

Abstract Submitted  
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**Theory of Manganite Superlattices**<sup>1</sup> ANDREW MILLIS, CHUNG-WEI LIN, Department of Physics, Columbia University — A comprehensive theoretical treatment of (001)  $(LaMnO_3)_n(SrMnO_3)_m$  manganite superlattices is presented. The charge distribution, conductivity, and propagation through the superlattice of orbital and magnetic order are determined using dynamical mean field calculations in the superlattice geometry. General rules for predicting the behavior of manganite superlattices are outlined. Comparison is made to existing data and inconsistencies between theory and experiment are identified and discussed.

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Andrew Millis

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