

Atomic processes in plasmas

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A short overview of atomic processes in plasmas will be presented. We will briefly outline the current state of art in atomic structure analyses, discuss basic types of radiation and their importance for plasma spectroscopy, and review plasma diagnostics with dielectronic satellites. The main ideas of plasma population kinetics such as local thermodynamic equilibrium, coronal equilibrium, and collisional-radiative modeling will be presented with examples. A brief summary of the basic mechanisms of spectral line broadening will be given as well.

Further Reading

1. H.-J. Kunze, Introduction to Plasma Spectroscopy, Springer (2009)
2. V. P. Shevelko and L. A. Vainshtein, Atomic Physics for Hot Plasmas, IOP Publishing (1993)

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