



Bringing CX data into play for argon and beyond

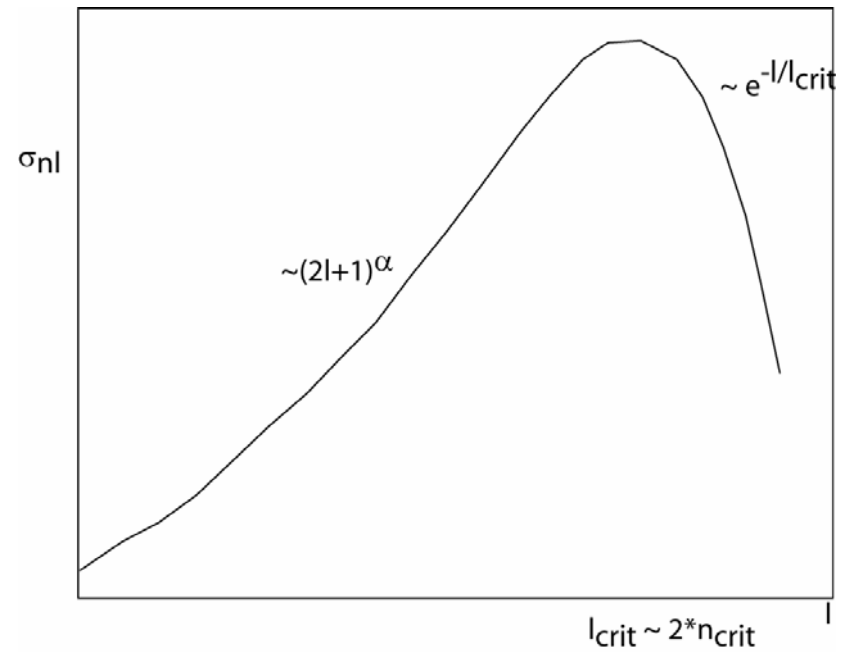
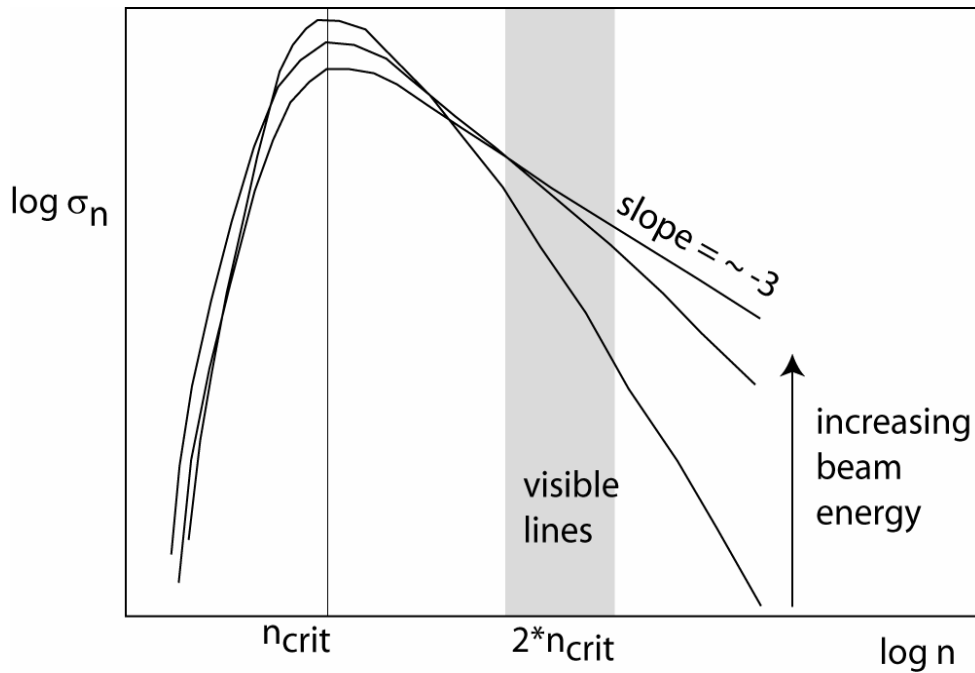
