

Dear Anil, dear Sultana,

First of all I want to thank you, Anil, for putting me into contact with Sultana concerning the photoionization cross section data for iron. This was most helpful. And I want to thank you, Sultana, for your helpful e-mails.

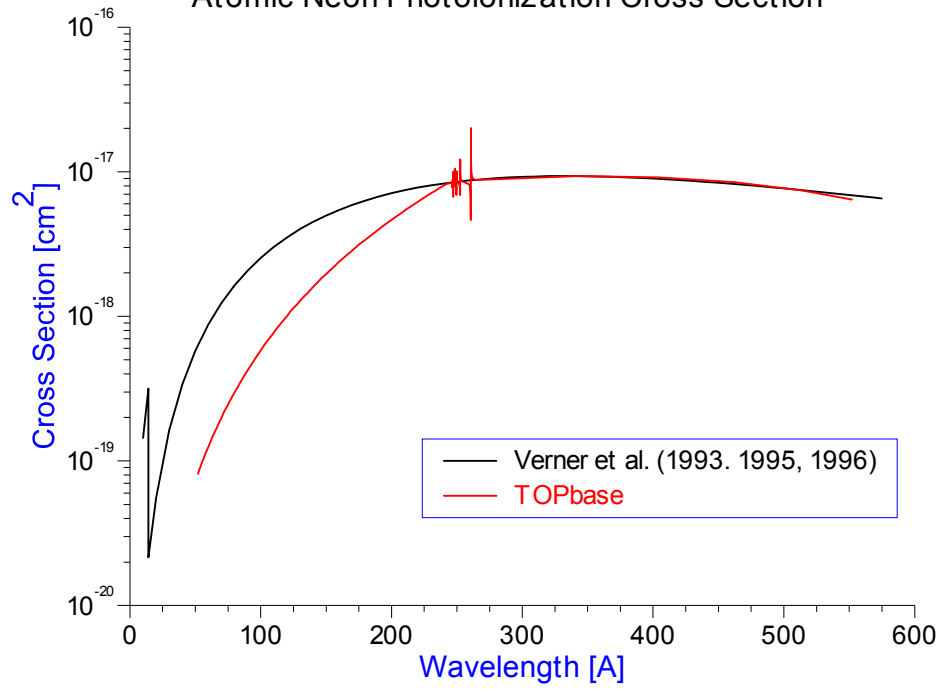
As I mentioned in my earlier communication, I am interested in the photoionization cross sections for neutral and singly ionized ground states of the first 30 elements. In this regard I would like to suggest an improvement to both the TOPbase and the NORAD databases. Both contain power law extensions of the calculated cross sections (mostly photon energy to the negative third power) at the high energy end of the calculations. This power law extension becomes more unrealistic with increasing atomic number, Z . I attach two examples, for Ne and one for Fe. For example, for iron the deviation gets to be as large as a factor of 1000. In addition, to the unsuspecting user, it is not clear where the Close-Coupling R-Matrix calculations end and the power law approximation starts. Thus, I want to suggest that the highest energy for which the calculations were made be clearly labeled or pointed out in a note. Alternatively (or in addition) the power law extension could be deleted or replaced with something like the fits from Verner et al. (1996). It would also be very useful to have the cross sections for inner shell ionizations, at least for the ground states.

With exception of the cross section extensions, I find the databases most useful. Thank you for your considerations.

Cheers,

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Atomic Neon Photoionization Cross Section



Atomic Iron Photoionization Cross Section

