TECHNOLOGY

Lead-Free Piezoelectric/Ferroelectric Compounds with Simple Perovskite Structures at Morphotropic Phase Boundaries

OVERVIEW

With an ever-expanding demand for data storage, transducers, and microelectromechanical systems applications, materials with superior ferroelectric and piezoelectric responses are of great interest. However, current materials used to construct these devices contain lead.

University of Maryland material researchers have developed lead free materials having robust piezoelectric/ferroelectric properties. These materials exhibit a high switchable polarization (70uC/cm2) in association with a lower coercive field occurring at the morphotropic phase boundary (MPB).

The materials will find use in piezoelectric motors and actuators, pyroelectric detectors and imagers, ferroelectric memory and capacitors and in dielectric capacitors and tunable microwave filters and circulators.

For additional information contact the University of Maryland Office of Technology Commercialization at 301 405 3947 or by e-mail at otc@umd.edu.

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Additional Information

INSTITUTION

University of Maryland, College Park

PATENT STATUS

Patent(s) pending

LICENSE STATUS

Available for exclusive license

CATEGORIES

- Chemical
- Materials
- Microelectronics
- Power Electronics

EXTERNAL RESOURCES

- US Patent 8,179,025

PS-2007-016