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TIME: Wednesday, 3:00 PM, Dec. 19, 2012 **LOCATION: A601 NAOC**

Exoplanet Population: Census & Demographic Analysis



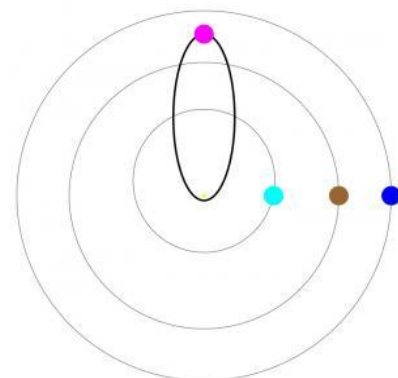
Subo Dong (IAS, Princeton)

Subo is the Ralph E. and Doris M. Hansmann Postdoctoral Member of the Institute for Advanced Study, Princeton, New Jersey. He was born and raised in Hebei Province of China and got his PhD of astronomy at the Ohio State University in 2009. Then he joined the Princeton as a NASA Sagan Postdoctoral Fellow. He

works on extrasolar planet searches with gravitational microlensing.

Abstract

In the last two decades, exoplanet hunters have expanded into the "Wild West" of planet discoveries, revealing surprisingly diverse exoplanet systems. Time has come for rigorous statistics inference on planet population and understanding the physics behind the emerging patterns in their distribution. I will discuss our works on exploring the demography 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 ~ 1 AU and has also discovered hundreds of multiple-planet systems. We have developed a statistical framework in analysing the Kepler planet distribution. After planets are formed, dynamical processes may leave strong imprints on the planet architecture, and in particular, lose-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.



All are welcome! Tea, coffee, biscuits will be served at 2:45 P.M.

You are welcome to nominate speakers to Shude Mao (shude.mao@gmail.com), Licai Deng (licai@bao.ac.cn), Xuelei Chen (xuelei@cosmology.bao.ac.cn).