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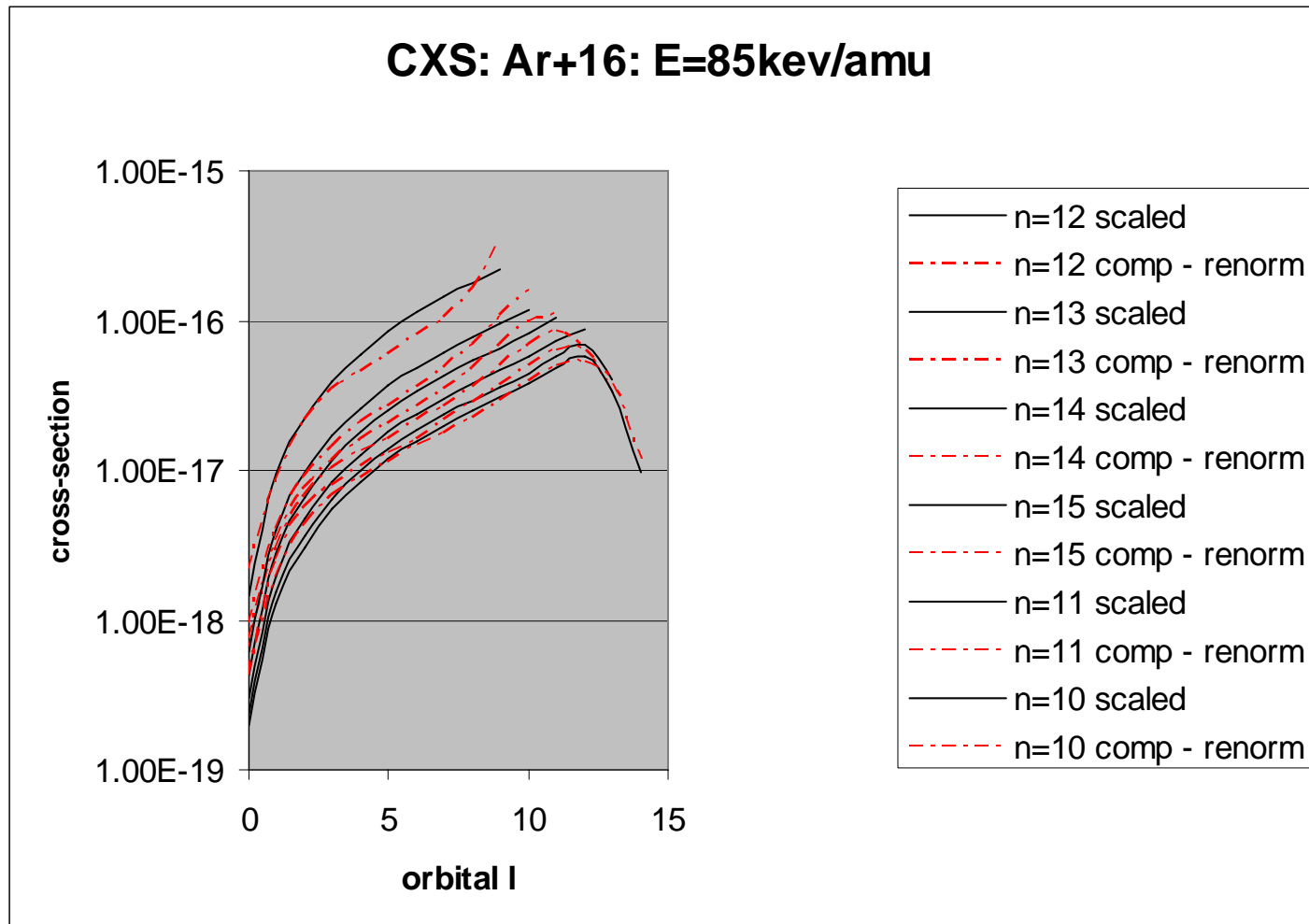
Contents

