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Advances in Magnetoelectric Materials and Devices

Guest Editor:

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Message from the Guest Editor

The progress in electronic technology and materials science is directly coupled with functional materials providing a unique opportunity for developing novel components and devices, as their physical and chemical properties are sensitive to changes occurring in the environment, such as temperature, pressure, and electric and magnetic fields. Among functional materials, magnetoelectric (ME) composites represent a class of smart materials that transform one basic physical property into another. The ME effect in these materials consists in inducing an electric polarization by an applied external magnetic field, or vice versa, in inducing a magnetization by an external electric field, and is a result of elastically coupled piezoelectric and piezomagnetic effects. The fact is that composites have an obvious advantage over single-phase materials, since they demonstrate a giant ME response above room temperature and are ready for technological applications.

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Message from the Editor-in-Chief

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