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**THE INFLUENCE OF THE COLLECTIVE EFFECTS IN PLASMA,
BEHIND SIMPLE CUT-OFF**

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In order to describe a dense plasma the approach of cut-off Coulomb potential was used. After testing of model the step further was made. Inclusion of more complex models has been conducted with the help of Hartree-Fock generated potentials. Although the potentials were a good way to describe a complex emitters in a plasma the step forward in describing a collective phenomena of plasma was needed. The simple, but still a nice model introduced coming in focus was considering a plasma as a composition of dense packed ions, and as such a model of dense sphere packing came in place. Here a model that includes inter-ionic distances based on plasma density as well as simplest Debye screening model, rough for dense plasma has been used to generate more applicable model potential of emitter in dense plasma than earlier considered simple cut-off one. The complex model potentials are generated and solved for several temperatures and densities of considered plasma. The work on inclusion of more complex plasma interactions is going on.