S3-1.4

Electron Transfer Phenomenon in the Dinuclear {Fe(μ-CN)Co} Complex: Interaction of Molecular Modes with Phonons

S.M. Ostrovsky and S.I. Klokishner
Institute of Applied Physics, Chisinau, Republic of Moldova

A model for the description of the charge transfer induced spin transition in a crystal containing as a structural element cyanide-bridged binuclear Co-Fe clusters is presented. The cooperative interaction responsible for the spin transformation originates from the coupling of the acoustic crystalline modes with the molecular vibrations of the nearest ligand surroundings of the metal ions. The developed model is applied for the description of the observed magnetic characteristics of the [{(Tp)Fe$(CN)_3$}{Co-$(PY5Me_2)$}](CF_3SO_3)·2DMF complex.