OPTICAL CONDUCTIVITY AND LINE SHAPES IN DENSE PLASMAS

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Based on quantum statistical approach to the dielectric function, the response of a dense plasma to and external electrical field can be evaluated using equilibrium correlation functions. Optical conductivity is related to the dynamical collisions frequency which is calculated by

Green functions technique as well as numerical simulations. Of particular interest is the calculation of absorption spectra and line profiles which is treated within a many-particle approach. Results a given for the electrical conductivity, the bremsstrahlung spectrum, the shift and broadening of different lines spectra in non-ideal plasmas.