



Magnetostriction, Spectrometry and Magnetic Behavior of Materials

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Message from the Guest Editors

Recently, the interest in high magnetostriction materials has significantly increased due to their application potential in the domain of effective sensors and actuators. Moreover, the systematic investigations of magnetoelastic properties broaden our knowledge on the fundamentals of magnetic interactions in modern magnetic materials and elements manufactured with novel industrial technologies—including subtractive ones (such as CNC machining) and additive ones (such as 3D printing with laser powder melting). There are several crucial questions that are still unresolved and require further research work, e.g.: Physics of high magnetostriction; Nonlinear behavior of inverse magnetostriction (Villari effect); Atomic-level description of strain-induced magnetic anisotropy; Theoretical reproducibility of magnetic hysteresis under stress; Origin of magnetomechanical hysteresis; Relation between internal stress and magnetic response in defectoscopy; Direct link of the spectroscopic results to the magnetism of materials.





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