

Monday 12 Nov 9:00-10:15

I) Review of Point Lens Basics

- A) Simple Lens
- B) Higher-order effects
 - 1) Parallax
 - 2) Finite Source
 - 3) Xallarap
- C) Mass and Distance

II) Binary Lens Basics

- A) Topology
- B) Higher-order effects
 - 1) Parallax, Finite-Source, Xallarap
 - 2) Simple Orbital Motion
 - 3) Full Orbital Motion

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C) Degeneracies

- 1) Close/Wide Binary
- 2) 1-D Parallax Degeneracy
- 3) Ecliptic Degeneracy
- 4) Parallax/Xallarap

III) Lightcurve Interpretation

- A) Calculating Binary Magnifications
 - 1) Point Source
 - 2) Hexadecapole
 - 3) Contour Integration
 - 4) Ray Shooting
 - 5) Hybrid

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B) Inverting Lightcurves

- 1) Brute Force
- 2) Intelligent Guesses

IV) Microlensing Planets In the Context of Other Methods

A) Key Capabilities

- 1) No Light From Planet/Host System
 - a) distant planets
 - b) low-mass hosts
 - c) free-floating planets
- 2) Einstein-Ring/Snow-Line coincidence

B) Shortcomings

- 1) Host Rarely Seen
- 2) Usually Just Snapshot

C) Initial Results

- 1) Rates
- 2) Interesting Systems

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- V) Two-Planet Systems
 - 1) Lightcurve Decomposition
 - 2) Role of High-Magnification Events
 - 3) Modeling Techniques

- VI) Future of Planetary Microlensing
 - 1) Second Generation Surveys
 - 2) Role of Followup
 - 3) M31 Planets
 - 4) Euclid/WFIRST