**Higher-order pertubation-theory effects in the resistance of simple disordered metals**

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Based on the variational principle, an expression has been obtained for the coefficient of electrical resistance of simple disordered metals. The parameters of decoupling of higher order Green's functions that arise when deriving the quantum kinetic equation have been chosen based on the condition of the coincidence of the Boltzmann equation and the quantum kinetic equation in the lower order perturbation theory. For the first time, the contribution of cross scattering to the resistance of disordered metals in the limiting case of low temperatures has been calculated. It has been shown that with allowance for the terms of fourth and higher orders the resistivity can be expressed through both the relaxation time and the density of states of the electron gas interacting with ions. All the effects considered are on the order of $\hbar/\varepsilon_F\tau$ where $\varepsilon_F$ is the Fermi energy and $\tau$ is the relaxation time, and are significant for the majority of simple disordered metals.