- Argon CX cross-section data for H($n=1$) donor
 - » Parametric behaviour
- Broad comments on heavy element CXS in the light of z-scaling.
- Obtaining the fine structure of n-shell manifolds
- Estimating cross-sections from z-scaling considerations: H($n=2$) donor
 - » Total cross-sections
 - » Partial n-shell cross-sections
 - » Universal scaled data for arbitrary elements and ionisation stages
- Completing the story

Characteristic behaviour of partial charge exchange cross-sections

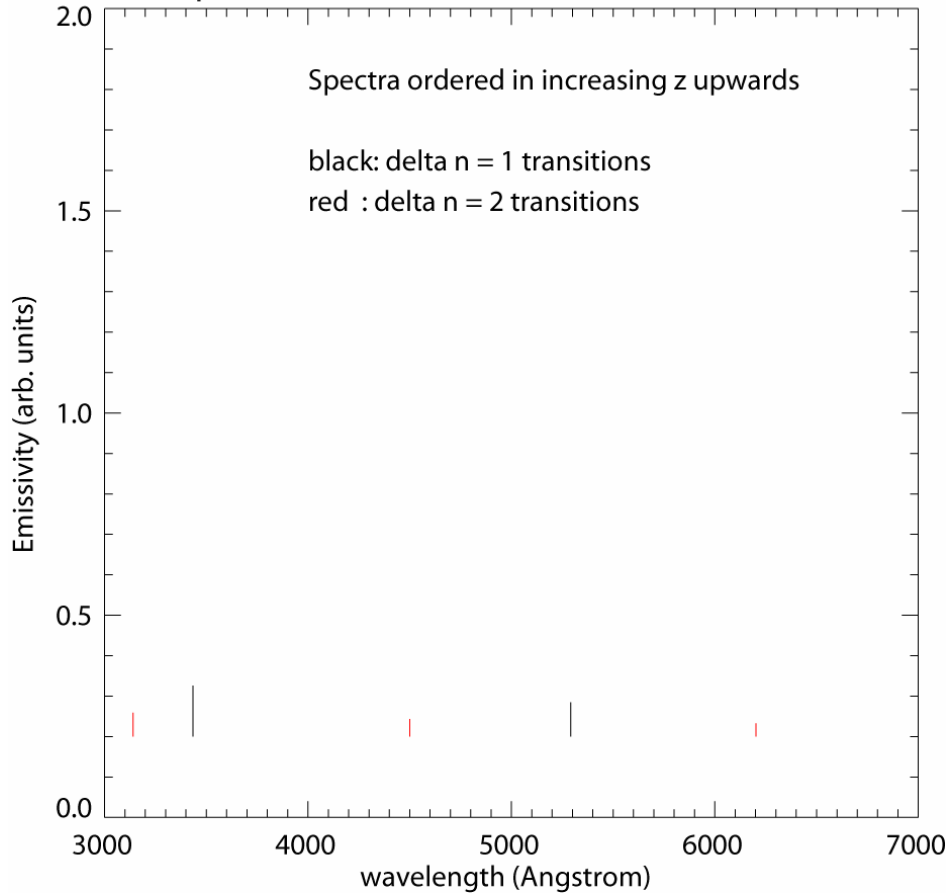


Comparison of l-subshell cross-sections with light element parametrisation

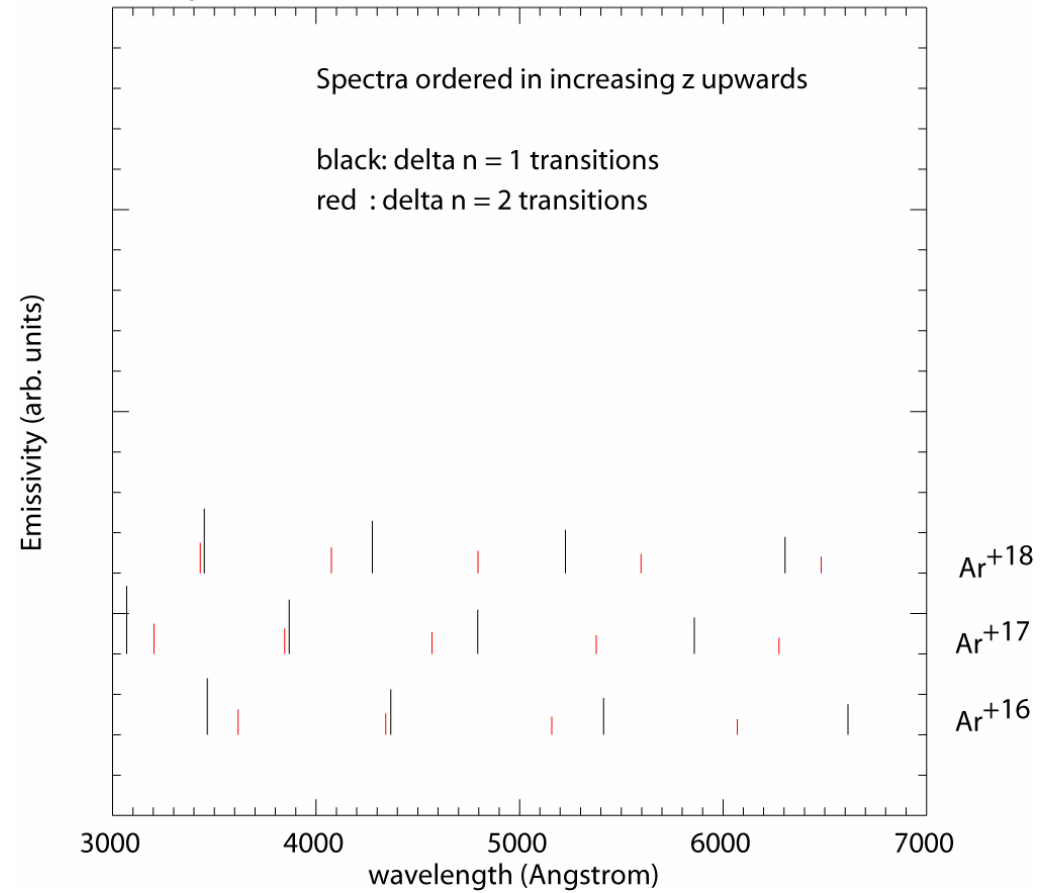


Patterns of CXS lines in the visible

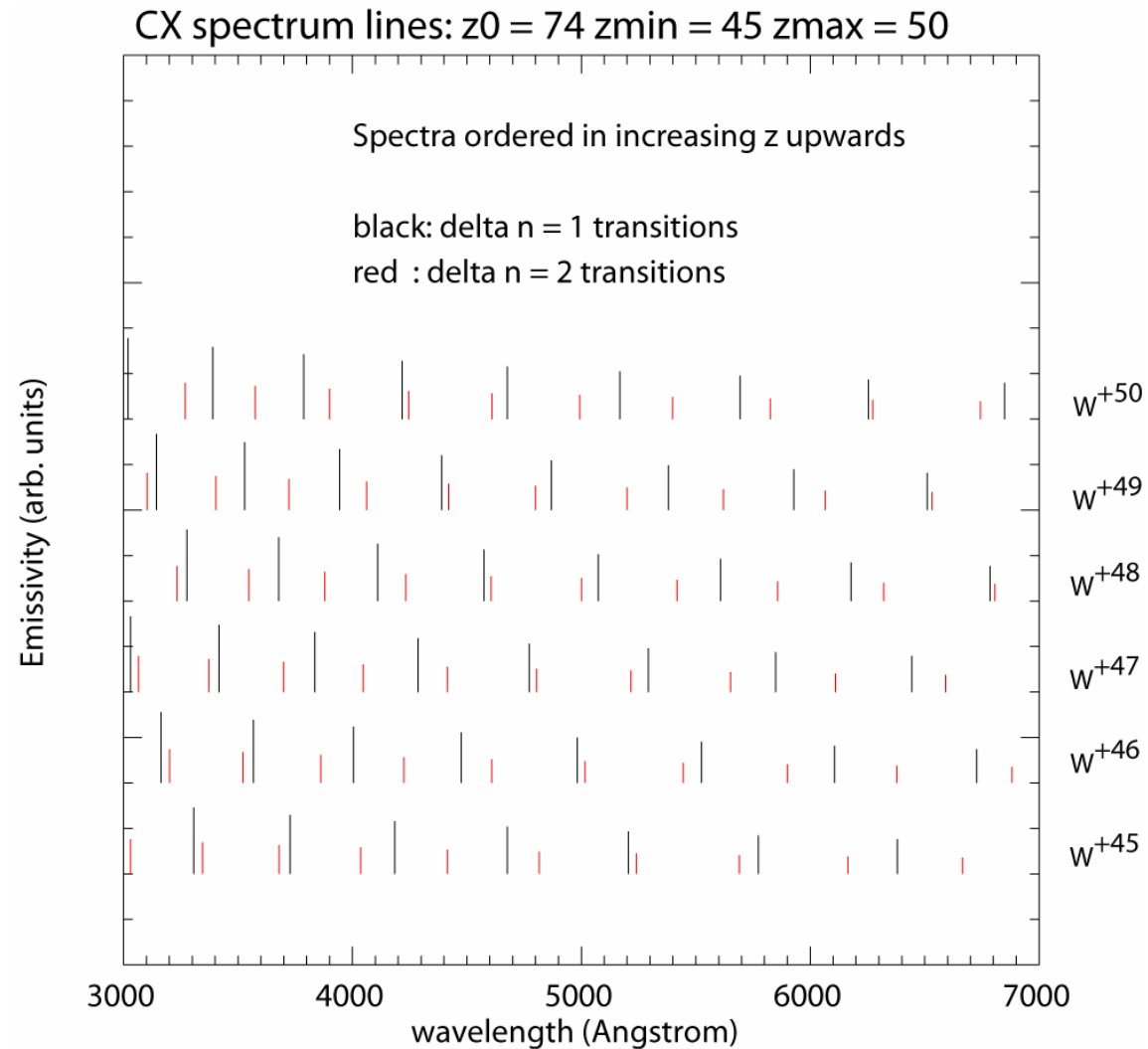
CX spectrum lines: $z_0 = 6$ $z_{\min} = 6$ $z_{\max} = 6$



