

Abstract Submitted
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Anisotropy reversal of in-plane resistivity in hole doped $\text{Ba}(\text{Fe}_{1-x}\text{TM}_x)_2\text{As}_2$ (TM=Mn, Cr) TATSUYA KOBAYASHI, TAKUMI YAMADA, KIYOHISA TANAKA, SHIGEKI MIYASAKA, SETSUKO TAJIMA, Department of Physics, Osaka Univ., Japan — We investigated the in-plane anisotropy of resistivity across the magneto-structural transition in hole doped $\text{Ba}(\text{Fe}_{1-x}\text{TM}_x)_2\text{As}_2$ (TM=Mn, Cr) with detwinned single crystals. When the Mn and Cr-doping levels were low, the resistivity along the a-axis with antiferromagnetic spin alignment was smaller than that along the b-axis with ferromagnetic spin alignment, which is similar to that of electron doped BaFe_2As_2 [1]. However when x exceeds 0.09 in Cr-doped case, we observed the opposite resistivity anisotropy like that of $(\text{Ba}_{1-x}\text{K}_x)\text{Fe}_2\text{As}_2$ [2]. We will discuss the origin of the anisotropic resistivity and the difference between the effect of Cr and K doping.

[1] J. H. Chu et al., Science 329, 824 (2010)

[2] E. C. Blomberg et al., Nat. Commun. 4, 1914 (2013)

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