

Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

Electron spin resonance in iron pnictides H.-A. KRUG VON NIDDA, J. DEISENHOFER, N. PASCHER, S. SCHAILE, E. DENGLER, A. LOIDL, Experimentalphysik V, Center for Electronic Correlations and Magnetism, Institute for Physics, Augsburg University, D-86135 Augsburg, Germany, H.S. JEEVAN, P. GEGENWART, I. Physik. Institut, Georg-August-Universitaet Goettingen, D-37077 Goettingen, Germany — We report on electron spin resonance studies in Eu based 122-superconductors where the Eu^{2+} ions serve as a probe of the normal and superconducting state. In polycrystalline $\text{Eu}_{0.5}\text{K}_{0.5}\text{Fe}_2\text{As}_2$ the spin-lattice relaxation rate $1/T_1^{\text{ESR}}$ obtained from the ESR linewidth exhibits a Korringa-like linear increase with increasing temperature above T_c evidencing a normal Fermi-liquid behavior. Below T_c the spin lattice relaxation rate $1/T_1^{\text{ESR}}$ follows a $T^{1.5}$ -behavior without any appearance of a coherence peak. In superconducting $\text{EuFe}_2\text{As}_{1.8}\text{P}_{0.2}$ single crystals we find a similar Korringa slope in the normal state and observe anisotropic spectra for measuring with the external field parallel and perpendicular to the c -axis. In addition, we will discuss the ESR properties of selected systems from the 1111 and 11 families.

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Date submitted: 24 Nov 2010

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