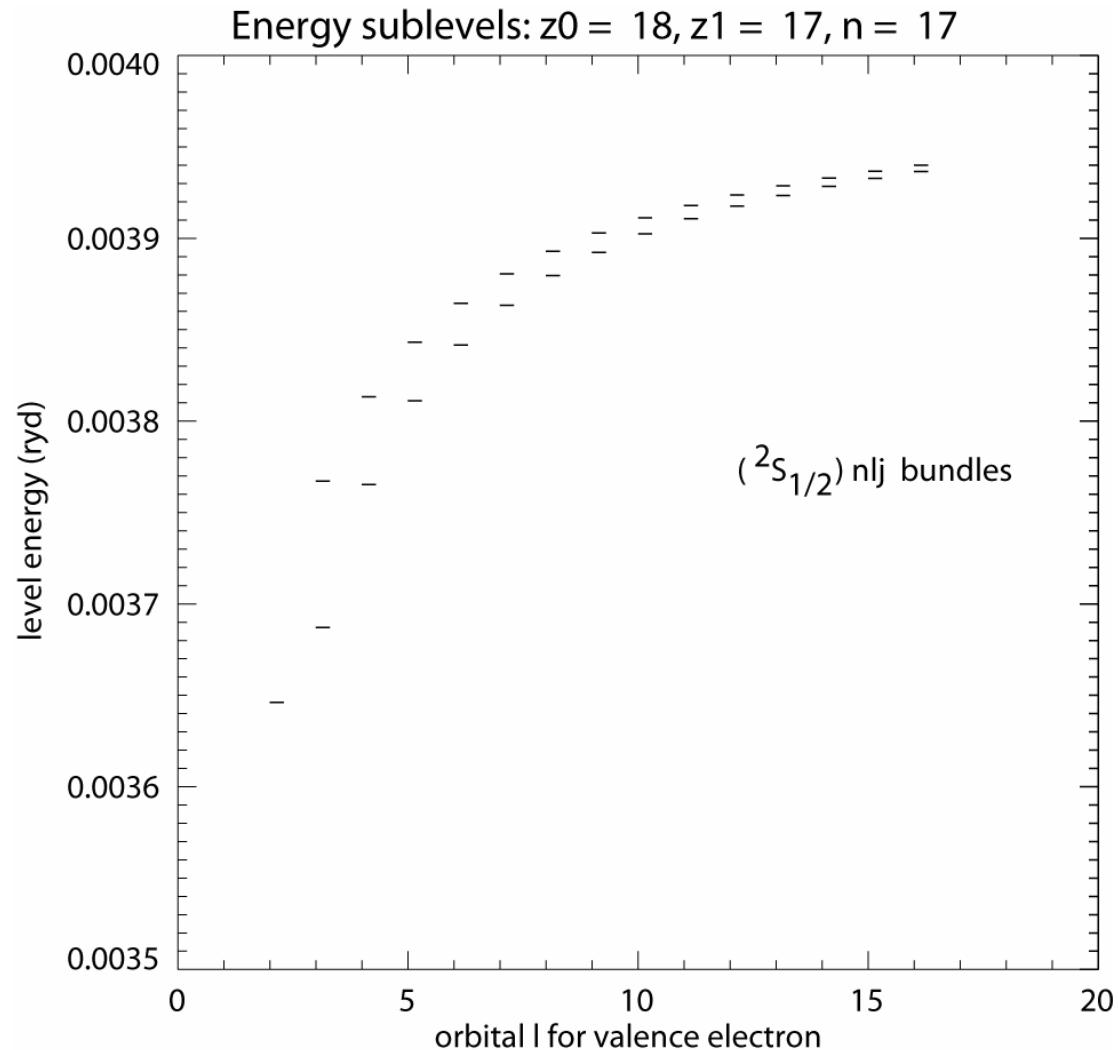
CX spectrum lines: $z_0 = 18$ $z_{\min} = 16$ $z_{\max} = 18$



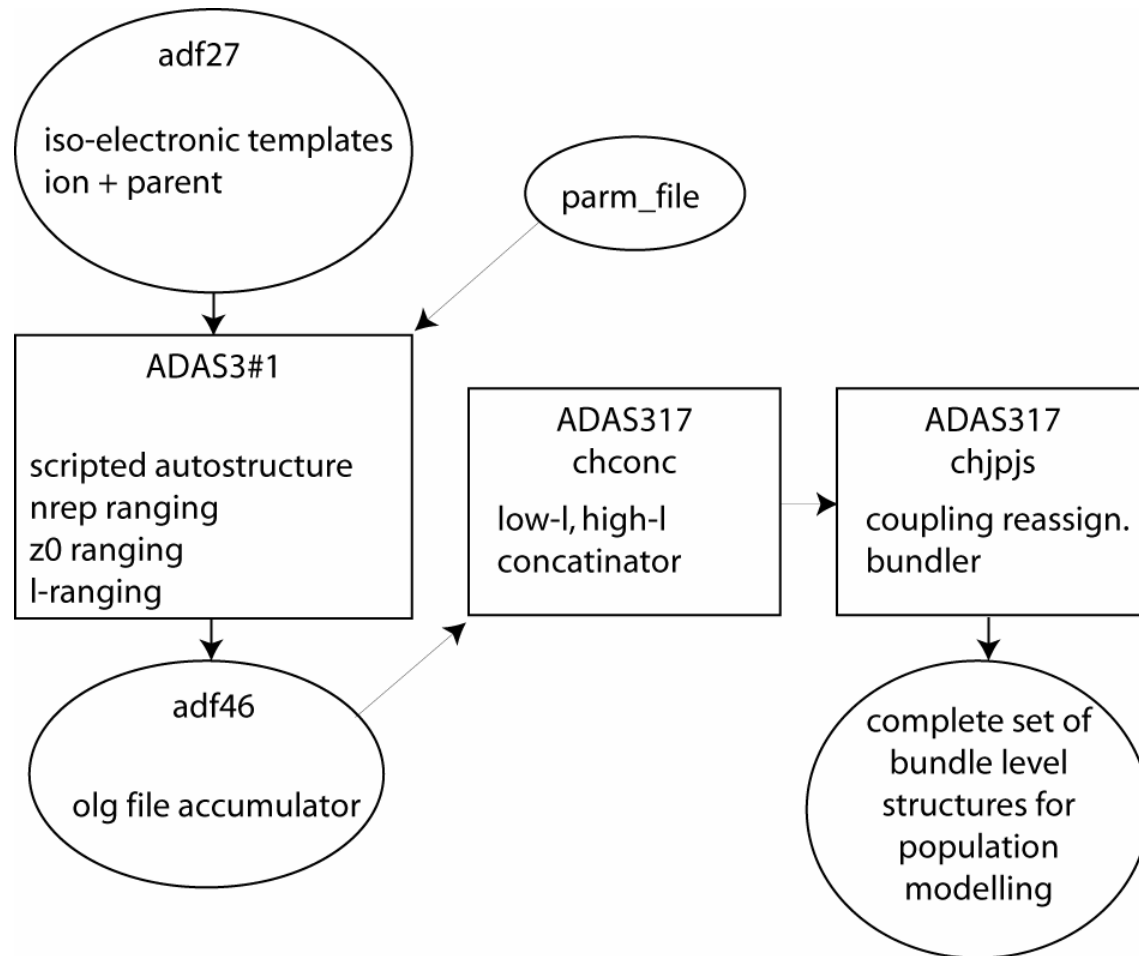
Patterns of CXS lines in the visible (contd)



