Assessing the Requirements for Completeness and Accuracy of Atomic Data for X-ray Spectroscopy

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February 3, 2006

Abstract

We present several examples which illustrate the application of complete and/or accurate atomic data to problems in X-ray astrophysics. Large efforts in both theory and experiment since the launches of Chandra and XXM-Newton are beginning to pay off. For example, we can now determine the opacity of the solar corona, study episodic heating in active stars, measure the mass of the white dwarf in a cataclysmic variable, and find the distance from the central source to the outflowing winds of Active Galactic Nuclei. These case studies allow us to assess the needs for both completeness and accuracy of future laboratory astrophysics work.

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