

Abstract Submitted  
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**Intrinsic band pictures of (122) and (11) iron pnictides from magnetotransport measurements** K. HUYNH, WPI-AIMR, Tohoku University, Japan, Y. TANABE, T. URATA, Dep. Phys., Graduate School of Science, Tohoku University, S. HEGURI, K. TANIGAKI, WPI-AIMR, Tohoku University, Japan, M. HAGIWARA, T. KIDA, Center for advanced high magnetic field science, Osaka University, H. OGURO, K. WATANABE, High field laboratory for superconducting materials, Tohoku University — In this report, the band picture of the typical (122) BaFe<sub>2</sub>As<sub>2</sub> and (11) FeSe single crystals will be discussed from the view point of transport properties under high magnetic fields. By applying the technique of mobility spectrum analysis, we are able to describe the numbers of electrons and holes in terms of distribution functions of mobility; the partial contribution from each Fermi pocket to the overall transport properties is thus can be clarified. The analyses show that in both (122) and (11) materials the conduction of electron is much more complex than that of hole. The mobility spectra of holes always indicates isotropic pockets. On the other hand, in the electron side the spectra are broad and associated with a long tail extended to very high mobility region, highlighting the existence of Dirac cones [1, 2]. The unusual features of the mobility spectra will be discussed in comparison with various models and observations of band structures.

[1] K. K. Huynh et al, New J. Phys. 16 0930262 (2014)

[2] K. K. Huynh et al, PRB 90 144516 (2014)

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