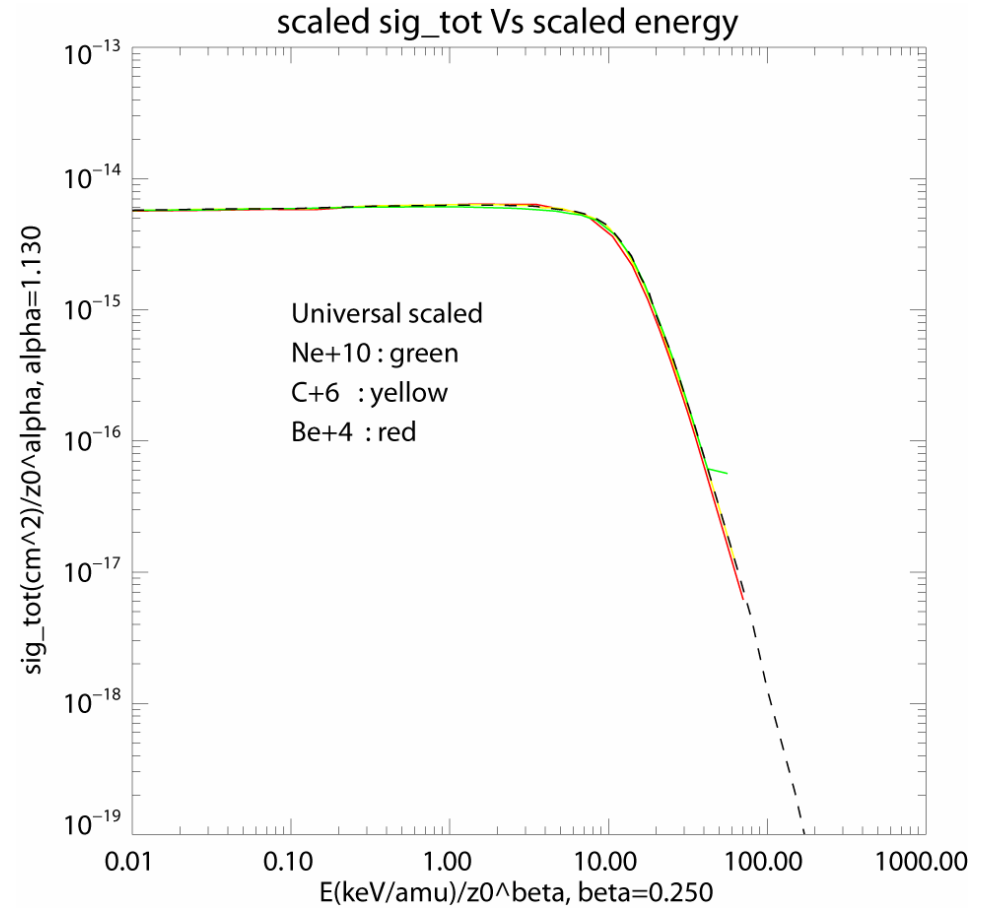
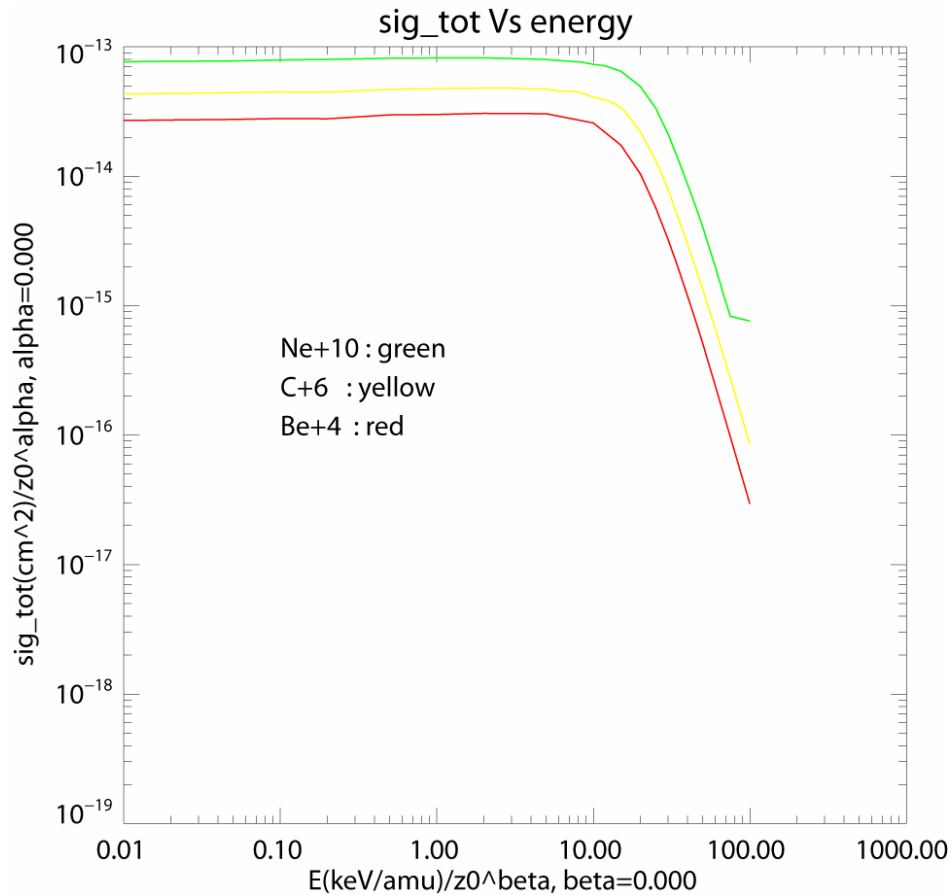
The accurate high n-shell fine structure in $(J_p)nlj$, $(J_p)nl$ and $(J_p)n$ quantum numbers and bundles



