

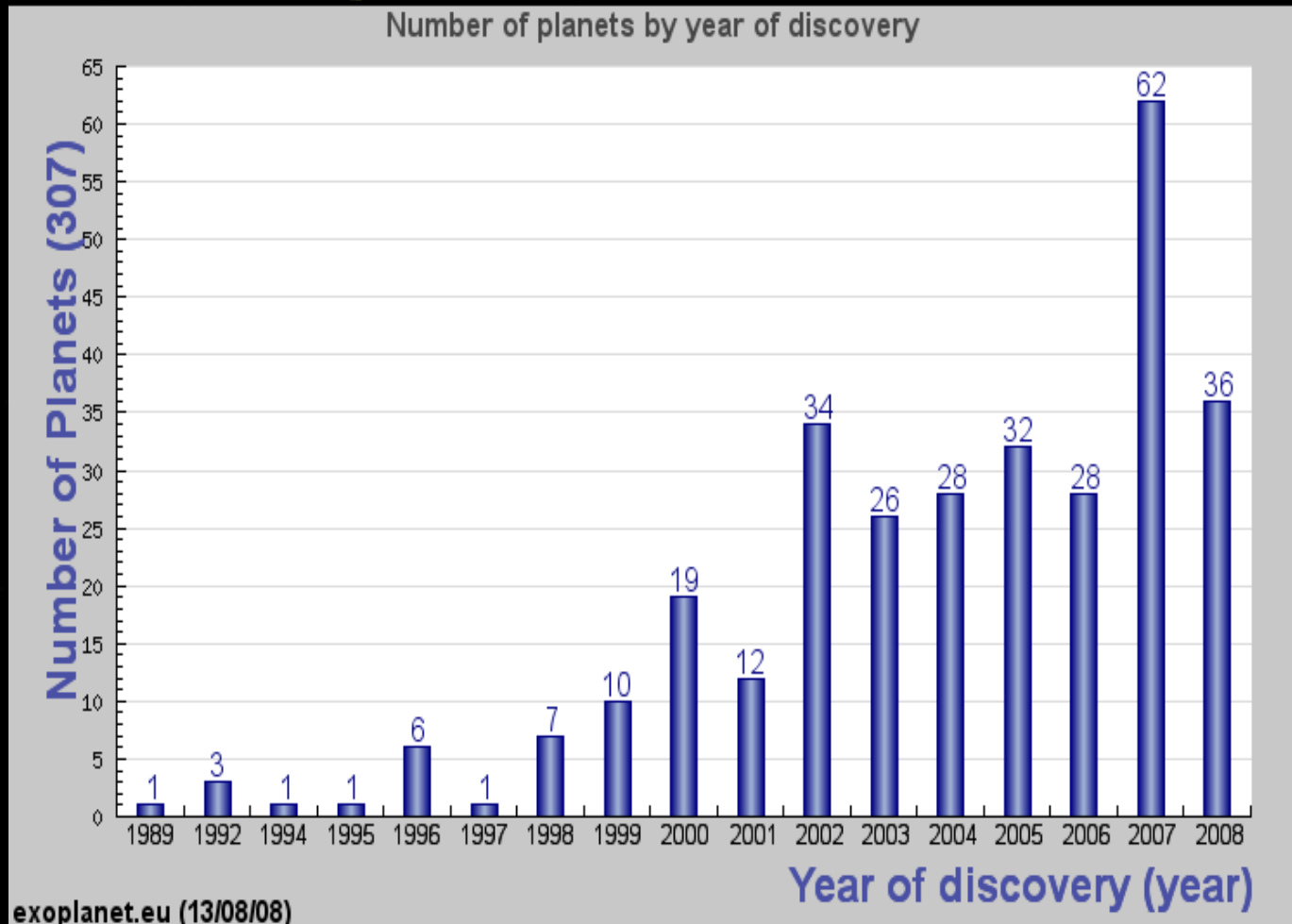


Extrasolar Planets

Extrasolar Planets (ExoPlanets)

