

Special Issue

Molecular and Ionic Dynamics by Means of Nuclear Magnetic Resonance 2.0

Message from the Guest Editor

Nuclear magnetic resonance (NMR) is considered one of the most powerful techniques for investigating molecular and ionic dynamics. The highly-developed, extremely versatile NMR methods are used for the study of all types of soft matter and solid systems. The applications range from simple liquids to various kinds of solids and even tissues. The great advantages of NMR methods include the broad time scale of the dynamic processes probed, the unique potential to reveal the underlying mechanism of motion, and the atomistic resolution. There are numerous examples of scientific problems addressed by NMR: mechanisms of ionic motion and diffusion paths in novel solid and liquid electrolytes, efficiency of tailored contrast agents based on magnetic resonance imaging, and dynamical properties of polymers and dendrimers. This Special Issue is meant to provide an extensive overview of a variety of applications of NMR-based experimental methods, accompanied by parallel theoretical development, for the purpose of demonstrating their potential for interdisciplinary studies involving material sciences, physics, chemistry, biology, and medicine.

Guest Editor

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