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Reliability Modeling of Complex Systems in Materials and Devices

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Message from the Guest Editors

Dear Colleagues,

"Complex Systems" are the systems consisting of multifold materials and components interacting with each other in complicated ways. They exist widely in all kinds of vital industries, including aerospace, civil, energy, semiconductors, etc. Driven by modern technologies, the complexity of those systems has increased dramatically, making reliability design and its optimization a great challenge in practical situations. On the other hand, numerous fantastic solutions on reliability analysis and evaluation have also emerged with the advancement of technologies such as numerical simulations, big data, intelligence design, etc. By virtue of these methods, the reliability problems of complex systems could be tackled with great opportunities.

To extend the understanding of complex system reliability, reliability studies on advanced theory, models and algorithms for products at material, component and system levels are particularly welcome in this Special Issue. The topics include but are not limited to: AI based reliability modeling; physics-informed neural network for physics of failure; multi-physics and multi-scale simulation.

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Message from the Editor-in-Chief

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