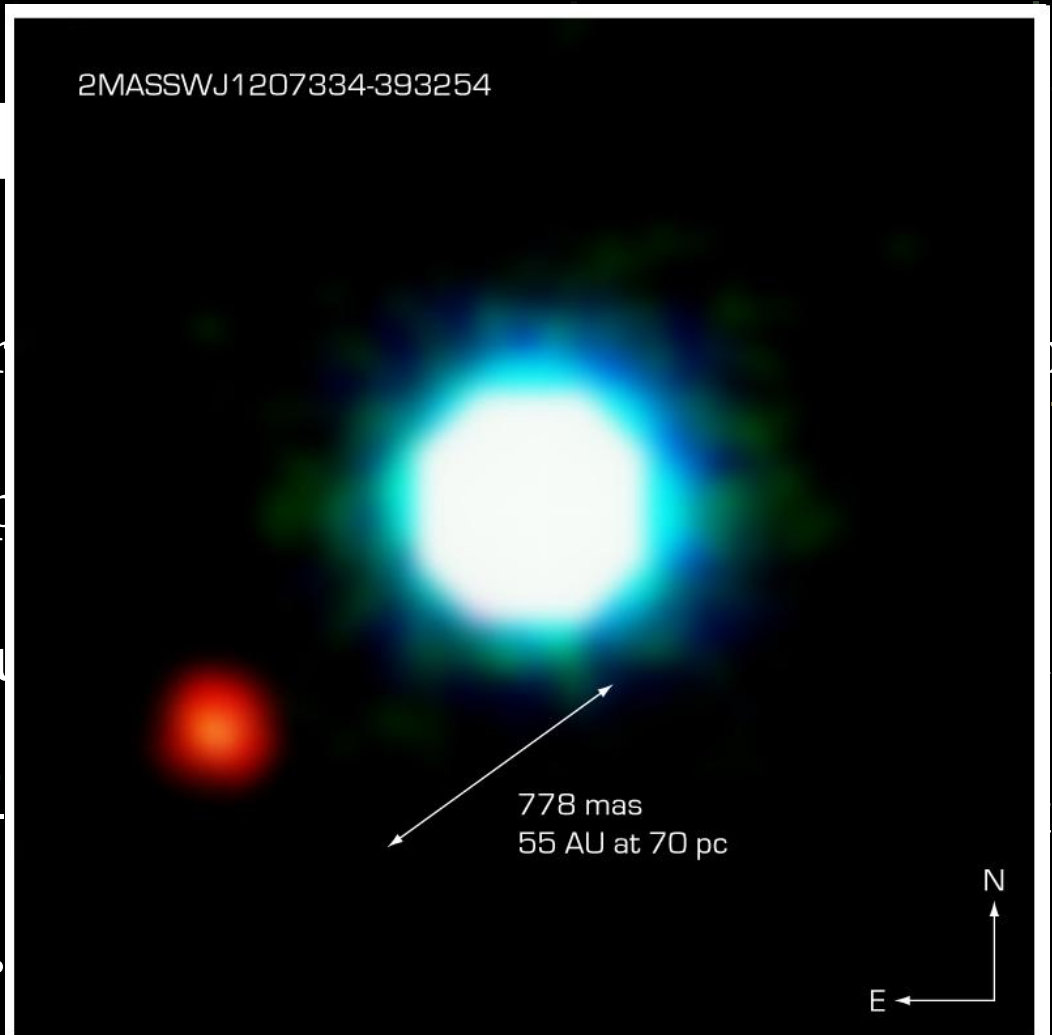
- Currently, 307 are confirmed (as of July 25, 2008)
- There are many candidates
- Multiple candidates were proposed as early as the 1980's, but were not confirmed until recently
- Confirmation is important as there are frequently false positives

Improved techniques lead to more discoveries per year!



ExoPlanet

- Pulsar Timing - fine
- Astrometry - low p
- Radial Velocity - u
- Transit Method -
- Gravitational Micr
- Direct Imaging -



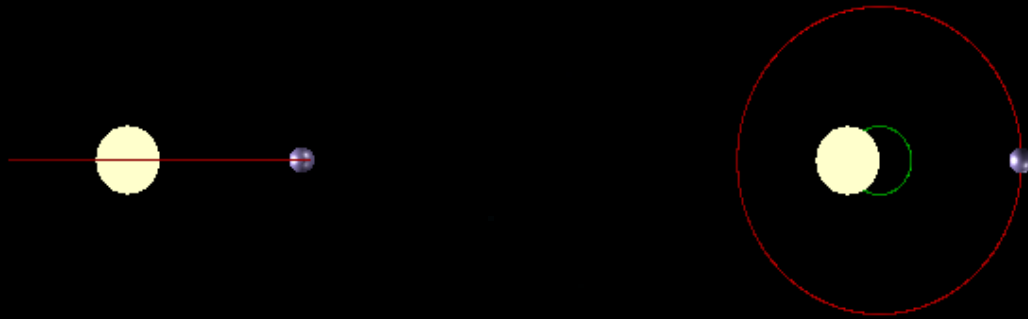
NACO Image of the Brown Dwarf Object 2M1207 and GPCC

