



Weekly Seminar

Seeing bizarre topological effects in synthetic materials

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Time: 3:00pm, April. 14, 2021 (Wednesday)

时间: 2021年4月14日 (周三) 下午3:00

Venue: Room W563, Physics building, Peking University

地点: 北京大学物理楼, 西563会议室

Abstract

Recent years have witnessed the vigorous researches on novel physics in synthetic lattice systems, such as in cold atom systems and in metamaterials. We show that metamaterials as synthetic topological materials can realize unprecedented topological phenomena. These include the bulk-disclination correspondence which could serve as a new probe of topological crystalline materials [1] and local flux manipulation which provide a foundation toward fundamentally new materials and phenomena [2,3]. We demonstrate all these effects with complimentary theory and experiments, and pointing out its relation with physics in graphene and other solid state materials.

References:

- [1] Y. Liu, S. Leung, F.-F. Li, Z.-K. Lin, X. Tao, Y. Poo and J.-H. Jiang, Nature 589, 381-385 (2021)
- [2] H.-X. Wang, Z.-K. Lin, B. Jiang, G.-Y. Guo and J.-H. Jiang, Phys. Rev. Lett. 125, 146401 (2020)
- [3] L. Luo, H.-X. Wang, B. Jiang, Y. Wu, Z.-K. Lin, F. Li and J.-H. Jiang, arXiv:2011.01351, under review at Nature Materials

About the speaker

蒋建华, 中国科学技术大学本科(2004年)、硕博连读博士(2010年)。先后在以色列Weizmann研究所和加拿大多伦多大学从事博士后研究。2015年起任苏州大学物理学院教授。发表 70余篇同行评审学术论文(含Nature, Nature Physics, PRL, PRX等)。2019年入选教育部长江学者奖励计划青年项目。担任“全国统计物理与复杂系统学术会议”学术委员会委员,“全国超材料大会”理事会理事,《Chinese Physics Letter》,《Chines Physics B》,《中国物理学报》和《物理》杂志青年编辑等学术兼职。