

Special Issue

Electronic, Photonic and Ionic Interactions with Atoms and Molecules

Message from the Guest Editors

The special issue on inelastic collisions between photons, electrons, and ions with atoms and molecules explores fundamental interactions in atomic, molecular, and plasma physics. Inelastic collisions, where energy is transferred between colliding particles and atoms or molecules, play a crucial role in various physical processes, from astrophysical phenomena to fusion energy research. This topic covers the study of photon-atom interactions (such as photoionization and photon-induced dissociation), electron-atom and ion-atom collisions (including ionization, excitation, and charge exchange processes). These interactions are critical for understanding the fundamental behavior of matter under different energetic conditions. This special issue collects cutting-edge studies aimed at enhancing our understanding of inelastic collision dynamics, which has implications for fields like space science, radiation physics, and industrial applications like material processing and radiation therapy. Keywords

- ionization
- ion-atom collision
- inelastic processes

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About the Journal

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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