Special Issue

Instrumented Indentation Test: An Aiding Tool for Materials Science and Industry

Message from the Guest Editors

It is believed that the instrumented indentation test (IIT) will revolutionize the industry in the next two decades, while continuing to lead to new elucidations about the nature and behavior of materials. It shares the same mechanical fundamentals as a conventional indentation test (IT), but it also permits a multitude of indentation properties, other than hardness, to be extracted in a quick, easy, and nondestructive manner. As such, it can be used either in offline or online manufacturing processes to assess the final mechanical performances of a part or to optimize the most relevant process parameters. IIT is particularly suitable for additive manufactured products, welded joints, and microelectromechanical devices, which generally lack a standard structural assessment. Although IIT can virtually be performed over nano-, micro- and macrodimensional scales, over the last decade, research into IIT has been dominated by nano-IIT studies, which have had a great impact on the progress of materials science and the thin film and coating industry...

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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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