Classical Be Stars, Circumstellar Disks, and Astrometry مرم الم

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B Stars and Be Stars

- B stars are a type of main sequence star
 - O stars are big and hot, B stars are fairly large and fairly hot
- Be stars are B stars
 - Have H-alpha emission lines ("e")
 - Rapid rotation



Circumstellar Disks

- "Circumstellar": Surrounding or occuring within the vicinity of a star
- Made of dust and other space matter
- Can form planets
- Quasars have viscous disks similar physics

MUCH

• Formation process is unknown



Astrometry

What is it?

- A branch of astronomy
- Gives precise measurements of the positions and movements of celestial bodies
 - Stars, asteroids, moons, planets

Why is it?

- Determine
 - Shapes
 - Movement patterns
 - Relative positions
 - Dynamical properties





Hipparcos

Gaia ("Hipparcos v.2")

Hipparcos: High Precision Parallax Collecting Satellite

Gaia: Global Astrometric Interferometer for Astrophysics

- Interferometer idea abandoned for new design that collects more signals
- Charts 10,000x as many stars
- Measures position and motion of stars with 100x greater precision

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Any questions?