Special Issue

Tribology of Cycloidal Reducers: Enhancing Efficiency, Durability and Reliability through Experimental and Numerical Methods

Message from the Guest Editors

This Special Issue aims to highlight the cutting-edge research and developments in the field of cycloidal reducers, a critical component widely utilized in robotics and increasingly in power transmission systems. Recognized for their high transmission ratios, high power density, minimal backlash, and robust overload resistance, cycloidal reducers have become the cornerstone for several industrial applications such as aerospace, precision machinery, and automated manufacturing, among others. However, the longevity and reliability of cycloidal reducers are often compromised by wear and overheating, which remain the primary causes of system failure. Addressing these challenges, this Special Issue focuses on the tribological aspects of cycloidal reducers, seeking to foster advancements that will lead to more compact, efficient, durable, and reliable designs.

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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.*

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