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Neutron scattering studies on LiFeAs and BaFe₂As₂ M. BRADEN, N. QURESHI, J. BRAND, P. STEFFENS, Univ. of Cologne, Germany, A. STUNAULT, ILL, Grenoble, France, Y. SIDIS, D. LAMAGO, LLB, Saclay, France, L. HARNAGEA, S. WURMEHL, B. BÜCHNER, IFW, Dresden, Germany — The anisotropy of the magnetic excitations in BaFe₂As₂ was studied by polarization analysis. We find the in-plane polarized transverse magnon to lie at higher energy than the out-of-plane polarized one indicating very strong in-plane single-ion anisotropy. Superconducting LiFeAs exhibits the suppression of local susceptibility expected for spin-singlet pairing. Inelastic correlations appear in LiFeAs at the incommensurate wave vectors, they respond to the opening of the superconducting gap by a transfer of spectral weight.

> Markus Braden Univ. Cologne (Germany)

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