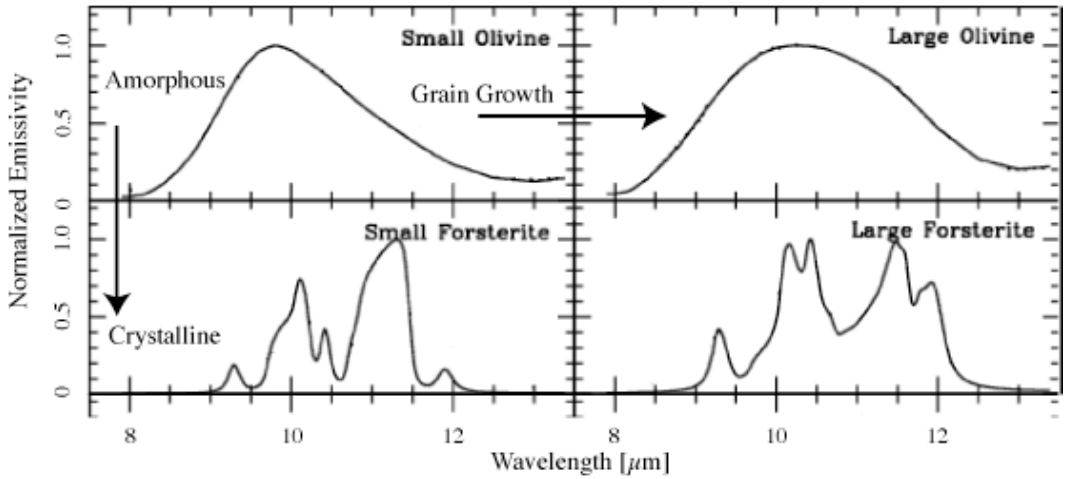
Scientific Background

Mid-IR spectra characterize dust properties in the disk

Higher T in inner disk → dust processing → measure crystallinity

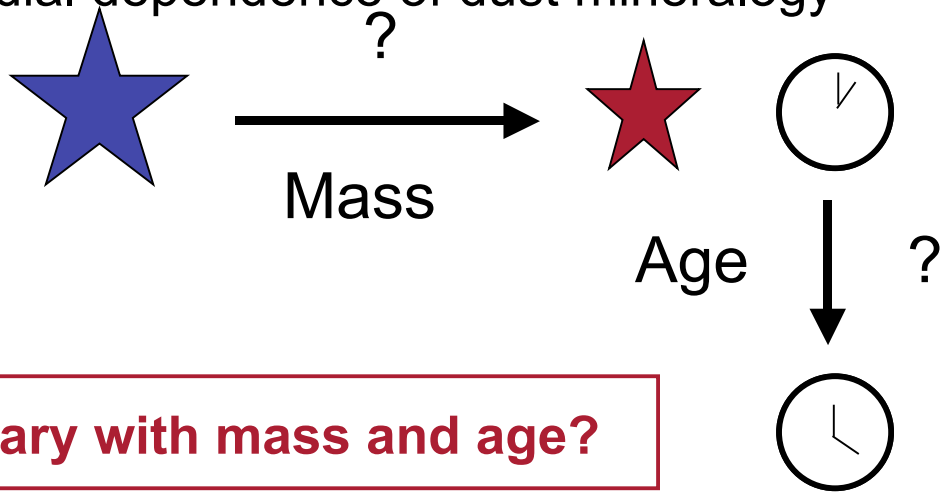
Estimate grain sizes → evidence of grain growth in disk



(van Boekel et al.)

Single apertures measure entire disk spectrum
Only **interferometer** can determine radial dependence of dust mineralogy

Well-studied for Herbig AeBe stars
inner disk more crystaline
(van Boekel et al.)



How do inner disk dust properties vary with mass and age?

Scientific Background

IR interferometry probes the inner edge of disks

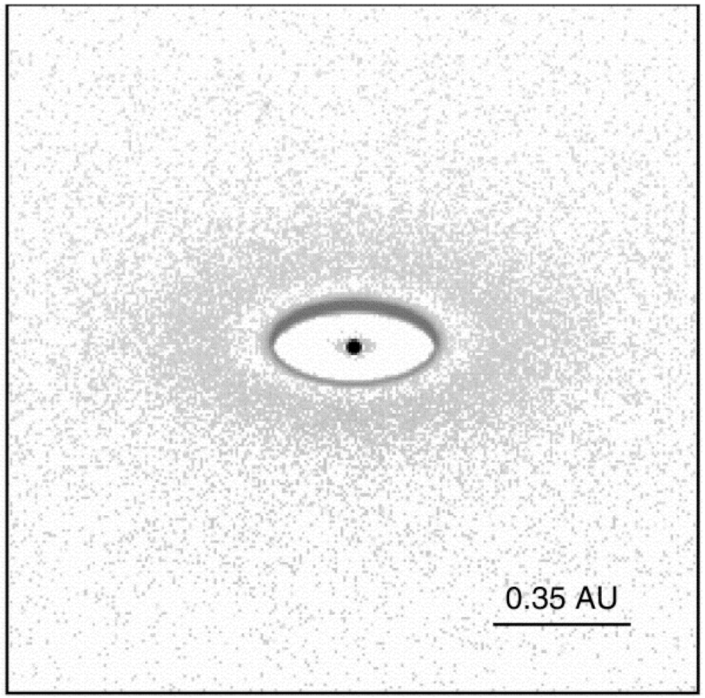
Different models predict different sizes and geometries

