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Role of domain wall fluctuations in non-Fermi-liquid behavior of metamagnets VLADIMIR ZYUZIN, University of Florida, ALEXANDER YU. ZYUZIN, A F Ioffe Physical-Technical Institute, Saint Petersburg, Russia — In this paper we study the resistivity temperature dependence of a three-dimensional metamagnet near the metamagnetic phase transition point. The phase transition is characterized by a phase separation of regions with high and low magnetization. We show that, in the case of weak pinning, the spin relaxation time of the domain wall, which separates the two phases, is much larger than that of the volume spin fluctuations. This opens a temperature range where resistivity temperature dependence is determined by scattering of conducting electrons by the domain wall fluctuations. We show that it leads to quasi-linear low temperature dependence of resistivity.

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