

DYNAMICAL CONDUCTIVITY OF THE NONIDEAL PLASMA ON THE BASIS OF THE EFFECTIVE POTENTIAL

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During the last few years many papers about the transport properties of dense plasmas have been published. The electrical conductivity in fully ionized hydrogen plasma is well investigated [1–3]. The dynamical conductivity and dynamical collision frequency of dense semiclassical hydrogen plasmas on the basis of the effective interaction potential [4] (taking into account screening and diffraction effects) are presented. Semiclassical method has been used for the calculation of the collision frequency. Using generalized Drude formula, the dynamical conductivity has been investigated. The influence of electron-electron interactions was taken into account at the level of collision frequency via renormalization factor. The results of the dynamical conductivity show good agreement with the data of other authors, notably with the molecular-dynamics (MD) simulation, which also includes electron-electron interactions.

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