

Subo Dong

Institute for Advanced Study

**Exoplanet Demography -- Stamp Collecting and Beyond**

I will discuss our works on exploring the architecture of extrasolar planet systems. Microlensing is uniquely sensitive to "cold" planets, and it allowed us to measure planet frequency beyond the "snow line" for the first time. Kepler mission has made orders-of-magnitude leaps in detecting planets within  $\sim 1$  AU and has also discovered hundreds of multiple-planet systems. We have developed a statistical framework in analyzing the Kepler planet distribution. After planets are formed, dynamical processes may leave strong imprints on the planet architecture, and in particular, close-in Jupiters may have migrated to their current locations on highly-eccentric orbits. We show that the predictions of such "high-e" mechanisms can be tested by Kepler, radial velocity, and direct-imaging surveys.