

Special Issue

Functionally Graded Materials: Structures, Properties, and Applications

Message from the Guest Editor

Functionally graded materials (FGMs) are multi-phase composites to be engineered with gradual spatial variations of constituents, which result in smooth variation of thermal, mechanical, electrical, and other properties. The advantages of FGMs to two dissimilar materials joined directly together include smoothing of stress distributions across the layers, minimization or elimination of stress concentrations and singularities at the interface corners and increase in bonding strength. These advantages are achieved by fabricating FGMs with predetermined gradual spatial variations of the volume fractions and microstructures of the material constituents according to functional performance requirements. FGMs have been successfully accepted in a variety of industries such as aerospace, automobile, energy fields and biomedical fields due to their ability to tailor properties gradually and avoid concentrations in properties between two bonded materials. This Special Issue aims to collect recent studies on properties and applications of structural FGMs. Full papers, communications, and reviews are all welcome.

Guest Editor

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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