

## Abstract

This work presents an attempt to explain in a simple way, understandable to a broad spectrum of readers, the unusual combination of the mechanical properties of the recently developed new class of nanomaterials, such as high hardness which significantly exceeds that of the rule of mixtures, enhancement of the elastic modulus as measured by the indentation technique, very high elastic recovery which is observed upon the indentation and the absence of crack formation even under elastic deformation corresponding to a strain of more than 10%. Future experimental work is suggested which should bring further progress towards the understanding of these materials.