

School of Physics

Ph.D Defense Session

Title:

Transport properties of advanced two-dimensional materials

Candidate:

Moslem Zare, IPM

Venue:

Farmanieh Seminar Room C

Date:

12 October, 2017

(پنجشنبه، ۲۰ مهر ۱۳۹۶)

Time:

10:00-12:00

Abstract:

In this thesis, we study electronic and transport properties of the newly developed two dimensional electronic materials, such as silicene, molybdenum disulfide and phosphorene. The thesis contains two parts: first, about the ballistic and anisotropic diffusive transport in molybdenum disulfide and phosphorene, respectively and second, the RKKY interaction in zigzag silicene nanoribbon and phosphorene, subsequently. In this thesis, also spin-transfer torque (STT) and giant magnetoresistance in ferromagnetic/normal/ferromagnetic (F/N/F) hybrid structure of phosphorene and spin-valley polarization in normal/ferromagnetic/normal (N/F/N) junction of molybdenum disulfide are investigated.

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