Unusual Doping Dependence of Magnetic Ordering and Electronic Band in Co-Doped $BaFe_2As_2$

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High resolution angle-resolved photoemission measurements have been carried out on $BaFe_{2-x}Co_xAs_2$, with nominal doping (x) from undoped x=0 to overdoped x=0.30. The detailed doping evolution of Fermi Surface and band structure in the magnetic ordering state and paramagnetic state are presented. The unusual doping dependence of the Fermi surface and band structure indicates magnetic order plays an important role in indicating the electron structure of FeAs-based compounds.