

Abstract Submitted  
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**Electron-impact excited term ionisation along the Boron isonuclear sequence**<sup>1</sup> C.P. BALLANCE, T. LEE, J.A. LUDLOW, S.D. LOCH, M.S. PINDZOLA, Auburn University — Non-perturbative theoretical methods over the last decade have mainly focused on electron-impact ionization of the ground and first metastable states for light fusion related species [1]. However, collisional-radiative models predict that effective ionisation rates, which include the ionisation from excited levels of an atom, can be an order of magnitude greater than those which include the groundstate alone. For example, this stepwise ionisation has been experimentally confirmed by measurements taken at the DIII-D facility as part of a Li transport study, where excited state ionisation was found to be essential in describing Li transport [2]. We shall present in our poster an overview of excited state ionisation along the boron ionisation sequence. Using boron as a test case, we focus on the most appropriate use of computationally non-perturbative methods and simpler non-perturbative/semi-empirical methods to account for excited ionisation along other iso-nuclear sequences.

[1] Griffin D C and Pindzola M S, Adv. Atm. Mol. Opt. Phys. 54, 203 (2006)

[2] Allain J P, Whyte D G and Brooks J N, Nucl. Fusion 44 655 (2004)

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