

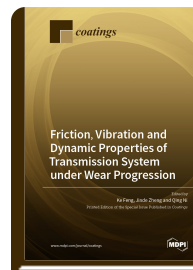
Special Issue Reprint

Friction, Vibration and Dynamic Properties of Transmission System under Wear Progression

www.mdpi.com/books/reprint/6595

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ISBN 978-3-0365-6257-5 (Hardback)
ISBN 978-3-0365-6258-2 (PDF)



This reprint focuses on wear and fatigue analysis, the dynamic properties of coating surfaces in transmission systems, and non-destructive condition monitoring for the health management of transmission systems.

Transmission systems play a vital role in various types of industrial structure, including wind turbines, vehicles, mining and material-handling equipment, offshore vessels, and aircrafts. Surface wear is an inevitable phenomenon during the service life of transmission systems (such as on gearboxes, bearings, and shafts), and wear propagation can reduce the durability of the contact coating surface. As a result, the performance of the transmission system can degrade significantly, which can cause sudden shutdown of the whole system and lead to unexpected economic loss and accidents. Therefore, to ensure adequate health management of the transmission system, it is necessary to investigate the friction, vibration, and dynamic properties of its contact coating surface and monitor its operating conditions.

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