Introductory Astronomy

Week 4: Stars

Clip 7: How I Wonder Where You Are

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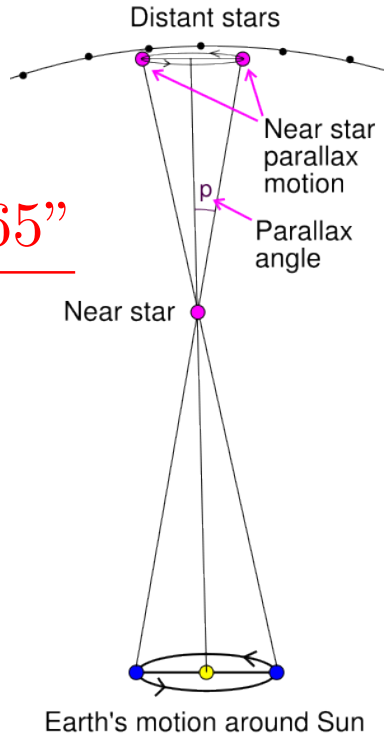
Stars in 3d - Parallax

- To measure distance to star – measure change in its apparent position as seen from different points.
- Measure this relative to more distant stars
- Most distant observatories: same place, different seasons

$$\frac{D}{1\,\mathrm{AU}} = \frac{206265”}{p}$$

$$\frac{D}{1\,\mathrm{pc}} = \frac{1”}{p}$$



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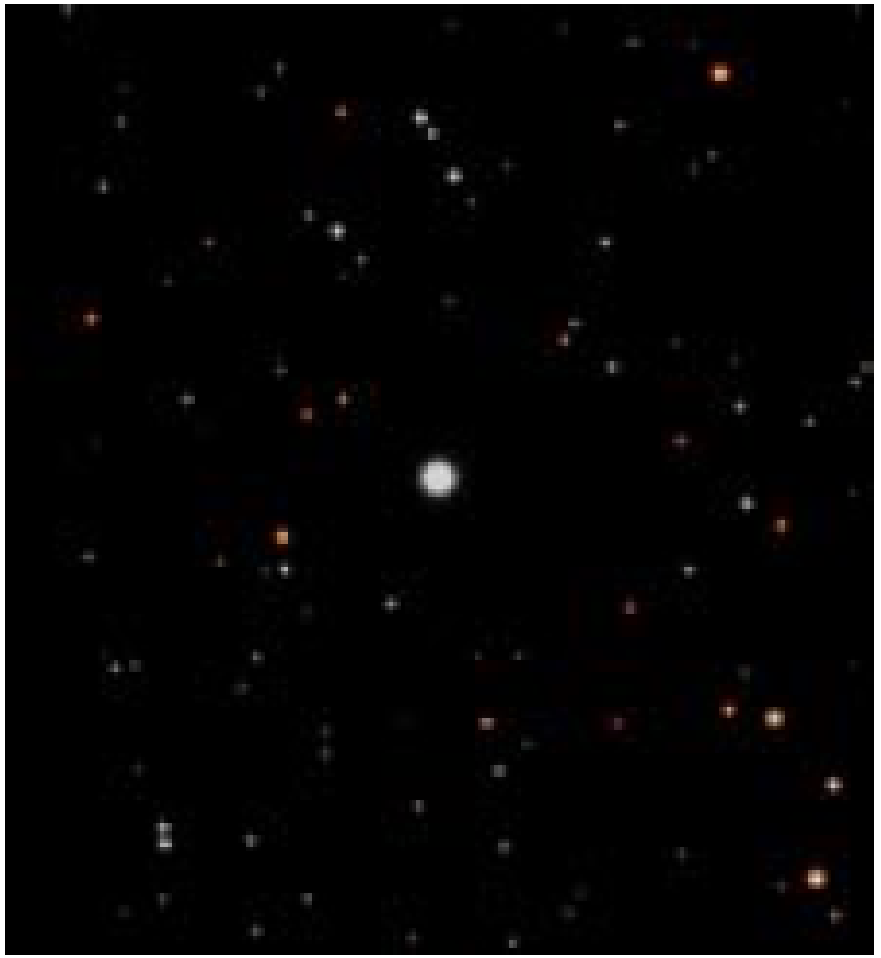
First Steps on the Ladder

- First stellar parallax measured by Bessel 1838
- Shatters celestial sphere extends 3d to stars
- What's an AU? Best measurement: radar telemetry to planets. This determines pc
- Hipparchos 1989 measures 120,000 stars, leading to current catalog of 2,500,000
- Gaia 2013 will vastly extend this



Credits

- Astronomy Simulations: University of Nebraska-Lincoln Astronomy Education Group http://astro.unl.edu/
- Stereo Sirius: ESA/Hipparchos http://www.rssd.esa.int/index.php?project=HIPPARCOS&page=stereo

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