Special Issue

Atomic Physics in Dense Plasmas

Message from the Guest Editor

The purpose of this Special Issue is to identify dedicated problems in dense plasma atomic physics theory and to correlate them with appropriate experimental conditions and diagnostic methods. In order to challenge theory for specific parts, particular interest is devoted to X-ray spectroscopic diagnostics, including X-ray scattering, high-intensity and high-energy laser-produced plasmas, X-Ray Free Electron Laser interaction with dense matter, pinch plasmas, radiation sources, collisional-radiative properties and radiation transport, non-equilibrium phenomena, ionization potential depression, X-ray line shifts, perturbed atomic structure, mixed atomic states, cross sections and rates of elementary atomic physics processes perturbed by the dense plasma environment. The Issue will familiarize readers with the challenging field of atomic physics of dense plasmas and matter under extreme conditions. The material is of fundamental interest, has important applications in astrophysics, fusion science, radiation sources, laser matter interaction and is of great relevance for almost all particle driven material heating that starts from cold dense matter.

Guest Editor

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Message from the Editor-in-Chief

The scope of *Atoms* is deliberately wide and encompasses a large part of theoretical and experimental atomic,
molecular, nuclear, and chemical physics in order to encourage cross-disciplinary connections, while supporting the more traditional idea of individual subfields. The journal is also interested in papers concerning
the computation and compilation of data related to applications in the above areas. Details of experimental methods and codes are welcome. Your research is taken seriously and peer-reviewed with care. I encourage you
to contact me or any of the Editorial Board Members for further information.

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