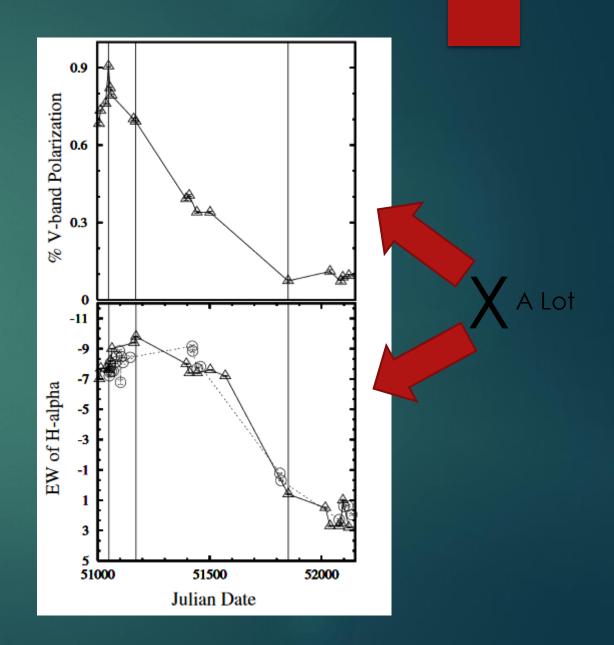
Evolution of Be star disks

PRESENTATION: ERICK POWELL

GUIDANCE: DR. WISNEIWSKI

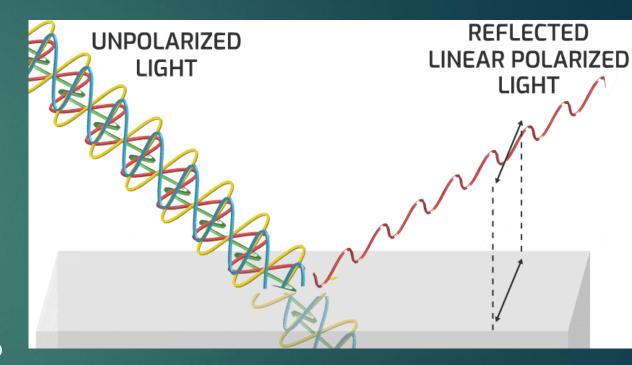
Our Goal

- Be able to characterize the change in disk size over time for multiple stars
 - ► Time series analysis of light from clusters that have B-type stars
- Create a catalog of the measurements needed to analyze any given star
 - Astrometric measurements $H\alpha$ (inner region)
 - ▶ Polarization (outer region)



Polarization

- The direction in which the electric field oscillates
- Unpolarized light occurs in all rotations
- Can be parametrized in four vectors ("Stokes Parameters")
 - ▶ I, Q, U, and V
 - Specify the phase and polarization of electric field waves
- Percent polarization
- Lets us probe the outer part of the disk to gather information about its properties
 - ▶ Materials in the disk
 - ▶ Disk angle



Interstellar Polarization

- Biggest obstacle is isolating polarization from the disk
- 3 Major components to polarization
 - ▶ Disk good
 - ► Space (Interstellar Polarization) bad
 - ► Telescope itself meh
- ► For our measurements to be meaningful we need the polarization from disk only
- Stars in the same cluster have similar space to travel through (same Interstellar polarization)



Future Work

- Once our catalog of ISP is complete opportunity to split
- Cluster based
 - ▶ Find ISP to different clusters
 - Compare ISP of different clusters
- Individual star based
 - Find polarization of stars of a given cluster
 - Compare change in disk size of many stars



Questions?