Special Issue

Rotordynamics in Automotive Engineering

Message from the Guest Editors

Progress in engine and powertrain technologies within automotive engineering is mainly driven by trends related to electric drives, hydrogen power, and environmental concerns. The advances are primarily correspond to efficiency of mechanical layouts, downsizing, energy requirements, and environmental footprints. Passenger cars and commercial vehicles raise engineering problems that are subject to changing standards regarding environmental restrictions, power sources, and customer needs. Alternative solutions are sought via multiphysical models, advanced physics, oil-free technology, including gas lubrication and biolubricants, and smart features in machine components, including smart materials. For this Special Issue, we are seeking original contributions related to emerging trends in the dynamics of rotating machines in automotive applications. Specific topics of include but are not limited to new rotor dynamic concepts in engines and electric motors, fuel cell air supply, and power transmission or peripherals, including gear dynamics and ball bearings, with regard to the aforementioned emerging trends.

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