

Dielectric Characterization of Bulk and Pt/ZrO₂/BaTiO₃/ZrO₂/Pt Thin Film Capacitors: Thickness Scaling and Interface Engineering for Energy Storage

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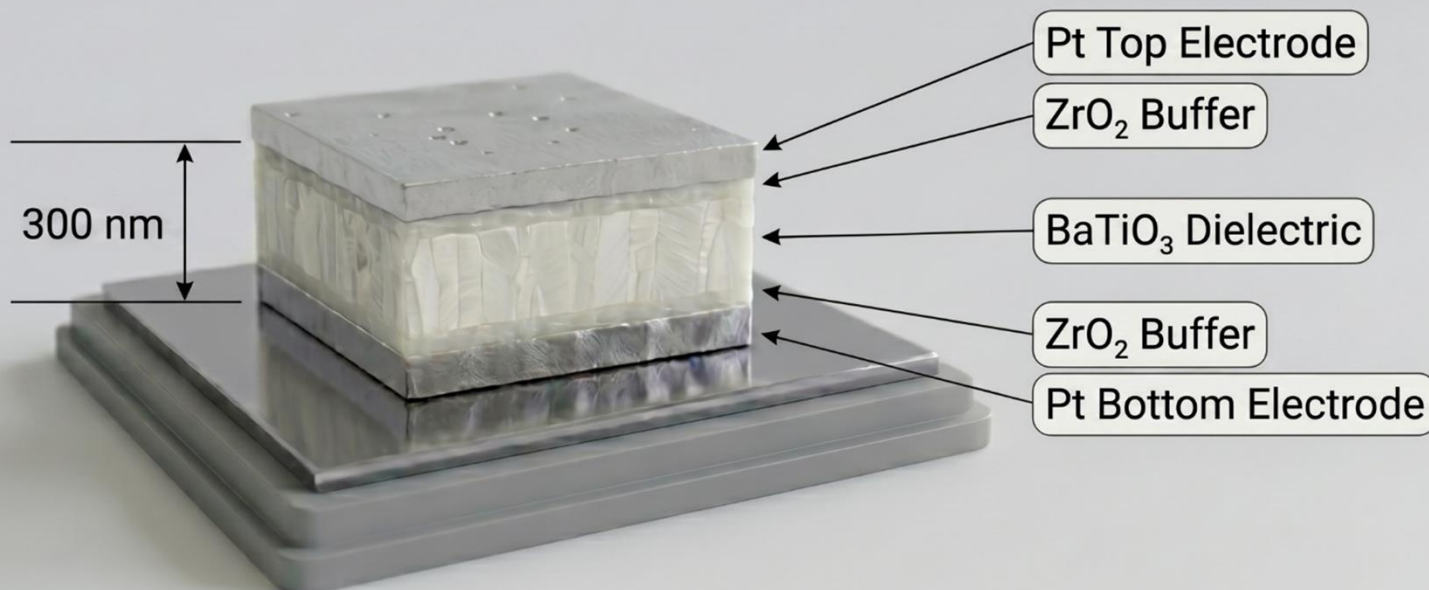
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Editor's note: Transitioning BZT-based capacitors, promising dielectric energy storage systems, to nanoscale thin films faces challenges such as increased leakage current. This study by Asmin M.K. et al. links bulk ceramic behavior with thin-film design through experiments and simulations. Their results confirm that although thinner Ag/BZT/Ag capacitors enhance capacitance and energy density, they also increase leakage current. Incorporating ZrO₂ barriers and high-Schottky-barrier Pt electrodes helps reduce leakage but lowers capacitance density.

doi: 10.22034/jams.2026.260305

How to cite: A. M.K. et al., *Journal of Applied Material Science*, **2026**, 2, 260305.



JOURNAL OF
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jams.hsu.ac.ir