Special Issue

Vibration and Thermodynamic Studies of Advanced Materials

Message from the Guest Editor

Advanced materials such as lightweight and high-strength fiber-reinforced laminates, sandwich materials, nanocomposites, and functional gradient materials are widely used in aerospace, marine, automobile, rail, weapons, and other industries. Currently, there are a large number of advanced materials that are in service in various thermal environments, such as composite panels in high-speed aircraft, high-temperature turbine blades in aero-engines, and composite wings in unmanned solar aircraft. Due to the effect of high temperatures, which may reach hundreds or thousands of degrees Celsius, after a period of servicing time, these composite materials and structures will undergo severe vibration, weakened stiffness and strength, and dynamic fatigue problems, thus causing a possible catastrophic accident for the whole working components and systems. Unfortunately, experimental and theoretical reports on vibration and thermodynamic studies of advanced materials are still insufficient. Therefore, these areas will continue to be hot topics in advanced materials research for a long time to come.

Guest Editor

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Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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