


Editorial

# Special Issue on Atomic and Ionic Collisions with Formation of Quasimolecules

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**Abstract:** Many areas of science today, like atomic and molecular physics, nuclear physics, astrophysics, laboratory plasma research etc., depend on data for ionic, atomic, and molecular collision processes. The purpose of the Special Issue “Atomic and Ionic Collisions with Formation of Quasimolecules” in *Atoms* is to engage a broad community of researchers to consolidate knowledge, make new discoveries, and to continue the exchange of ideas.

**Keywords:** atomic data; molecular data; collisional atomic processes; Rydberg atoms; stellar spectra; laboratory plasma; fusion plasma

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Nowadays, various fields of modern science especially depend on simulations and modeling of calculated/measured data [1,2]. Physics, astronomy, and other related branches of science significantly depend on data for ionic, atomic, and molecular collision processes [3–5]. Moreover, these processes are important for diagnostics, analysis and modeling of fusion plasma, laser produced plasma, lasers development, and industrial plasma applications [6,7]. Even today, these collisional and radiative processes are poorly investigated and represented. Therefore, there is a serious need for developing new methods and for improving the existing ones.

This Special Issue will bring together physicists, astronomers, engineers, and others to review the present stage of research, with the aim of improving our knowledge in this field, and to better understand the significance of atomic and ionic collisions for future investigations.

We invite you to submit manuscripts for a Special issue of “*Atoms*’: Atomic and Ionic Collisions with Formation of Quasimolecules” addressing collisional and radiative processes, and hope that these results will be very useful for other scientists and that the corresponding data will attract the attention of data producers and will be of interest for inclusion in databases. Potential topics include, but are not limited to: Atomic data, molecular data, stellar spectra, laboratory plasma, fusion plasma, stars, atomic and molecular databases, Rydberg atoms, collisional atomic processes, etc.

We hope that this Special Issue of “*Atoms*” will be of continued interest and will contribute to the progress of this field.

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