Single telescope measures SED and has indirect evidence for a disk

Single baseline measures inner sizes

With **multiple baselines** it is possible to investigate asymetries

What is the geometry of the inner disk?



(Akeson et al.)

Targets and Instrument

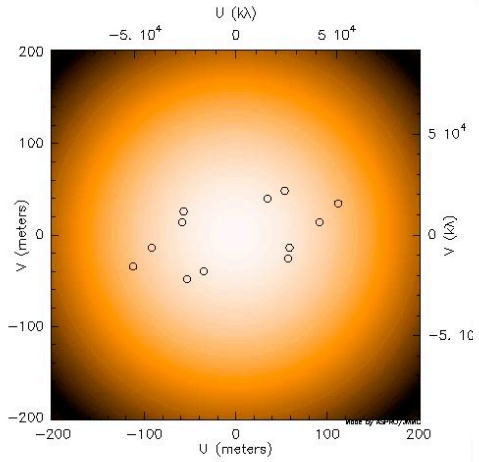
Intermediate Mass T Tauri star (~2Myr) and Older association star (~10Myr)

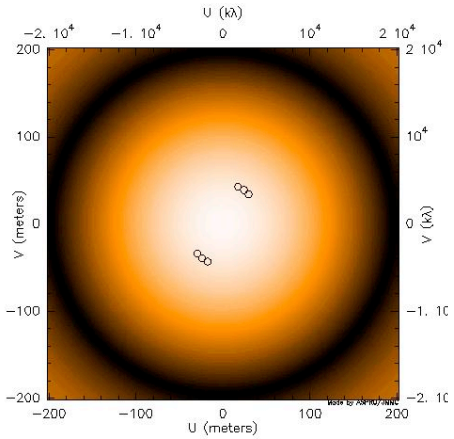
AMBER - only T Tauri has K excess

K	V	Size	Baselines	Cal	Mode
6.6	9.4	~2mas	1-3-4	OK	Lo-Res

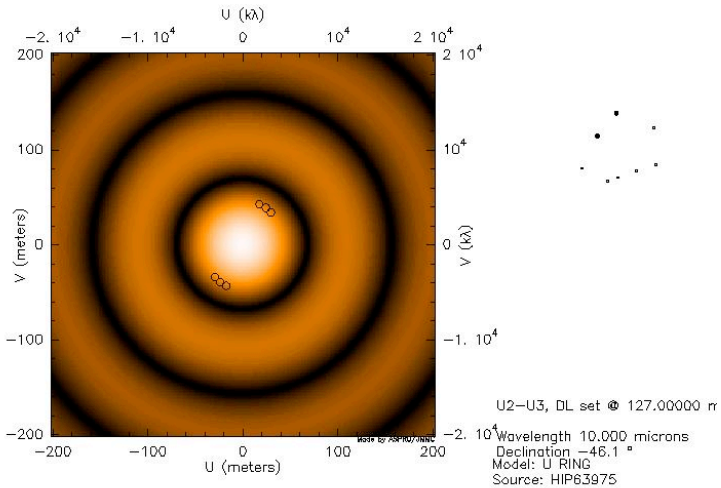
MIDI - both targets

N	V	Size	Baselines	Cal	Mode
3Jy	9.4	~10-20mas	2-4	brighter	High-Sens/Grism
1.7Jy	6.7	~10-20mas	2-4	brighter	High-Sens/Grism





