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**Simple and accurate impact-excitation cross-sections including plasma density effects** JEAN-CHRISTOPHE PAIN, CEA, DAM, DIF, F-91297 Arpajon, France, DJAMEL BENREDJEM, Laboratoire Aime Cotton, Universite Paris-Sud, Orsay — We propose a simple and accurate approach for the computation of the electron-impact excitation (EIE) cross-section in the Plane Wave Born (PWB) approximation. The formalism relies on the screened hydrogenic model. The generalized oscillator strength involved in the collision strength is expressed in terms of integrals which can be calculated analytically. In order to remedy the fact that the PWB approximation is not correct at low energy (near threshold), we also investigate the accuracy of different correcting factors (Elwert-Sommerfeld, Cowan-Robb, Brookes and Kilcrease). Finally, we study the impact of plasma density effects (such as ionization potential depression) of the EIE cross-section, through the inclusion of energy shifts due to electrons. For that purpose, a new expression of the electronic shift is proposed and compared to other formulas recently published by Li et al.

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