Physical Review Letters 2005 vol.95 N25

Observation of a griffiths phase in paramagnetic La1-xSrxMnO3

Deisenhofer J., Braak D., Krug Von Nidda H., Hemberger J., Eremina R., Ivanshin V., Balbashov A., Jug G., Loidl A., Kimura T., Tokura Y.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

We report on the discovery of a novel triangular phase regime in the system La1-xSrxMnO3 by means of electron spin resonance and magnetic susceptibility measurements. This phase is characterized by the coexistence of ferromagnetic entities within the globally paramagnetic phase far above the magnetic ordering temperature. The nature of this phase can be understood in terms of Griffiths singularities arising due to the presence of correlated quenched disorder in the orthorhombic phase. © 2005 The American Physical Society.

http://dx.doi.org/10.1103/PhysRevLett.95.257202