

# **NSTX WPI Research Contributions to ITPA Tasks**

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- The Energetic Particle ITPA Group has identified five research tasks:
  - *Measure damping rates of Alfvén waves and compare with theory*
  - *Define benchmark test cases for fast particle stability codes*
  - *Develop relevant diagnostics and make recommendations for ITER diagnostics*
  - *Compare theoretical predictions with measurements of fast ion losses caused by magnetic field ripple and error fields in present day devices*
  - *Predict the power loads to the ITER first wall caused by error fields, ferritic inserts, test blanket modules and perturbation fields (ELM mitigation coils)*
- Integrated Operations ITPA Group has task relevant to both Energetic Particle and HHFW research on NSTX:
  - *Scenario exploration: Use of actuators for ITER scenarios (also prepare for H/He phase of ITER?) H&CD power mix: timescale: 2 years*