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dc Resistivity at the Onset of Spin Density Wave Order in Two-dimensional Metals AAVISHKAR PATEL, SUBIR SACHDEV, Harvard Univ — The theory for the onset of spin density wave order in a metal in two dimensions flows to strong coupling, with strong interactions not only at the "hot spots," but on the entire Fermi surface. We advocate the computation of dc transport in a regime where there is rapid relaxation to local equilibrium around the Fermi surface by processes which conserve total momentum. The dc resistivity is then controlled by weaker perturbations which do not conserve momentum. We consider variations in the local position of the quantum-critical point, induced by long-wavelength disorder, and find a contribution to the resistivity which is linear in temperature (up to logarithmic corrections) at low temperature. Scattering of fermions between hot spots, by short-wavelength disorder, leads to a residual resistivity and a correction which is linear in temperature.

Aavishkar Patel
Harvard Univ

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