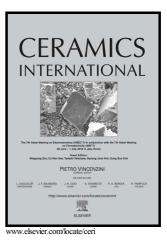
## Author's Accepted Manuscript

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### **ACCEPTED MANUSCRIPT**

#### Room temperature deposition of functional ceramic films on low-cost metal substrate

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#### Abstract

In various practical applications, such as high power actuators, high sensitivity sensors, and energy harvesting devices, polycrystalline piezoelectric films of 1-100  $\mu$ m thickness and sizes ranging from several  $\mu$ m<sup>2</sup> to several cm<sup>2</sup> are required. With conventional film deposition processes, such as sol-gel, sputtering, chemical vapor deposition, or pulsed laser deposition, it is difficult to fabricate films with higher thickness due to their low deposition rate and high interfacial stress. The aerosol deposition method (AD), a relatively new deposition technique, can be used to fabricate highly dense thick films at room temperature by the consolidation of submicrometer-sized ceramic particles on various ceramic, metal, glass, and polymer substrates. Ferroelectric BaTiO<sub>3</sub> ceramic films of different thicknesses ranging from 1-30  $\mu$ m were fabricated on a low-cost metallic substrate at room temperature Download English Version:

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