Special Issue

Advances in Microwave Processing of Materials

Message from the Guest Editor

Dear colleagues: Over the last several decades, high-power microwave technology for materials processing has been an emerging topic in research as well as in industrial applications. Nevertheless, the potential benefits of microwave applications, which have been intensively demonstrated in numerous lab-scale experiments, are accompanied by significant challenges (e.g., temperature uniformity and process control) when upscaled. Successful upscale typically requires detailed knowledge of material behavior during the process, which requires in situ dielectric characterization under process-relevant conditions, process simulation, and experimental validation. This Special Issue will survey recent progress in microwave processing of materials and cover topics such as dielectric characterization, process simulation, design of industrial microwave applicators, and process control methods. Processes may include (but are not limited to) high-temperature processing of inorganic materials such as ceramics, glasses, or metals; processing of organic materials; and microwave chemistry.

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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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