

Abstract for an Invited Paper
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Maria Goeppert Mayer Award Talk: Dirac fermions in epitaxial and free standing graphene

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In this talk I will present a summary of our experimental work in the emerging field of graphene using a combination of spectroscopic and microscopy tools. I'll present experimental evidence of what drives the stability of a graphene membrane and show comparison between exfoliated and epitaxial graphene. I will then discuss the nature of fermions in graphene and discuss how many body interactions evolve from free standing to epitaxial graphene and how engineering of small terraces size down to nm size can strongly affect the properties of Dirac fermions. The implications of our study on the properties of Dirac materials and their potential role for applications are discussed.