Title:	Structural and electrical properties of sol-gel-derived lead titanate nanofilms with different pb contents for mim capacitors
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Abstract:	Metal-insulator-metal (MIM) capacitors based on lead titanate (PbTiO3) nanofilms were prepared using a novel method involving modified spin coating onto the bare electrodes of a coated glass. Different solutions were prepared by adding different concentrations of lead acetate (PbAc) powder to improve the electrical properties of the PbTiO3 films. The nanofilms were characterized in terms of their surface morphology, dielectric properties, and current-voltage characteristics. Physical and dielectric properties are related to the increased PbAc content in the films prepared within the range of 5-25 wt.%. The films with 10 wt.% PbAc provide acceptable dielectric permittivity, low loss factor, and improved capacitance density at frequencies lower than 100 kHz. Low leakage current densities and high resistivity behavior can be obtained at approximately 10(-7) A cm(2). Therefore, the resultant films are suitable for MIM capacitor applications and exhibit potential for memory storage applications.