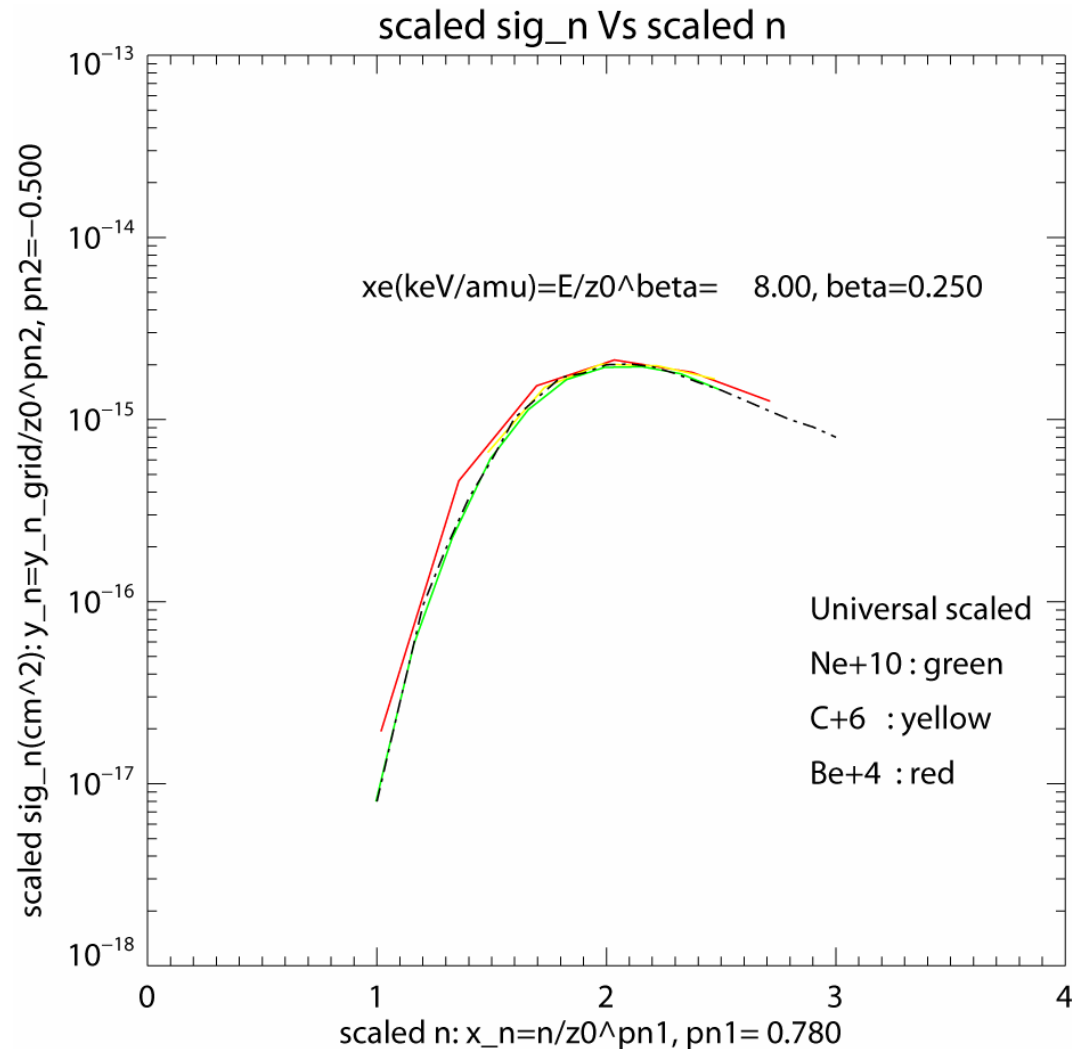
Mass generation of Rydberg substructure bundles for heavy element CXS modelling



