

Erratum

Role of the He I and He II metastables in the resonance $2p\ ^2P^{\circ}_{1/2, 3/2}$ B III level population

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H. R. Griem and Yu. Ralchenko, in a correspondence with the Editor, pointed to some problems with our paper “Role of the He I and He II metastables in the resonance $2p\ ^2P^{\circ}_{1/2,3/2}$ B III level population” (2007, A&A, 462, 1). We therefore wish to clarify the following points.

The issues raised by Griem & Ralchenko relate to two of the conclusions of our paper, namely: 1) “the existence of a permanent energy transfer from He II metastables to the B III $^2P^{\circ}_{1/2,3/2}$ levels”; and 2) that the measured FWHM Stark widths “are much higher than those calculated by various approaches”.

Firstly, as pointed out by Griem & Ralchenko, the 2s level of He II is not effectively metastable because of the rapid collisional transfer to 2p, followed by radiative decay to the ground state. Given that the electron temperature in this case was only

~18 000 K, the excited-state populations of He II should be negligible. Therefore the conclusion suggested by Djeniže et al. (2007) regarding “the existence of a permanent energy transfer from He II metastables to the B III $^2P^{\circ}_{1/2, 3/2}$ levels” should be considered as a statement not proven by the facts presented in the paper.

Secondly, we find that data regarding the B III Stark widths given in our paper are in error due to the underestimated influence of nearby spectral lines arising from residual impurities in the system.

Thus, two of the main statements made in the Djeniže et al. (2007) paper require further scrutiny which will be accomplished in the future.