



复旦大学物理系 物质科学报告

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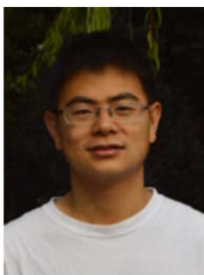
Location: Physics Building (Jiangwan), Room C108

Emerging of physical properties of single-layer transition metal dichalcogenide

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The single atomic crystal of layer of transition metal dichalcogenides(TMDCs),with numerous exotic physical properties, has become a worthy successor to graphene. The TMDC undergoes an indirect to direct band gap transition when it is thinned down from bulk to monolayer, due to strong confinement. The single layer TMDCs hold large exciton binding energy and rich excitonic transition physics. The inversion symmetry breaking brings nonlinearity to single-layer TMDCs, making them good piezoelectricity and second-harmonic generation materials. Moreover, single-layer TMDCs are found with nonequivalent valley degree of freedom, due to the inversion symmetry and strong spin-orbital coupling. In this talk, I will focus on our recent effort on probing the unique physical properties of single-layer TMDCs and their potential applications towards two-dimensional on-chip optoelectronics.



叶埴，男，北京大学研究员，博士生导师，“千人计划”青年项目入选者。叶埴于 2012 年获北京大学理学博士学位。2012 年至 2016 年在加州大学伯克利分校从事博士后研究。2016 年 7 月入职北京大学物理学院。长期从事二维材料及其异质结构的物性研究及相关器件物理。迄今发表学术论文 45 篇，其中第一作者或通讯作者 21 篇，包括 1 篇 Science, 2 篇 Nature Nanotechnology, 1 篇 Nature Photonics。

被 SCI 引用 2000 多次，h 因子是 24。获得国家发明专利一项，美国发明专利一项。曾多次在相关领域的重要国际大会上做口头报告。受邀担任 APS March Meeting 2017 二维材料及器件专题的编委。为 Nature Nanotechnology, Nature Communications 等十余种国际杂志审稿人。

