Mechanics of 2D materials and related 3D composites

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Abstract

The rapid development of synthesis and characterization of graphene, other 2D materials and related 3D composites as well as unprecedented computational power and theoretical advances have brought forth a new era of materials research in which experiments, simulation and modeling are performed side by side, e.g. [1]. Accordingly, this talk aims to present an overview of our recent studies of the mechanics of graphene, other 2D materials (e.g. fracture, deformation and friction) and related 3D composites (e.g. bio-inspired, hierarchical and self-healing), e.g. [2]. Finally, we will present recent results on silkene (spider silk with graphene spun by spiders) with unprecedented mechanical properties [3].

References

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