

Abstract Submitted
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Transition of Fermi surface topology in highly-doped NaxCoO_2 studied by angle-resolved photoemission spectroscopy TOSHIYUKI ARAKANE, TAKAFUMI SATO, PIERRE RICHARD, TAKASHI TAKAHASHI, Tohoku University, TAKENORI FUJII, ATSUSHI ASAMITSU, University of Tokyo — We have performed an angle-resolved photoemission spectroscopy of NaxCoO_2 to clarify the origin of the antiferromagnetic (AF) transition in the highly-doped region ($x > 0.75$). We determined the electronic band structure along the out-of-plane direction by varying the photon energy, and revealed that a three dimensional electron pocket emerges at the Γ point in the AF sample ($x > 0.75$), while it is absent in the non-AF counterpart ($x < 0.75$), showing the transition of the Fermi surface topology with the band filling. The present result suggests that the emergence of the electron pocket is closely related to the origin of the AF transition in highly-doped NaxCoO_2 .

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