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Charge ordering transition in $La_{1.67}Sr_{0.33}NiO_4$ studied by Angle Resolved Photoemission Spectroscopy JEFF GRAF, Materials Sciences Division, Lawrence Berkeley National Laboratory, California 94720, GEY-HONG GWEON, MSD, Lawrence Berkeley National Laboratory, CA 94720; Department of Physics, UC Berkeley, CA 94720, CHRIS JOZWIAK, SHUYUN ZHOU, Department of Physics, UC Berkeley, CA 94720, TAKAO SASAGAWA, Department of Advanced Materials Science, University of Tokyo, Kashiwa, Chiba 277-8561, Japan, HIROSHI TAKAGI, University of Tokyo, Kashiwa, Chiba 277-8561, Japan; CREST, Japan Science and Technology Agency, Saitama 332-0012, Japan, ALESSANDRA LANZARA, MSD, Lawrence Berkeley National Laboratory, CA 94720; Department of Physics, UC Berkeley, CA 94720 — The La_{1.67}Sr_{0.33}NiO₄ compound has attracted a lot of interested due to the report of static spin-charge stripe ordering, as well as for being isostructural to the high temperature superconductor $La_{2-x}Sr_xCuO_4$. While several theoretical and experimental studies have been reported to investigate the stripe phase in this compound, a full analysis of its electronic properties and how this evolves in the stripe phase is still missing in the literature. Here we present the first high-resolution angle resolved photoemission study of a single crystal of $La_{1.67}Sr_{0.33}NiO_4$. Data below and above the charge ordering temperature are presented. The evolution of the electronic structure as well as the changes observed in quasiparticle lineshapes through the stripe phase are discussed.

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