Textured PMNT Research and Development at PSU

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At the Pennsylvania State University (PSU) textured materials have been produced in plate, ring, and monolithic cylinder geometries with positive results. Texturing of the lead magnesium niobate-lead titanate system (PMNT) has been previously shown to provide piezoelectric d_{33} values in excess of 1000 pm/V and electromechanical coupling coefficients greater than 0.8. To facilitate further adoption of this technology, PSU has been engaged in a two-prong development effort that is looking at scaling the current processing techniques for manufacturing and also at improving the performance of textured PMNT through composition and processing enhancements. This presentation will provide a overview of that effort and highlight recent results.

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