Radial Velocity

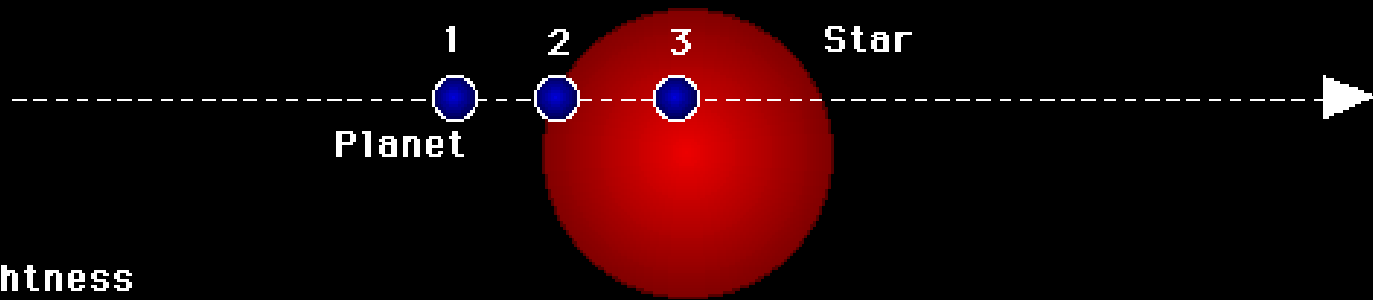
- An orbiting exoPlanet will inevitably alter the motion of its host star (stellar wobble)
- Particular patterns in the Doppler shift of a star may reveal one or more secondary objects



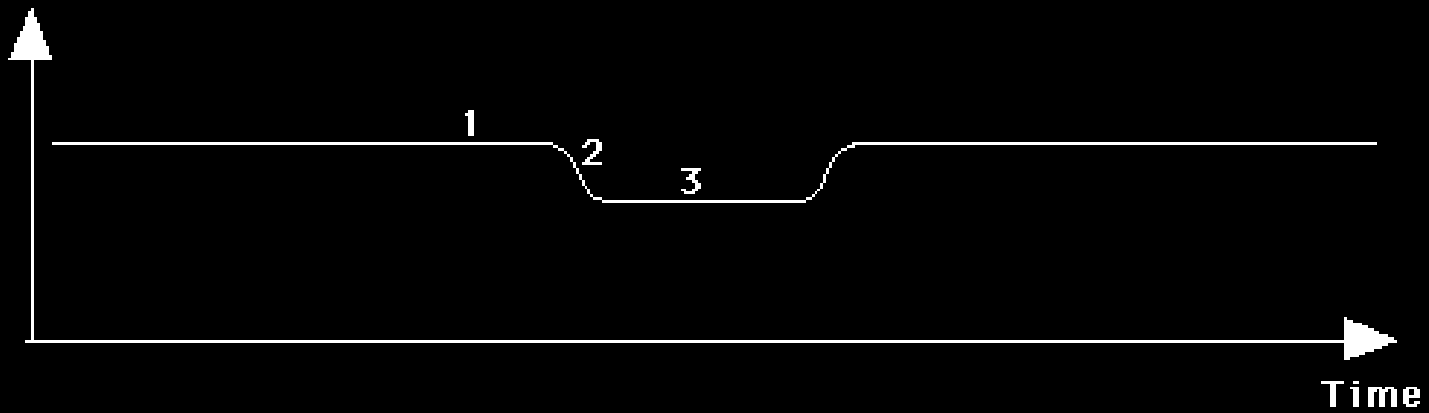
Discovery techniques are dependent on certain conditions...



