Special Issue

Magnetic-Responsive Molecular Particles Based Smart Materials: Model, Characterization and Applications

Message from the Guest Editor

Dear colleagues, Magnetorheological (MR) materials are one of the best candidates to fulfil the scope of controllable discrete devices and smart structure that react to the magnetic field. This is possible due to the chain-like structures of molecular nano- and micro-sized particles with respect to the magnetic field direction. In general, MR materials are divided into 5 categories including MR fluid, MR grease, MR elastomer, MR gel and MR foam. They are different in terms of the physical appearances like liquid, semi-liquid, solid and semi-solid. Thus, the field-dependent properties of each MR material are different and application fields are specialized. The followings are the topics proposed for this special issue (but not limited to):

- Molecular model of MR materials
- Modelling of MR materials behaviors
- New formulation of MR materials
- Materials selection of MR materials
- Properties and characterization of MR materials
- Design for manufacture of MR materials
- Reliability of MR materials
- MR materials based sensors and actuators
- Potential applications of MR materials
- Smart flexible structure based on MR materials

Guest Editor

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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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