

Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

Novel electronic states in the sodium rich phases of cobaltates Na_xCoO_2 MENG GAO, ZIQIANG WANG, Boston College — The cobaltates display many unusual properties in the sodium rich regime. We study the effects of strong local and finite range correlation and the sodium dopant order within the framework of an extended Hubbard model on the triangular lattice. We find that despite the proximity to the band insulating state at $x = 1$, the interplay of strong electronic correlation and sodium order leads to the formation of various unconventional inhomogeneous electronic states. We compare these findings to recent experimental observations around $x = 0.84$

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Date submitted: 21 Nov 2008

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