Sensors and Materials

Special Issue on Piezoelectric Thin Films and Piezoelectric MEMS

Call for Papers

In the broad field of micro-electromechanical systems (MEMS) research, piezoelectric MEMS have come to the forefront. Piezoelectric thin films are critical to piezoelectric MEMS technology, and the development of piezoelectric thin film technologies is critical to future innovation. To date, Pb(Zr,Ti)O₃ (PZT) piezoelectric thin films have been developed for commercial applications such as inkjet print heads and gyro sensors. In addition, AlN thin films are also essential components in bulk acoustic wave filters, which are indispensable devices for high-speed wireless communications. Recently, we have seen considerable progress in piezoelectric MEMS, thanks to new materials such as lead-free (K,Na)NbO₃ (KNN) or Sc-doped AlN, and these new findings have stimulated the development of new application devices such as piezoelectric MEMS speakers, scanner mirrors, and piezoelectric energy harvesters. This special issue provides a platform to discuss the progress in piezoelectric MEMS technologies.

Scope:

- Piezoelectric thin films (PZT, AIN, KNN, ZnO, etc)
- Fundamentals of piezoelectric effects
- State of the art characterization methods
- Device design and fabrication
- Piezoelectric MEMS applications

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Editorial Department of *Sensors and Materials* MYU K.K.

1-23-3-303 Sendagi, Bunkyo-ku, Tokyo 113-0022, Japan Tel: +81-3-3827-8549, Fax: +81-3-3827-8547 E-mail: <u>myukk@myu-inc.jp</u>

