

X-ray Plasma Models: Current Achievements and Future Needs

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Abstract

Before the launch of the Chandra X-ray Observatory and the XMM/Newton satellite, there was great concern about the available X-ray spectroscopic data, including not only the rates needed to calculate line strengths but even fundamentals such as wavelengths for iron L-shell lines. This inspired a substantial and successful effort to improve the situation. This included many laboratory measurements along with more detailed atomic modeling and better communication between the atomic physics and astrophysics communities.

We now have over 5 years of experience with high-resolution X-ray spectra, and have begun serious plans for Constellation-X which will achieve even higher resolutions. I will discuss what we have learned from this experience, including what our atomic data needs are now and what they will be in the near future.

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