Special Issue

Materials Preparation, Characterization and Applications in Raman Spectroscopy

Message from the Guest Editor

Raman spectroscopy is a non-destructive chemical analysis technique, which could provide detailed information about the chemical composition, structure, polymorphy, crystallinity and molecular interactions of a sample, whether solid, liquid, gas, gel, slurry or powder. Thus, it has been broadly used in optics, biomedicine, environmental science, materials, catalysis, energy, and so forth. Whether the goal is to collect qualitative or quantitative data, Raman analysis can provide key information quickly and easily. In addition, surface-enhanced Raman scattering/spectroscopy (SERS) has attracted increasing interest in recent years, both in terms of its fundamental physics/chemistry and applications in many fields. Benefitting from the rapid development of nanomaterials and nanotechnologies, SERS are widely used as a label-free and ultra-high sensitivity detection method in surface analyses, as well as biomolecular and chemical sensing. SERS also play an important role in the in situ characterization of surface catalytic reactions under working conditions, providing important spectral evidence regarding the reaction intermediates produced on catalyst surfaces.

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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