

"High Accuracy Atomic Physics in Astronomy", IP/ITAMP workshop, August 7-9, 2006, The Harvard-Smithsonian Center for Astrophysics, Cambridge, MA, in honor of Prof. Micheal J. Seaton

BENCHMARKING ATOMIC DATA FOR X-RAY LINES

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Several atomic codes have been developed over the years to provide the X-ray astronomy community with data and software to analyze spectra observed from X-ray astrophysical sources. Accuracy and completeness of such codes are key issues for any spectroscopic diagnostics of X-ray lines and continuum.

As part of the CHIANTI project, we have carried out a complete assessment of CHIANTI emissivities in the 7-18 Å wavelength range by analyzing two solar flare spectra. Fluxes of all lines of all ions observed in this range have been compared with theoretical estimates to assess the reliability and completeness of the latter. In this talk I will report about the results and show a few areas where improvements on atomic data and transition rates are needed.