

# Special Issue

## The Fundamental Role of Precision Atomic-Physics Measurements in Modern Science

### Message from the Guest Editors

Atomic physics is presently the most precise science available to humankind. We all know that the time standard is presently defined by an atomic transition, which became possible as a result of high-precision measurements. Further improvement of experimental precision, which is now entangled with high-precision theory, may lead to breakthroughs in our understanding of fundamental principles of nature. Precise measurements may also open new avenues in technology and applied sciences. This Special Issue will include original and review papers on high-precision atomic measurements and related theory with a focus on inter-science connections, prospects of new applications, and description of the most important problems in the way of improvement of precision. Aspects of nuclear, molecular and optical physics directly related to atomic physics may also be discussed in the submitted articles but should not be the main topic, which should be atomic physics.

---

### Guest Editors

Prof. Dr. Ulrich D. Jentschura

Department of Physics, Missouri University of Science and Technology,  
Rolla, MO 65409, USA

Dr. Alexander Kramida

Atomic Spectroscopy Group, Physical Measurement Laboratory,  
Quantum Measurement Division, National Institute of Standards and  
Technology, Gaithersburg, MD, 20899-8422, USA

---

### Deadline for manuscript submissions

closed (1 September 2023)

## Atoms

---

an Open Access Journal  
by MDPI

---

Impact Factor 1.5  
CiteScore 3.1



[mdpi.com/si/97170](https://mdpi.com/si/97170)

*Atoms*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[atoms@mdpi.com](mailto:atoms@mdpi.com)

[mdpi.com/journal/  
atoms](https://mdpi.com/journal/atoms)



# Atoms

---

an Open Access Journal  
by MDPI

---

Impact Factor 1.5  
CiteScore 3.1



[mdpi.com/journal/  
atoms](https://mdpi.com/journal/atoms)



## 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.

---

### 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

---

### Author Benefits

#### Open Access

— free for readers, with article processing charges (APC) paid by authors or their institutions.

#### High Visibility:

indexed within Scopus, ESCI (Web of Science), Astrophysics Data System, Inspec, CAPlus / SciFinder, INSPIRE, and other databases.

#### Journal Rank:

CiteScore - Q2 (Nuclear and High Energy Physics)