

Special Issue

Superlubricity Mechanisms and Applications

Message from the Guest Editors

Superlubricity occurs when the frictional resistance between two surfaces in relative motion is exceptionally low or nearly zero. This phenomenon challenges the traditional understanding of friction and offers significant potential for various applications. The study and application of superlubricity can potentially revolutionize the design and performance of mechanical systems such as bearings, gears, and micro-electro-mechanical systems (MEMS). By reducing friction, it can lead to enhanced energy efficiency, less wear and tear, and longer lifetimes of mechanical components. It also opens up new avenues for research in nanotechnology and surface science, as understanding and harnessing superlubricity requires a deep exploration of the interactions at both the atomic and molecular scale. The intention of this Special Issue is to share the physical and chemical mechanisms underlying superlubricity and how superlubricity can be harnessed in real-world engineering scenarios.

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About the Journal

Message from the Editor-in-Chief

Friction, wear, and lubrication are tribological phenomena that govern the behavior of interacting surfaces in a wide range of machine components. Understanding the physical and chemical nature of these phenomena is critical to achieving long component lifetime and economical operation. Research in the field of tribology is highly interdisciplinary, and encompasses the fields of physics, chemistry, engineering, and mathematical modeling. *Lubricants* invites contributions on new advances in all areas of tribology for publication as peer-reviewed research articles, reviews of current research, letters, and communications. We are committed to providing timely reviews of all articles submitted. Please consider sharing your work with the scientific community through publication in *Lubricants*.

Editor-in-Chief

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