

Dynamic Screening Effects on Collisional Orientation Phenomena in Nonideal Plasmas

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Dynamic screening effects on orientation phenomena of $1s \rightarrow 2p_{\pm 1}$ excitations in nonideal plasmas are investigated. A semiclassical method is employed to describe the motion of the projectile electron in order to investigate the variation of the orientation parameter as a function of the impact parameter, projectile energy, thermal energy, and Debye length. The result shows that the preference for the $1s \rightarrow 2p_{-1}$ transition significantly decreases with increasing projectile energy. It is found that the dynamic screening effect increases with increasing impact parameter and also with increasing projectile energy. It is also found that the $1s \rightarrow 2p_{-1}$ preference decreases with increasing thermal energy.

Key words: Dynamic Screening; Collisional Orientation.