

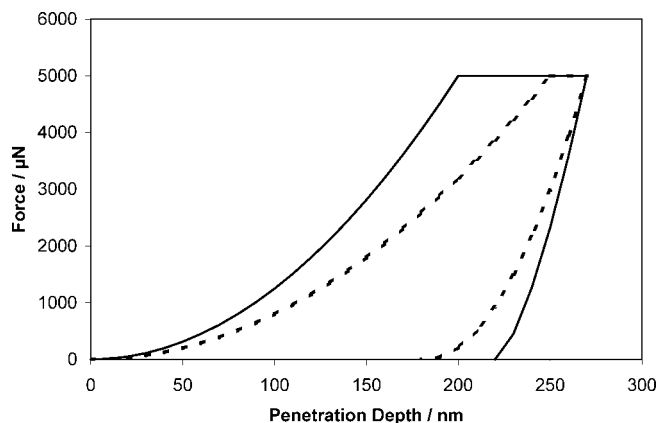
2nd European Symposium on Nanomechanical Testing

The 2nd European Symposium on Nanomechanical Testing was initiated as a consequence of current trends in the field of mechanical testing. The 2nd Symposium had a special focus on the current international standardization activities for nanohardness testing.

The impact of standardization on the application of nanohardness measurements cannot be overestimated. The determination of the nanohardness, the Martens hardness and the modulus of a material is covered by the norm. After very thorough investigations of different influences on the hardness measurement, the norm will help to improve the reliability and comparability of the measurement. Different talks on aspects of these activities are represented by the paper of K. Herrmann in this volume.

Other papers were completing the spectrum of nanoindentation testing by investigating effects beyond standardization. One example may be discussed here. Two theoretical load–displacement curves (see figure) will result in the same hardness and modulus information when analysed following the norm. The maximum depth of penetration and the initial slope of the unloading curve are the same for both curves. However, it is obvious from the

shape of the load–displacement curves that the material's response is not the same. Therefore, it was suggested by several authors that the load–displacement curves should be understood like fingerprints of the material tested.



Understanding these differences will still require a deep understanding of the material's response on penetration during hardness measurement. Nanomechanical testing is thus a still growing and interesting field of materials science.

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