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 collsion
- inelastic processes

Guest Editors

Prof. Dr. Antonio Carlos Fontes dos Santos
Instituto de Física, Universidade Federal do Rio de Janeiro, RiodeJaneiro 21941-972, RJ, Brazil

Prof. Dr. Karoly Tokesi
Institute for Nuclear Research (ATOMKI), H-4001 Debrecen, Hungary

Deadline for manuscript submissions

30 September 2025

Atoms

an Open Access Journal by MDPI

Impact Factor 1.5
CiteScore 3.1

mdpi.com/si/217926

Atoms
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
atoms@mdpi.com

mdpi.com/journal/atoms

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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.

Editor-in-Chief

Prof. Dr. Pascal Quinet
1. Physique Atomique et Astrophysique, Université de Mons, B-7000 Mons, Belgium
2. IPNAS, Université de Liège, B-4000 Liège, Belgium

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