



Behavior of Lubricated Bearings in Electric Circuits

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Message from the Guest Editors

The electrical behavior of both rolling and plain bearings is a hot topic in machine element research as well as in electric machine development. Recent challenges are, for example, current passages which can damage rolling bearings; the load-dependent behavior of rotor bearings in electric machines that influence the performance and reliability of the overall system; and challenges that arise, e.g., when coatings and components are used that affect the electrical conductivity. However, the electrical characteristic of bearings, such as the load-dependent electrical behavior, the use of insulating and conductive coatings, or the integration of further components, make these bearings attractive as sensory elements to accelerate digitization processes. Finally, damage patterns resulting from electric effects need to be explained, quantified and predicted for all kinds of lubricated bearings including the lubricant itself. Therefore, researchers and practical engineers are invited to contribute their most recent results on the electrical behavior of grease- or oil-lubricated bearings with rolling or sliding contact.

