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Advanced Nanoindentation in Materials

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Message from the Guest Editors

Indentation tests, intimately linked to hardness measurements, are some of the easiest tests to administer. They are performed by pressing the tip of known shape and recording the properties at the surface of a specimen. The ratio between the applied load and the size of the residual imprint gives the "hardness" of the material. Since the 1980s, indentation tests have been fully instrumented and the applied load and penetration depth of the tip are continuously recorded. The resulting so-called load-displacement curve is then processed with models in order to extract a wide range of mechanical properties such as hardness, elastic modulus, toughness, and residual stress.
Instrumental indentation can be now combined with other techniques for in situ testing (under SEM and X-ray diffraction) or performed in a controlled environment (high or low temperature in liquid), and recent advances afford the opportunity to probe the mechanical response at a wide range of strain rates.
We invite you to contribute to the Special Issue, "Advanced Nanoindentation in Materials", of Crystals dedicated to the development of techniques and applications of material analysis.

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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.

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