

Abstract Submitted
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Nematic phase in the CE-regime of colossal magnetoresistive manganites¹ EMILY OCHOA, Lamar Univ, CENGIZ SEN, Lamar University, ELBIO DAGOTTO, University of Tennessee and Oak Ridge National Laboratory, LAMAR/UTK COLLABORATION — We report nematic phase tendencies around the first order CE transition in the two-orbital double exchange model with Jahn-Teller phonons at electronic density $n = 0.5$. Starting with a random state at high temperatures, we employ a careful cool-down method using a Monte Carlo algorithm. We then monitor the spin structure factor $S(q)$ of the CE phase as a function of temperature. Near the critical temperature, $S(q)$ grows with decreasing temperature for both right- and left-ordered CE ladders, followed by a spontaneous symmetry breaking into one or the other as the critical temperature is achieved. Below the critical temperature a pure CE state with a staggered charge order is obtained. Our results are similar to those observed in pnictides in earlier studies.[1]

Shuhua Liang, Adriana More, and Elbio Dagotto, Phys. Rev. Lett. **111**, 047004 (2013).

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