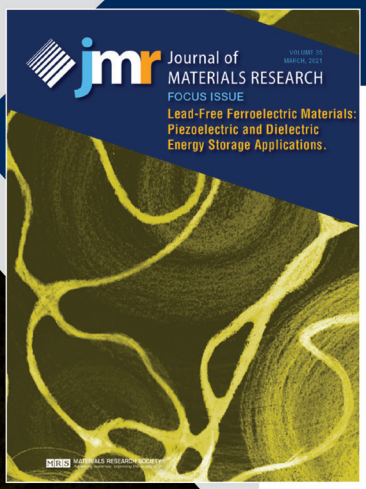
Journal of MATERIALS RESEARCH
FOCUS ISSUE • MARCH 2021

**Submission Deadline—July 31, 2020**

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# Lead-Free Ferroelectric Materials: Piezoelectric and Dielectric Energy Storage Applications

Ferroelectric materials have diverse functionalities that enable numerous applications, ranging from piezoelectric sensing to dielectric energy storage, which have attracted extensive research and development interests. In particular, as an important member of the ferroelectric family, perovskite piezoelectric materials play a key role in various kinds of modern electronic devices, such as sensors, transducers, and piezoelectric actuators, while relaxor ferroelectrics and antiferroelectrics have great significance for high power and/or pulse power dielectric energy storage. Critical to environmental concerns and human health, high-performance lead-free ferroelectric materials have given rise to extensive materials research in past decades.

This Focus Issue will cover the research frontier in lead-free ferroelectric materials from high performance piezoelectrics to high-power energy storage dielectric materials.

**Manuscripts are solicited in the following areas:**

- Fundamentals of lead-free ferroelectrics, including domains and polar nanoregions
- Advances in processing techniques of high-performance lead-free ferroelectrics
- New lead-free ferroelectrics, including ceramics, crystals, thin/thick films, and composites
- Property characterization and property–structure relationship studies
- Electromechanical applications of lead-free piezoelectrics
- Dielectric energy storage applications of lead-free relaxor ferroelectrics or antiferroelectrics
- Industrial application of lead-free materials
- Challenges and perspective of the development of lead-free ferroelectrics

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## MANUSCRIPT SUBMISSION

To be considered for this issue, new and previously unpublished results significant to the development of this field should be presented. The manuscripts must be submitted via the *JMR* electronic submission system by July 31, 2020. Manuscripts submitted after this deadline will not be considered for the issue due to time constraints on the review process. Please select *"Lead-free Ferroelectric Materials: Piezoelectric and Dielectric Energy Storage Applications"* as the Focus Issue designation. **Note our manuscript submission minimum length of 3250 words, excluding figures, captions, and references, with at least 6 and no more than 10 figures and tables combined. Review articles may be longer but must be pre-approved by proposal to the Guest Editors via jmr@mrs.org. The proposal form and author instructions may be found at www.mrs.org/jmr-instructions.** All manuscripts will be reviewed in a normal but expedited fashion. Papers submitted by the deadline and subsequently accepted will be published in the Focus Issue. Other manuscripts that are acceptable but cannot be included in the issue will be scheduled for publication in a subsequent issue of *JMR*.

**jmr@mrs.org**

Please direct questions to jmr@mrs.org

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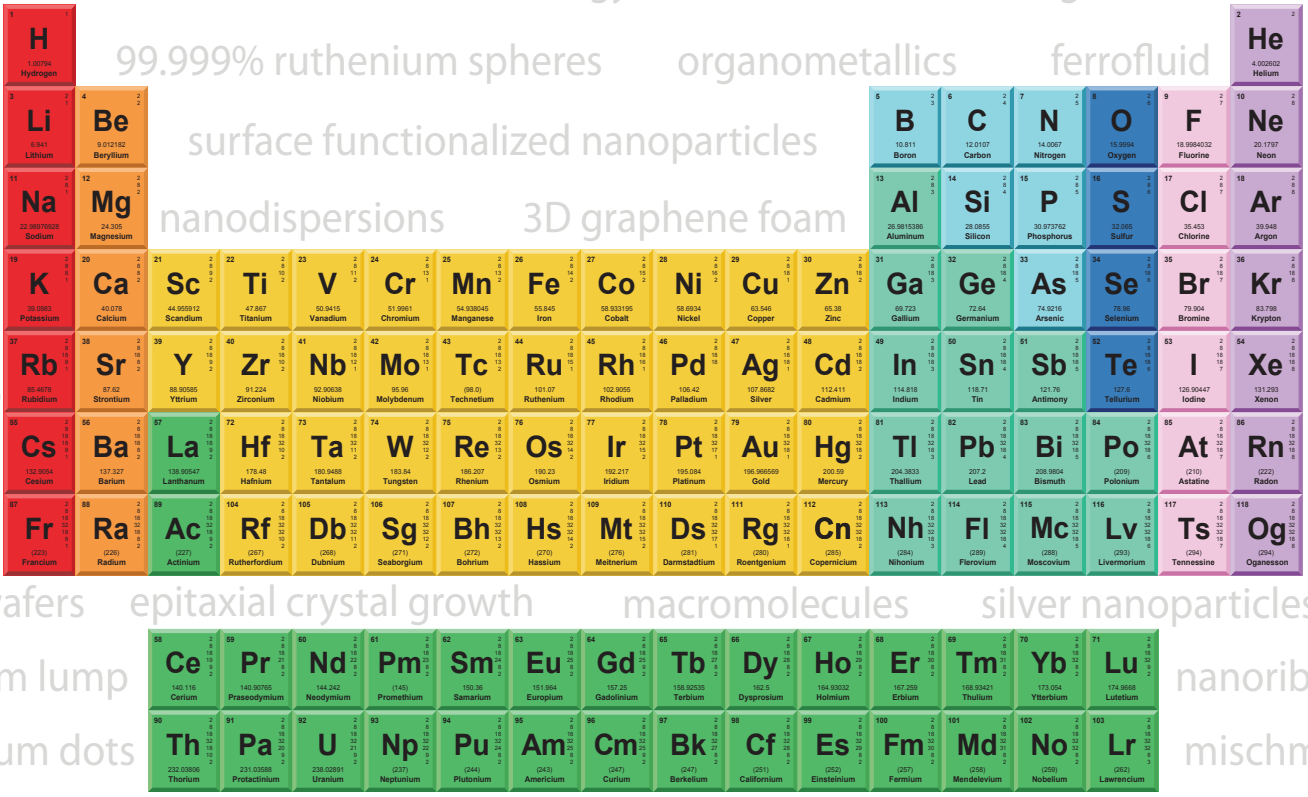



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