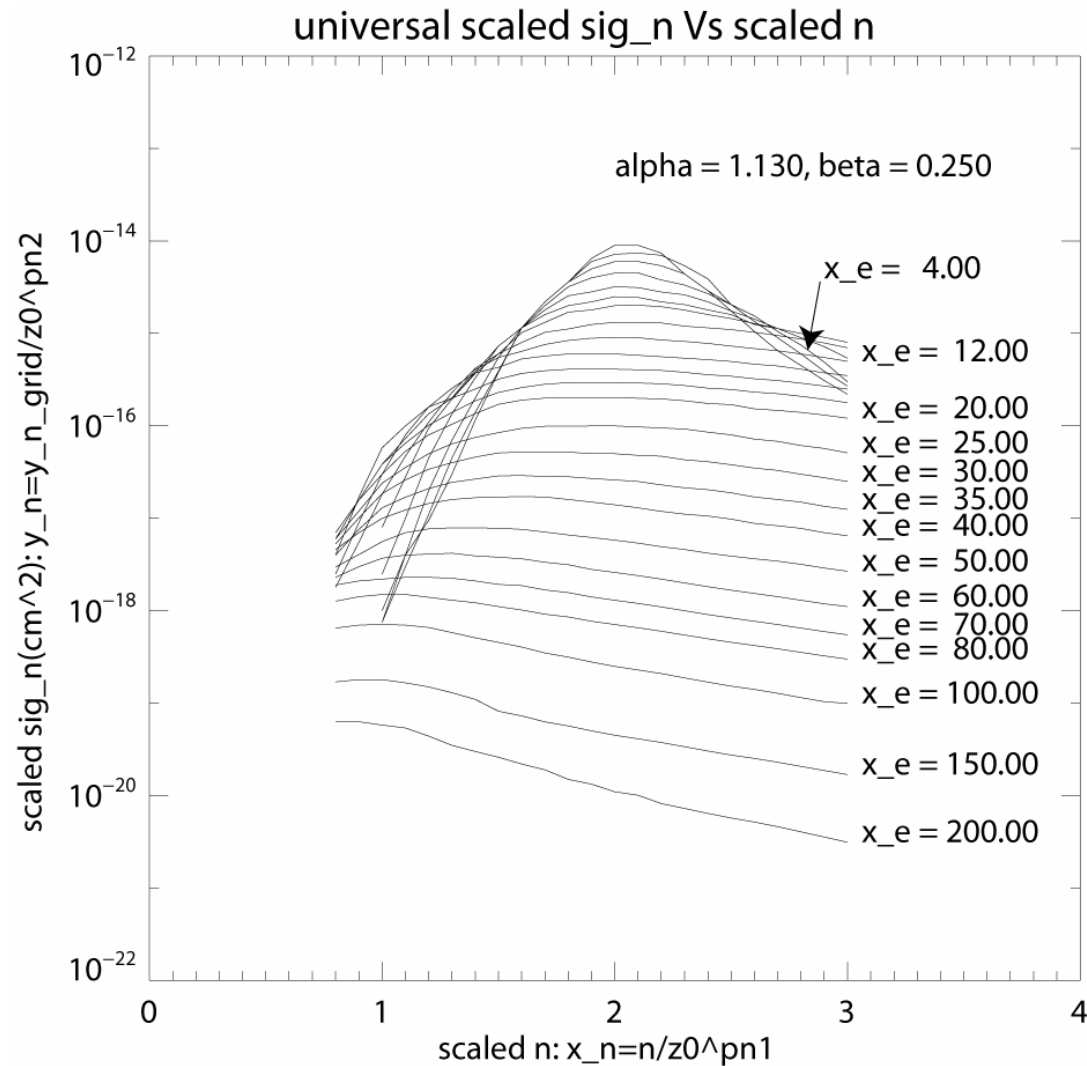
Z-scaling of total charge exchange cross-sections H(n=2) donor



Z-scaling of partial n-shell charge exchange cross-sections: H(n=2) donor



Universal scaled_sig Vs scaled_n for selected scaled E.



Towards a complete heavy element CXS visible feature prediction

