Strong Gravitational Lensing: a New Standard Ruler

Inh Jee and Eiichiro Komatsu

Max-Planck-Institut für Astrophysik

- Time-delay strong lens system
- Previous studies mostly focused on "**Time-delay distance**"
- Paraficz & Hjorth(2009) showed that assuming the mass distribution of the lens galaxy as SIS, the time-delay strong lens system can be used to calculate the **angular diameter distance**
- We extend the analysis to spherically symmetric power-law density profile with anisotropic velocity dispersion and external convergence
- Uncertainty analysis: velocity dispersion, external convergence, time-delay measurement and the density profile index