

## ELECTRON CROSS SCATTERING IN DISORDERED SYSTEMS

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### S u m m a r y

Using the variation principle, the expression for the electrical resistivity of simple disordered metals and a fully ionized plasma in any order of perturbation theory in the electron-ion interaction is obtained. We consider the ion subsystem as static and temperature corrections for metals as insignificant. Decoupling parameters of high-order Green's functions, which are solutions of a quantum kinetic equation, are chosen from the condition of the full coincidence of the Boltzmann's equation and the quantum kinetic one in a low order of perturbation theory. In the second and third orders of perturbation theory, the earlier known results are obtained. For the first time, we have calculated the fourth-order effect which is related to the simultaneous scattering of electrons in a fully ionized plasma by an external electric field and the field of ions. But this effect is absent in the disordered metals in the limit of low temperatures.