

Solid State Phenomena 2011 vol.170, pages 170-173

Hybridized electronic states in dense intermetallics as studied by ESR

Ivanshin V., Litvinova T., Sukhanov A., Ivanshin N., Endeward B.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

We review electron spin resonance (ESR) experiments in several concentrated Yb-, Ce-, and Eubased intermetallic systems. Recent theoretical studies attribute well resolved ESR signals with hybridization effects between 4f and conduction electrons (CE) in the presence of ferromagnetic (FM) fluctuations. We believe that the ESR absorption is caused here by a novel type of ESR excitations - hybridized electronic states, which are created in some strongly correlated electronic systems due to hybridization between the 4f-orbitals and the wavefunctions of the CE of the outer d, s, and p shells in conjunction with FM RKKY interaction.
© (2011) Trans Tech Publications.

<http://dx.doi.org/10.4028/www.scientific.net/SSP.170.170>

Keywords

Electron spin resonance, Hybridization, Intermetallic compounds