

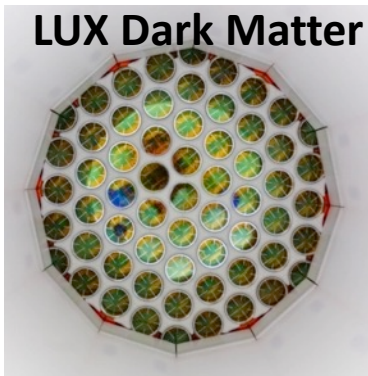
Physics of Dark Matter and Neutrinos



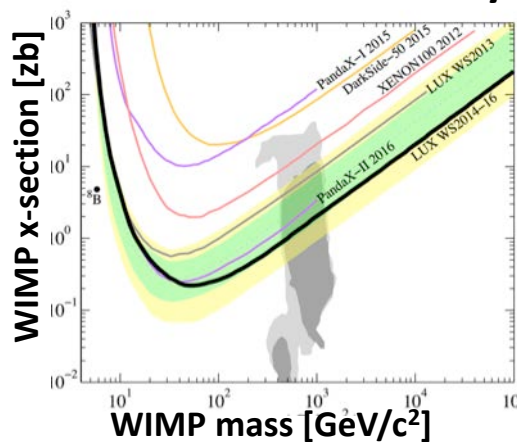
Research Overview

- LUX/LZ searches for WIMP dark matter
- Neutrino mass measurement via cyclotron radiation emission spectroscopy.

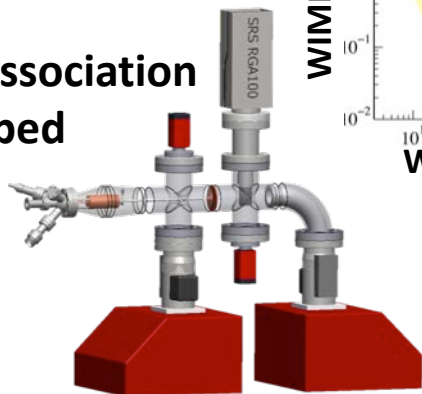
LUX Dark Matter detector



LUX WIMP Sensitivity



H₂ dissociation test bed



Potential Collaborations

- Low-energy measurements in Ar and Xe
 - Electron and nuclear recoils
 - Application to reactor-based coherent neutrino scattering
- Design of LZ Dark Matter experiment
 - WIMP signal and sensitivity
- Direct neutrino mass measurement
 - Supplying high-purity atomic tritium to Project8 experiment

Previous Dissertations

“Measuring the Ionization Yield of Low-E Nuclear Recoils in Liquid Ar”
(Tenzing Joshi, UC Berkeley, 2014)

“Low-E Ionization Yield in Liquid Ar for a Coherent ν -Nucleus Scatter Detector”
(Michael Foxe, Penn State, 2013)

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