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Nuclear pseudoquadrupole resonance of ^{141}Pr in Van Vleck paramagnet PrF_3

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Abstract

Nuclear pseudoquadrupole resonance of ^{141}Pr in Van Vleck paramagnet PrF_3 has been observed in singlecrystal and micro- and nanopowder samples at a temperature of 4.2 K. The spectra of nuclear pseudoquadrupole resonance of ^{141}Pr , as well as the spin-spin and spin-lattice relaxation parameters, have been obtained. The parameters of the nuclear spin Hamiltonian have been determined. It has been found that the parameters of the crystal electric field in nanocrystals differ strongly from those in microcrystals. © 2011 Pleiades Publishing, Ltd.

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