Conductivity of disordered ferromagnetic monoatomic film

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Electron transport in the plane of a monoatomic metallic layer with non-zero magnetization is considered. The material is represented by a two-dimensional set of disordered potentials which also posess spins aligned along one axis but not necessarily oriented in one direction. Such system can be treated as a two-component alloy. The effective cross-section for conduction electrons is calculated. The total conductivity is obtained within two-current model.

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