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	Jiarui Yang, Ze Liu, Yao Cheng, Francois Grey, Quanshui Zheng Mechanical Properties of Materials Considering Surface Effects, by Holm Altenbach, Victor A. Eremeyev, and Nikita F. Morozov A Study on Cell-Substrate Interfacial Interaction Modulated by Substrate Stiffness, by Jianyong Huang, Lei Qin, Chunyang Xiong and Jing Fang Approach for Nanoscale Beams with Surface Effects, by C. Liu, A. S. Phani and R.K.N.D. Rajapakse Multiple-scale Interface Fracture Analysis for Thin Film/Substrate System under Temperature Mismatch, by M.Z. Li, H.S. Ma, L.H. Liang, Y.G. Wei Quality Verification of Polished PCD Composites by Examining the Phase transformations, by Y. Chen and L. C. Zhang Size –Dependent Elastic Properties of Honeycombs, by H. X. Zhu Computational Modeling of Surface Effects: Distinctions from Classical Surface Elasticity Theory, by Harold S. Park Computational Thermomechanics with Boundary Structures, by Paul Steinmann and Ali Javili Thermodynamics and Kinetics of the Nanocheckerboard Formation, by Yong Ni , Linghui He, and Armen G. Khachaturyan Understanding Diffusion-Induced-Stresses in Lithium Ion Battery Electrodes, by Yang-Tse Cheng, Mark W. Verbrugge, Rutooj Deshpande Mechanical and Viscoelastic Properties of Polymer Layers on Solid-Liquid Interfaces, by Sheng Qin, Xuefeng Tang, Xianbin Du, Lifei Zhu, Yifeng Wei, Osung Kwon, Jiajie Fang, Ping Wang, and Da-Ming Zhu A density Functional Study of Zinc Oxide Elastic Properties under High Pressure, by Bin-Bin Wang and Ya-Pu Zhao A Multiscale Approach to the Influence of Geometry and Deformation on the Electronic Properties of Carbon Nanotubes, by Dong Qian Heterogeneous Structures with Negative Effective Mass, by Shanshan Yao, Xiaoming Zhou and Gengkai Hu Tuning Long-Range Elastic Interaction between Adsorbates by External Straining, by L. H. He On the Stress Field and Dislcoation Emission of an Elliptically Blunted Mode III Crack with Surface Stress Effect, by J. Luo Mechanic	Energy
Sommario/riassunto	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. 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.	Nanomaterial