



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

Guest Editor:

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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





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Message from the Editor-in-Chief

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