

**MODELLING OF THE OPTICAL SPECTRUM OF ABSORPTION FOR THE
NON IDEAL HYDROGEN OR QUASI-HYDROGEN PLASMA WITHIN
CUT-OFF COULOMB POTENTIAL APPROXIMATION**

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Abstract. The determination of optical as well as the transport characteristics of the highly ionized gaseous plasma in general always needs to take into account the effect of the inter-plasma electrostatic screening. The importance of the mentioned effect grows significantly with the enlargement of the gaseous plasma non-ideality, and becomes the most important factor in the case of extremely non ideal plasma. In this work is presented the method which enables us to take into account the effects of inter-plasma electro-statical screening in a rather direct manner. This is made possible with the application of the approximation where the electron scattering on the ions within the plasma is described by the cut-off Coulomb potential. The similar approximation was used before for the calculation of the transport characteristics of the highly ionized gaseous plasma. Here, the same approximation is used for the determination of the bound-free and free-free absorption coefficients of fully ionized hydrogen or quasi hydrogen gaseous plasma within the areas of electron densities and temperatures: $1 \cdot 10^{18} < Ne < 1 \cdot 10^{20} \text{ cm}^{-3}$ and $15000 < T < 25000 \text{ K}$.