



北京大学量子材料科学中心

International Center for Quantum Materials, PKU

Weekly Seminar

Measuring Quantum Oscillations in Extreme Magnetic Fields

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Time: 4:00pm, Sep. 20, 2017 (Wednesday)

2017 9 20

4:00

**Venue: Room W563, Physics building, Peking University
563**

Abstract

Measurement of quantum oscillations is a very powerful way for studying the Fermi-surface topologies. Recently, several techniques for probing the quantum oscillations had been successfully constructed in our Water-Cooled magnets with the highest field up to 38.5T and lowest temperature down to 0.3K. In this presentation, I will first explain the basic principles of these techniques and demonstrate their applications on topological materials and superconductors. In the second part, I will discuss the effect of hydrostatic pressure on the magnetotransport properties of zirconium pentatelluride. We find that the quasi-linear magnetoresistance decreases drastically under pressure. Besides, the change of the quantum oscillation phase from topological nontrivial to trivial is revealed around 2.0 GPa. Both demonstrate that the accidental Dirac cone in ZrTe₅ is violated under pressure.

About the speaker