Iutam Symposium On Surface Effects In The Mechanics Of Nanomaterials And Heterostructures

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This volume constitutes the proceedings of the IUTAM Symposium on Surface Effects in the Mechanics of Nanomaterials and Heterostructures, held in Beijing, 8-12 August, 2010. The symposium brought together the most active scientists working in this area from the fields of solid mechanics, composites, physics, and materials science and summarized the state-of-the-art research results with a view to advancing the frontiers of mechanics and materials physics. Nanomaterials and heterostructures have a large fraction of their atoms at surfaces and interfaces. These atoms see a different environment to those in the interior and can have a substantial effect on the overall mechanical and physical behaviour of a material. The last decade has witnessed a growing interest in the study of surfaces and how the surface behaviour couples with that of the bulk to determine the overall system response. The papers in this proceedings cover: extension of continuum mechanics and thermodynamics to the nano-scale; multiscale simulations; surface effects in monolithic nano-scale elements and nanostructures; mechanical and physical properties of nanomaterials and heterostructures; self-assembly, etc. The surface stress effect is inherently a multidisciplinary and fertile field; the Symposium truly reflects these features. This IUTAM Symposium was also dedicated to Professor Bhushan L Karihaloo of Cardiff University on his impending retirement, in recognition of his contributions to the fields of solid mechanics and nanomechanics, and to IUTAM activities in general. EAN/ISBN : 9789400749115 Publisher(s): Springer, Berlin, Springer Netherlands Discussed keywords: Nanotechnologie Format: ePub/PDF Author(s): Cocks, Alan - Wang, Jianxiang

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