Special Issue

Gas Lubricated Bearings

Message from the Guest Editors

Gas lubricated bearings use gas to achieve complete non-contact suspension lubrication, offering advantages such as low friction loss, high precision, adaptability to various working environments, and exceptional stability. Gas lubricated bearings meet the demanding requirements of equipment with extreme performance needs, including ultra-high speeds, precise operation, high efficiency, and long lifespan. Gas lubricated bearings hold promising applications in advanced equipment such as high-speed electric spindles, hydrogen fuel cells, micro-gas turbines, and hydrogen expanders. As the application environments for gas lubricated bearings become increasingly complex, there is a growing emphasis on factors like the lubrication medium, bearing capacity, stability, and adaptability. Lubrication technology for gas bearings encompasses various research areas, including lubrication mechanisms, multi-field coupling flows, structural design and optimization, high-performance manufacturing, performance testing, and system integration.

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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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