

凝聚态物理-北京大学论坛

2019年第13期 (No. 463 since 2001)

Elastic Properties and Strain-Induced Buckling of 2-Dimensional Materials

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时间: 5月23日 (星期四) 15:00—16:30

地点: 北京大学物理大楼中212教室

•**摘要:** Interface strain exists very commonly in layered structures, particularly at a hetero-interface of two different materials. Dynamic change of the strain in materials could induce various types of deformations such as bending, rotating, or buckling. In the emerging 2-dimensional (2D) materials, the interface strain exhibits many new features and induces a lot of novel phenomena. In this talk, I will first present the fundamental study of elastic properties of several typical 2D materials, and then summarize the ways to introduce a strain at van der Waals interfaces in 2D materials. It is found that when the strain exists at the 2D material-substrate interface, the geometry of the 2D material can be engineered due to the naturally low interface adhesion. In such a strained system, dynamic web buckling of 2D semiconducting films is in situ observed with a delicately site-controlled initiation. The exploration of these systems not only provides mechanical insight to the understanding of functions and interface physics of layered hetero-structures, but also potentially allows engineering of layered materials as desired.

•**报告人简介:** 刘锴副教授于2008年在清华大学物理系获得博士学位, 2011年进入加州大学伯克利分校从事博士后研究, 2015年加入清华大学材料学院任教。刘锴副教授的研究方向包括低维纳米材料合成、力学性能表征及纳米传感器件、驱动器件的研制。至今在**Science**、**Adv. Mater.**、**Nano Lett.**等期刊上共发表**SCI**论文**70**余篇, 已获授权的发明专利**30**余项。主持中组部“青年千人计划”、基金委青年科学基金和面上项目、霍英东青年教师基金等科研项目。

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