Special Issue

Search for New Physics with Cold and Controlled Molecules

Message from the Guest Editors

This Special Issue will highlight remarkable progress that has been achieved recently in control over both internal (electronic, vibrational, spin, and rotational) and external (translational) degrees of freedom for a wide range of molecules. These new techniques allow for much higher precision in measuring tiny effects in molecular spectra connected with possible new physical forces, including exotic spin-dependent interactions and parity (P) and time-reversal invariance (T) violating interactions. This may lead to significant progress in the search for the electron electric dipole moment (eEDM), nuclear anapole and Schiff moments, and axion-like dark matter. We aim to bring together experimentalists and theorists working both on molecular control and cooling of molecules and ions and on the effects related to new physical forces in prospective molecular systems. This Special Issue also provides an opportunity to review new directions in molecular cooling and control, as well as achievements in laser and NMR techniques.
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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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