



学术报告

题目：Graphene Plasmonics

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报告摘要： With the advent of graphene, a two-dimensional carbon allotrope, about ten years ago, a completely new branch of condensed matter physics was born. This branch turned out to be exceptionally interdisciplinary with connections to many different subfields of physics, chemistry and engineering. Since then, many other two-dimensional (2D) crystals were synthesized resulting in a completely new class of 2D materials featuring many unconventional properties. As graphene hosts a 2D liquid of charge carriers, albeit behaving as massless Fermions, it is electronically conductive and capable of supporting collective oscillations, better known as plasmons. In this way, the field of graphene physics and plasmonics were merged and it was shown that plasmons in graphene can exist with exceptional properties. In this talk, I will briefly give an overview of the field of graphene plasmonics, the challenges faced along the way and where we stand today. I will end with giving three examples of how graphene plasmonics can be used to probe many-body properties of the electron liquid, how it can make graphene a strongly nonlinear optical material and finally how the plasmons change character in the hydrodynamic regime.

报告人简介： Dr Ben van Duppen received his PhD at the University of Antwerp (UA), Belgium in 2016. He now is a FWO (Flemish Science Foundation) Postdoctoral Fellow and a Research Assistant at the UA. His current research field includes theoretical study of electronic, optical, and plasmonic properties of two-dimensional and nanostructure systems, particularly the electronic liquids and nonlinear dynamics. His research work has been carried out in collaboration with theoretical and experimental groups from UK, Canada, Italy, Spain, China, etc. He has published over 25 papers in Science, Nanolett., 2D Mat., PRB, APL, etc.

Ben van Duppen博士于7.8-13和8.1-4在固体所（小楼107），欢迎讨论、切磋。

