



crystals

an Open Access Journal by MDPI



Indentation Testing for Materials Characterization of Crystalline Solids

Guest Editor:

Prof. Per-Lennart Larsson

Department of Solid Mechanics,
The Royal Institute of Technology
(KTH), 114 28 Stockholm, Sweden

Deadline for manuscript
submissions:

closed (20 November 2019)

Message from the Guest Editor

Indentation or hardness testing is increasingly used for material characterization at different length scales and for very different materials. The main advantage is, of course, the simplicity of such testing, but more than that, the fact that indentation can be performed on very thin specimens, pertinent to thin films and coatings, and also on very hard materials. The disadvantage is that the mechanical problem resulting at the indentation is very complicated, and the correlation of different indentation quantities with material properties is difficult, but also necessary. This is particularly so for crystalline solids, where often, elastic and plastic deformations are of equal magnitude below the indentation contact region, in contrast to the situation for metals, where plasticity is completely dominating and elasticity is irrelevant. Accordingly, the present Special Issue concerns the correlation of indentation experiments, based on empirical, theoretical, and numerical analyses, resulting in closed form relations. Different kinds of indenter geometries, such as pyramid, conical, and spherical ones, are of interest.



mdpi.com/si/26255

Special Issue



crystals



an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Alessandra Toncelli

Department of Physics, University
of Pisa, 56126 Pisa, Italy

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.

Author Benefits

Open Access: free for readers, with [article processing charges \(APC\)](#) paid by authors or their institutions.

High Visibility: indexed within [Scopus](#), [SCIE \(Web of Science\)](#), [Inspec](#), [CAPus](#) / [SciFinder](#), and [other databases](#).

Journal Rank: JCR - Q2 (*Crystallography*) / CiteScore - Q2 (*Condensed Matter Physics*)

Contact Us

Crystals Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/crystals
crystals@mdpi.com
[X@Crystals_MDPI](#)