

The 223rd MANA Seminar



**FFLO, gap determination and vortex lattice morphology
---A unified view of superconductivity from microscopic
quasi-classical theory---**

Chair: Dr. Xiao Hu (MANA PI)



Prof. Kazushige Machida

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Several exotic pairing states are reported both experimentally and theoretically various superconductors, including heavy Fermion materials, organic materials others. However, there are only a few examples where the pairing symmetry is firmly identified. In this talk we will introduce several spectroscopic methods to identify the gap symmetry, which are experimentally feasible. Our theoretical method is based on microscopic quasi-classical Eilenberger theory that is applicable for a wide variety of superconductors. Here we discuss a couple of topics with current interest, such as FFLO and field induced SDW. Also we touch on our recent attempt towards first principles DFT combined with Eilenberger theory, which turns out to be quite promising to fully describe the mixed state without adjustable parameters.

Venue: 4F, Seminar room #431, MANA Bldg., Namiki Site

Date: September 30th(Fri) Time: 15:30-16:15

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