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**Role of correlated electron spin dynamics on the finite-temperature magnetization behavior of an itinerant ferromagnet** SUDHAKAR PANDEY, Department of Physics, Nagoya University, Japan, AVINASH SINGH, Department of Physics, IIT Kanpur, India — Finite temperature magnetization behavior of an itinerant ferromagnet is investigated in terms of electron-magnon interaction induced thermal evolution of electronic spectral weight transfer across the Fermi level. This mechanism distinguishes our approach from the conventional approaches which are based on the mapping of an itinerant ferromagnet into an equivalent localized spin (Heisenberg) model. Apart from being in accordance with the Mermin-Wagner theorem and accounting for the characteristic low temperature Bloch law ( $T^{3/2}$ ) falloff of magnetization, this approach also provides an alternative scheme for a quantitative estimation of Curie temperature ( $T_c$ ). Results for  $T_c$  without including the contribution of long-wavelength magnon modes, as obtained for a face-centered-cubic lattice, are found in good agreement with the results of dynamical mean field theory. Long-wavelength modes are found to suppress the ferromagnetism.

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