

## Research Plan

During my two months stay at Princeton Plasma Physics Laboratory (PPPL), I will collaborate with my PPPL hosts Dr. Nikolai Gorelenkov and Dr. Guoyong Fu in the research of interaction between energetic particles and MHD instabilities in tokamak plasmas using both analytic theory and the NOVA-K simulation code. The research topics include:

- (1) The fluid and kinetic theory of Magnetohydrodynamics modes in toroidal geometry.
- (2) The behaviour of the energetic particles in tokamak plasmas
- (3) Develop numerical codes to calculate the interaction between energetic particles and MHD instabilities.

I have two hosts at PPPL:

- (1) Dr. Nikolai Gorelenkov, who is the deputy head of the Theory and Computation Department of PPPL; E-mail: ngorelen@pppl.gov
- (2) Dr. Guoyong Fu, who is a Principle Research Physicist in the Theory Department. E-mail: fu@pppl.gov