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**Strain-induced Ferroelectricity in Ruddlesden-Popper Sr(n+1)Ti(n)O(3n+1) Phases** N. ORLOFF, NIST, C. LEE, Cornell University, C. FENNIE, Cornell, X. X. XI, Pennsylvania State University, I. TAKEUCHI, University of Maryland, J. C. BOOTH, NIST, D. G. SCHLOM, Cornell University — We performed broadband in-plane dielectric measurements of thin-film Sr(n+1)Ti(n)O(3n+1)(n = 2, 3, 4, 5, 6) Ruddlesden-Popper homologous series as a function of temperature and bias field. The effect of strain on these materials is interesting, because SrTiO3, the n = $\infty$ series member, exhibits ferroelectricity at room temperature when strained on DyScO3 substrates. Here, we explore the effect of strain on the dielectric properties of Sr(n+1)Ti(n)O(3n+1)(n = 2, 3, 4, 5, 6) thin-films on LSAT, DyScO3 and GdScO3.

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