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Spin fluctuations near a spin-density-wave instability in periodic Anderson model studied by two-particle approach in dynamical mean field theory WENHU XU, Department of Physics and Astronomy, Rutgers University, CEDRIC WEBER, Cavendish Laboratories, Cambridge University, United Kingdom, GABRIEL KOTLIAR, Department of Physics and Astronomy, Rutgers University — We study the magnetic properties of periodic Anderson model when the system approaches to the vicinity of a spin-density-wave(SDW) instability from paramagnetic phase. Static and dynamical Q-dependent susceptibility are calculated using a two-particle approach in dynamical mean field theory. The SDW instability at a critical value of hybridyztion V_c is identified by the divergence of static susceptibility at low temperature and at a wavevector Q_c which connects the "hot zones" of the conduction band. Away from V_c, spin fluctuations at Q_c is suppressed at low energy and at low temperature in the heavy Fermi liquid regime, while near V_c, spin fluctuations at Q_c are significantly enhanced as temperature decreases. This indicates that the SDW instability is due to the competition between RKKY interaction and Kondo coupling in the crossover regime.

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