



Spin, Charge and Heat Transport in Low-Dimensional Materials

Chun Ning (Jeanie) Lau

Department of Physics, The Ohio State University

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Venue: Room W563, Physics building, Peking University

地点: 北京大学物理楼, 西563会议室

Abstract

Two dimensional materials constitute an exciting and unusually tunable platform for investigation of both fundamental phenomena and electronic applications. Here I will present our results on transport measurements on high mobility few-layer graphene and phosphorene devices. Using quantum Hall effects in graphene as injectors, filters and detectors, we observe robust long distance spin transport through the antiferromagnetic state in graphene. In the second half of the talk, I will present our recent results on quantum Hall effect in air-stable, few-layer phosphorene devices, and the current carrying capacity of carbon nanotubes.

About the speaker

Chun Ning (Jeanie) Lau is a Professor in the Department of Physics at The Ohio State University. She received her BA in physics from University of Chicago in 1994, and PhD in physics from Harvard in 2001. She was a research associate at Hewlett Packard Labs in Palo Alto from 2002 to 2004, before joining University of California, Riverside in 2004 as an assistant professor. She was promoted to associate professor in 2009 and full professor in 2012. Starting January 2017 she moved to The Ohio State University. Her research focuses on electronic, thermal and mechanical properties of nanoscale systems, in particular, graphene and other two-dimensional systems. She has published ~100 papers and given more than 120 invited talks worldwide. She is the recipient of the NSF CAREER award and the PECASE award (Presidential Early Career Award for Scientists and Engineers).