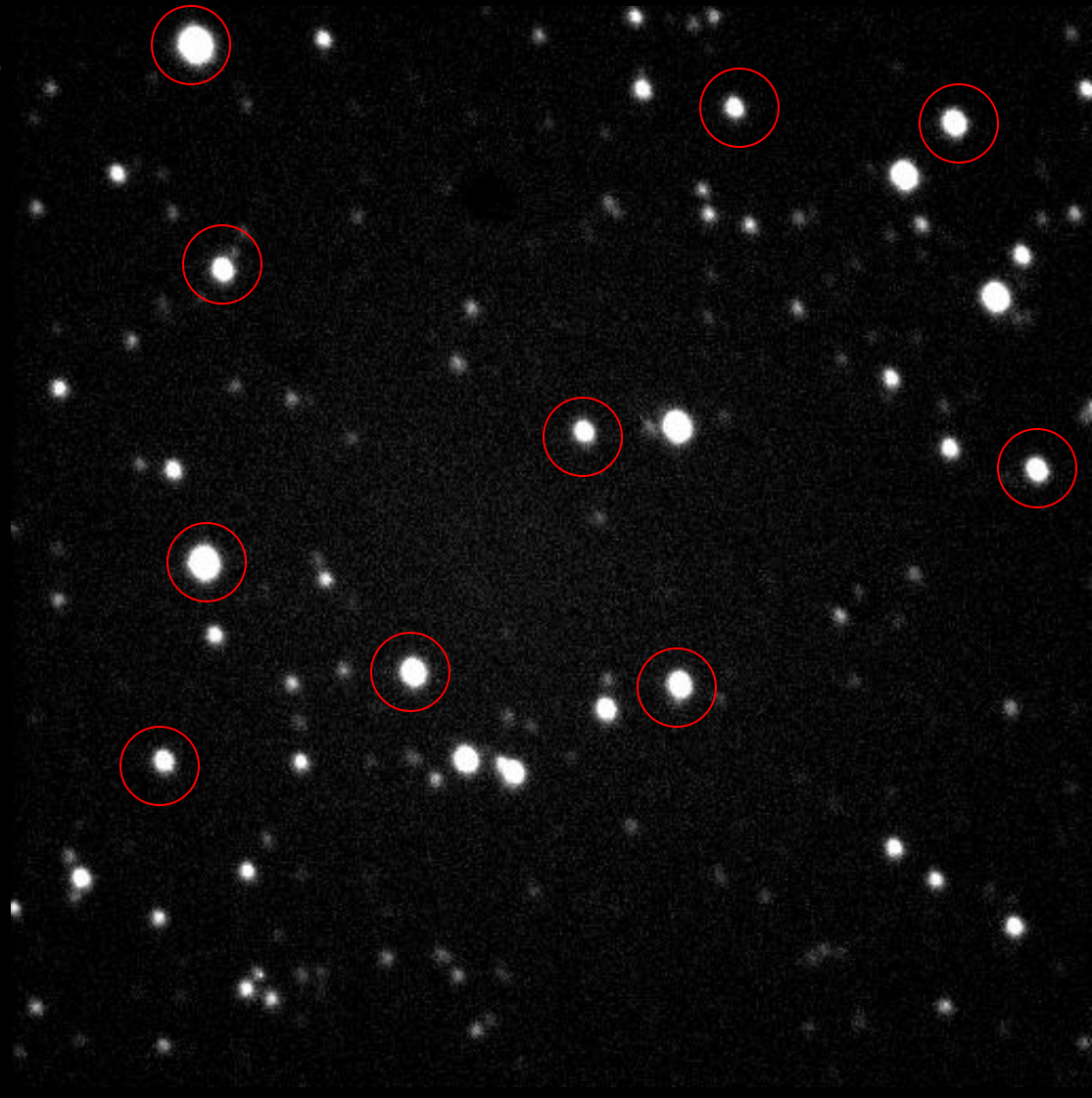
Transit Method



Brightness



Transit Method



CORRECTED FOR EXTINCTION & EXTRA LOSSES

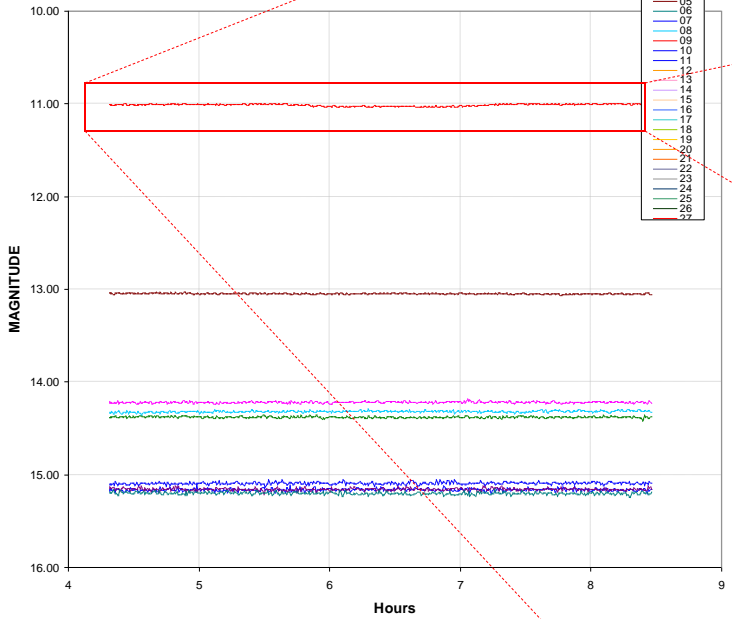
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11.00

