symposium aims to discuss the state-of-the-art of the research in the areas of nitride, boride, carbide and carbon-based materials from their synthesis and fabrication, to their physico-chemical properties, performances and applications.
Thus, the topics include non-exclusively:
Novel materials and synthetic approaches
Processing (powder, thin films, sintering,...)
(High)- and (Ultra-High)-pressure materials
Polymer derived non-oxide ceramics
Microstructural design and control
Mechanical properties
High-temperature chemistry
Structure and electronic properties
Modelling and Thermochemistry

Composites and hybrids
Nano- and micro-composites, including carbon-containing composites
Carbon and carbide fibres
Nitride fibres
Porous materials
Applications