

## Se NMR studies on $\lambda$ -type BETS based superconductors

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We performed <sup>77</sup>Se NMR measurements on a molecular superconductor,  $\lambda$ -(BETS)<sub>2</sub>GaCl<sub>4</sub> to clarify the role of the  $\pi$  electrons in the two dimensional BETS layer. An appreciable broadening of NMR lineshape was observed at low temperatures. The angular dependence of the linewidth at the lowest temperature scales to that of the Knight shift as we observed in our previous study on the isostructural Fe salt [1]. The linewidth decreases at lower magnetic fields. From the analysis of the angular/field dependence of the NMR spectra, it is strongly suggested that the spatial distribution of the local susceptibility as expected in a charge-disproportionated state is realized. The estimated degree of charge disproportionation on the Ga salt is somewhat smaller than that of the Fe salt. It is noteworthy that the broadening of NMR line is associated with the nature of the  $\pi$  electrons, not with the magnetic moments on anions, and that it occurs prior to the superconducting transition.

[1] K. Hiraki *et al.*, J. Phys. Soc. Jpn. 76 (2007) 124708.