

YuFei Liu

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EDUCATION

PEKING UNIVERSITY

BEIJING, CHINA

Bachelor of Science, School of Physics

Sep. 2015 – Jul. 2019

- ✧ Cumulative GPA: 3.6/4.00, Major GPA:3.7/4.00, GRE SUB: 990 (94% Below)
- ✧ Advanced Courses: Physical Properties of Quantum Material, Advanced Quantum Mechanics, Group Theory.

RESEARCH INTEREST

Novel Low-Dimensional Magnetic Materials, Topological insulators and Semimetals, Superconductors

RESEARCH EXPERIENCE

Undergraduate Research on Two-Dimensional Magnetic Materials

Apr. 2017 till Now

Advisor: Professor Shuang Jia International Center for Quantum Materials (ICQM, PKU)

The Synthesis and Characterization of $MM'Te_2$ system (M=Nb/Ta M'=Fe/Co)

- ✧ Synthesized high quality single crystal of NbFeTe₂ using CVT method
- ✧ Characterized the crystalline structural properties of NbFeTe₂ samples using XRD
- ✧ Measured the magnetic properties of NbFeTe₂ using MPMS
- ✧ Further measured the electric properties of NbFeTe₂ using the PPMS and observed Anomalous Hall Effect
- ✧ Trying to make single-layer sample and continue measurement

The synthesis and characterization of VAl₃ system

- ✧ Used the flux method to grow perfect VAl₃ single crystal and used XRD to characterize crystalline structure
- ✧ Synthesized the Si doping VAl₃ single crystal through the flux method in order to reduce electron concentration
- ✧ Further synthesized the Ti doping VAl₃ single crystal in order to increase electron concentration
- ✧ Used XRD to characterize crystalline structure and refine crystalline structure of different ratio of Ti and V
- ✧ Trying to find the turning ratio between the N-type semimetal (VAl₃) and P-type semimetal (TiAl₃)

The synthesis and characterization of FePS₃ system (cooperated research)

- ✧ Synthesized high quality single crystal of FePS₃ with CVT method
- ✧ Fabricated single-layer sample and prepared device using micro-nano fabrication

CONFERENCES & SEMINARS

The 7th Joint ICQs Annual Workshop on 'The World of Topological Matters' Jul. 2017

- ✧ Participated in the 7th Joint ICQs Annual Workshop on 'The World of Topological Matters' and listened to lectures about researches on the Frontiers Topological Matters
- ✧ Discussed the frontier research topics with the professors and graduate students from different universities and institutes, including Princeton, Berkeley, Austin, Tokyo, etc.

AWARDS & SCHOLARSHIPS

- ✧ Weiming Scholarship for the top students in School of Physics, 2017
- ✧ Third Prize Award in the China Undergraduate Physics Tournament, 2016

ADDITIONALS

- ✧ Research Skills: Crystal Growth, XRD, PPMS, MPMS
- ✧ Programming Skills: C / C++ / python/ LATEX