

Abstract Submitted  
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**Near-surface effects of transient oxidation and reduction on Nb-doped SrTiO<sub>3</sub> epitaxial thin films** C.F. CHANG, National Sun Yat-Sen University, Taiwan, Q.Y. CHEN, National Sun Yat-Sen University, Taiwan, University of Houston, USA, P.V. WADEKAR, University of Liverpool, UK, O. LOZANO, University of Namur, Belgium, M.S. WONG, National Dong Hwa University, Taiwan, W.C. HSIEH, W.Y. LIN, H.H. KO, Q.J. LIN, H.C. HUANG, N.J. HO, L.W. TU, National Sun Yat-Sen University, Taiwan, H.H. LIAO, Enli Tech., Taiwan, P.V. CHINTA, University of Vermont and BNL, USA, W.K. CHU, University of Houston, USA, H.W. SEO, University of Arkansas, USA — We studied the effects of transient oxidation and reduction of Nb-doped epitaxial thin films through variations of PAr and PO<sub>2</sub>. The samples were prepared by co-sputtering of Nb and SrTiO<sub>3</sub> on LaAlO<sub>3</sub> substrates. The Nb-content were varied from 0-33.7%, as determined by PIXE. Contact resistance, sheet resistance, and optical properties are used to discriminate the effects.

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