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Evolution of the Working Performance of Special Materials during the Whole Life Cycle

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Message from the Guest Editors

Dear Colleagues,

The main purpose of this Special Issue on “Evolution of the Working Performance of Special Materials during the Whole Life Cycle” is to find solutions to the difficulties and challenges encountered in the quantification, monitoring and evaluation of the working performance of special materials in the whole life cycle. The research field covers the reviews, principles, and methods of the overall performances of special materials, including formation and preparation processes, whole-life performance monitoring, quantification and evaluation, optimal working condition design, etc. The main contents areas of interest include but are not limited to the manufacturing and processing of composites, the quantitative characterization of micro-morphology and friction coefficient, the identification of material deformation and failure, the evaluation of noise and vibration, oil detection technology for worn materials, numerical simulation and experimental methods for the evaluation of friction-wear, dynamic response, and thermal load characteristics.

Prof. Dr. Biao Ma

Dr. Liang Yu

Guest Editors



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Message from the Editor-in-Chief

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