CORRECTED FOR EXTINCTION & EXTRA LOSSES

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CORRECTED FOR EXTINCTION & EXTRA LOSSES

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10.94

10.96

10.98

11.00

11.02

11.04

11.06

MAGNITUDE

Hours

Hours

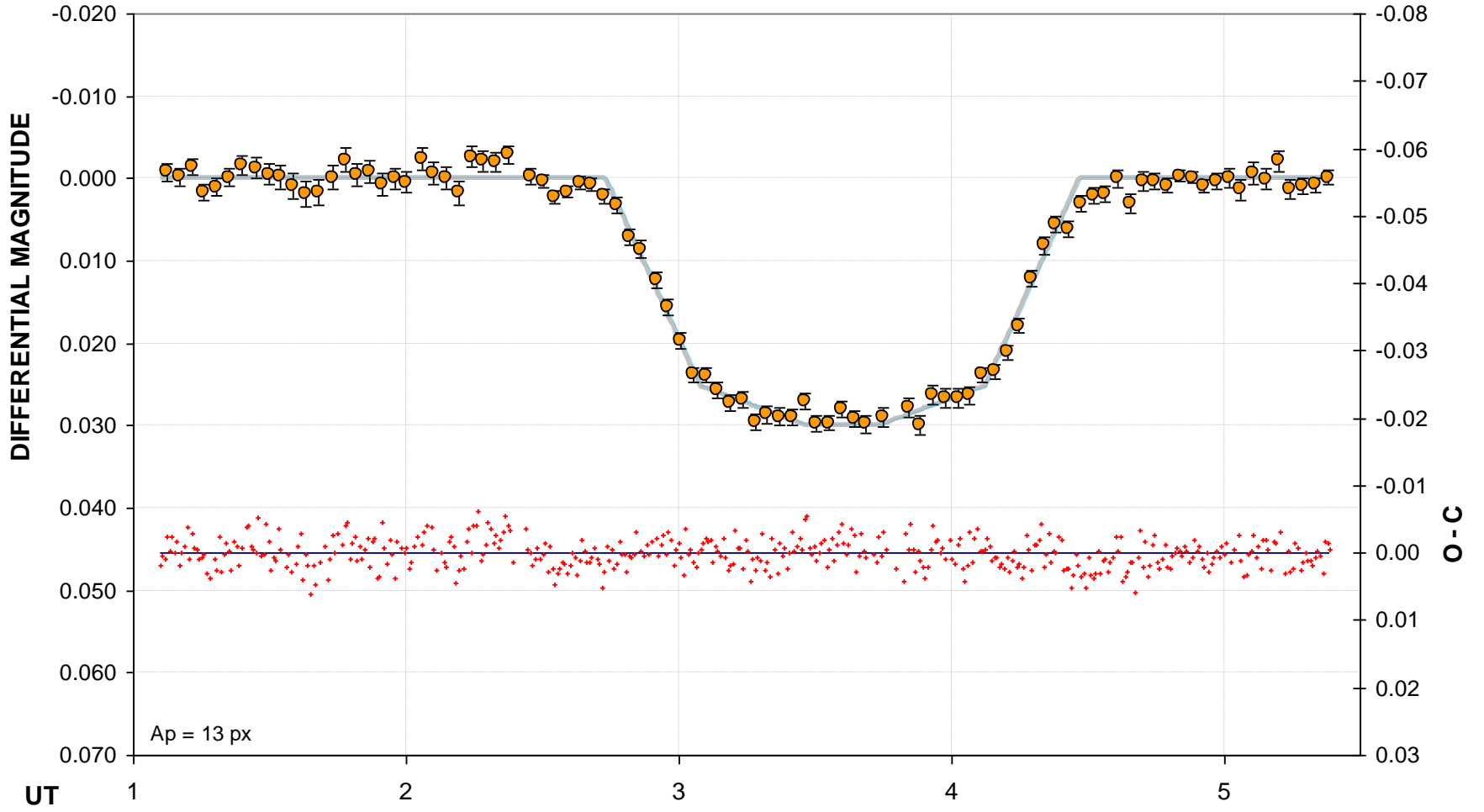
15.00

16.00

4

5

HD189733, 2008.08.08, I_z-band, Williams (MMO)



Tres-2, 2008.07.28, R-band, Williams (MMO)

