

Special Issue

Ceramic Matrix Composites

Message from the Guest Editor

Ceramic matrix composites (CMCs) are state-of-the-art advanced lightweight, high-temperature-resistant materials that offer metal-like gradual failure properties despite being manufactured from brittle ceramics. CMCs weigh less than the presently used nickel-based superalloys and their melting temperature is twice as high. Energy systems incorporating these materials have greater fuel and energy efficiency, resulting in significant greenhouse gas emissions reduction. Over the past few 2–3 decades, a significant body of scientific work has been built to develop an understanding of material properties, characterization techniques, manufacturing methods, etc. for CMCs. The aim of this Special Issue is to provide a state-of-the-art review of present and potential applications of CMCs, showcasing application-oriented modelling techniques for CMCs. Researchers are encouraged to submit their work highlighting examples of the application of material constitutive models for CMCs, models for CMC fabrication, in-service degradation of CMC components due to fatigue, creep oxidation, and related topics.

Guest Editor

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Message from the Editor-in-Chief

Welcome to *Crystals*, the journal dedicated to the fascinating world of crystallographic research! Crystals are more than mere decorative elements; they hold the key to understanding the fundamental structure of matter. Our mission is to explore the crucial significance of this research across various fields. From medicine to technology, chemistry to geology, crystals play a vital role. Their structure provides insights into new advanced materials, innovative drugs, and groundbreaking technologies. Through *Crystals*, we delve into the microscopic world to discover solutions that will shape the future. Join us on a journey through the *Crystals*, where science merges with beauty and innovation.

Editor-in-Chief

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