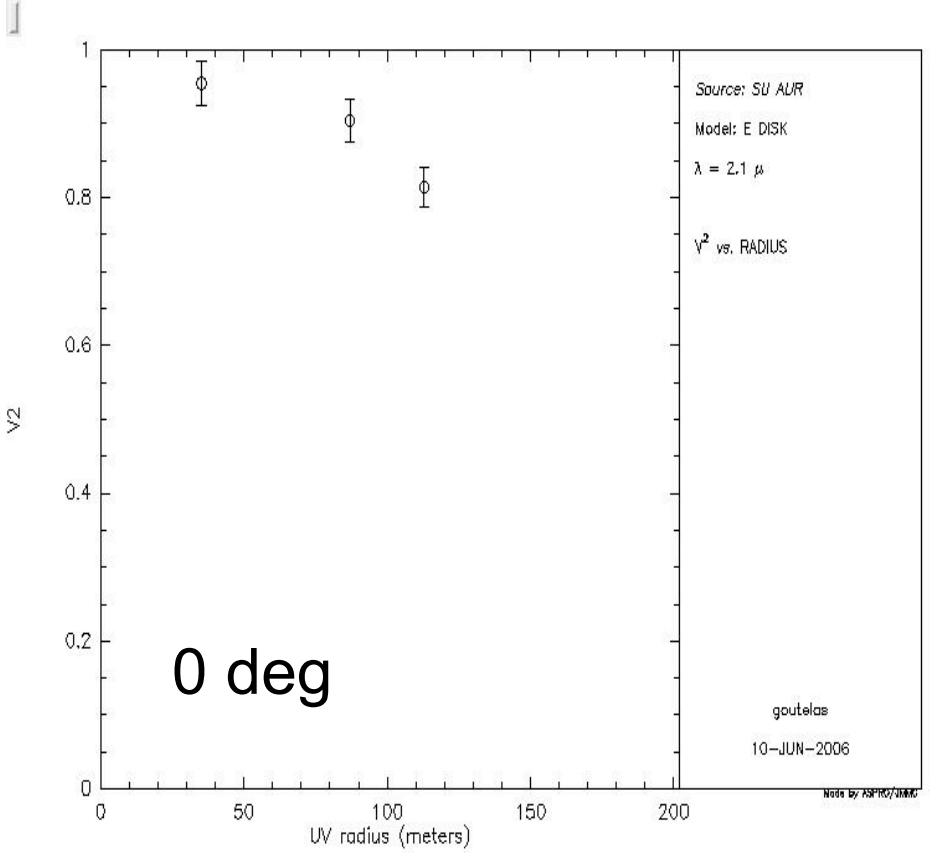
1AU

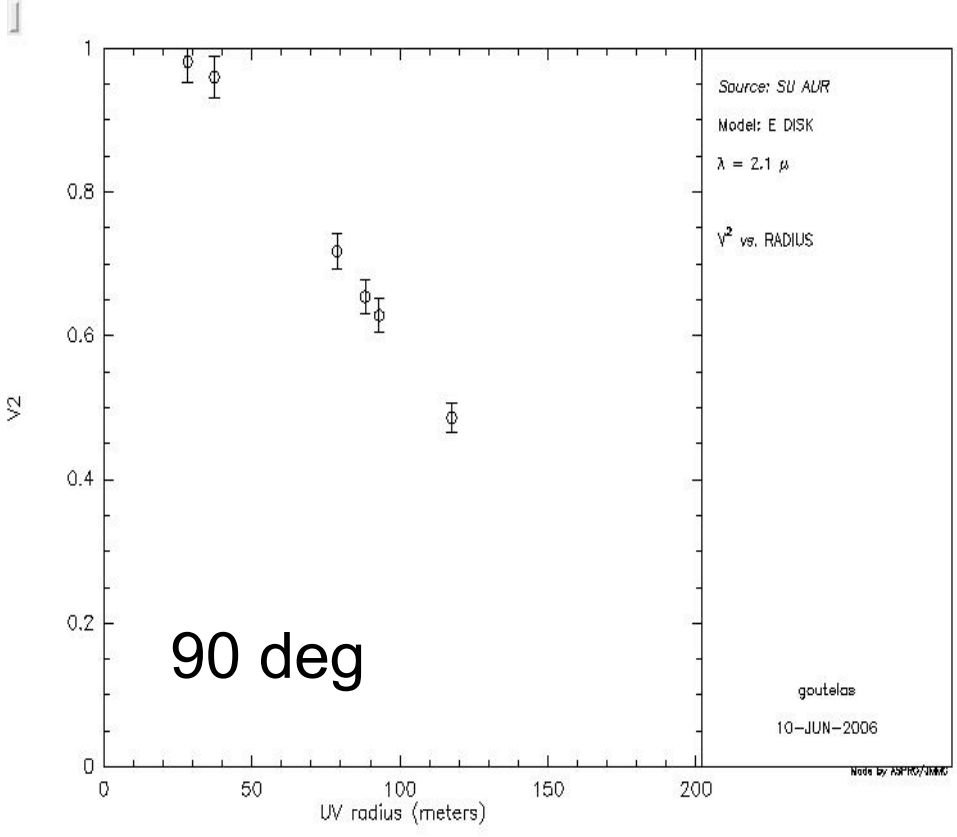


3AU

Examples from U-Ring

AMBER Measurements

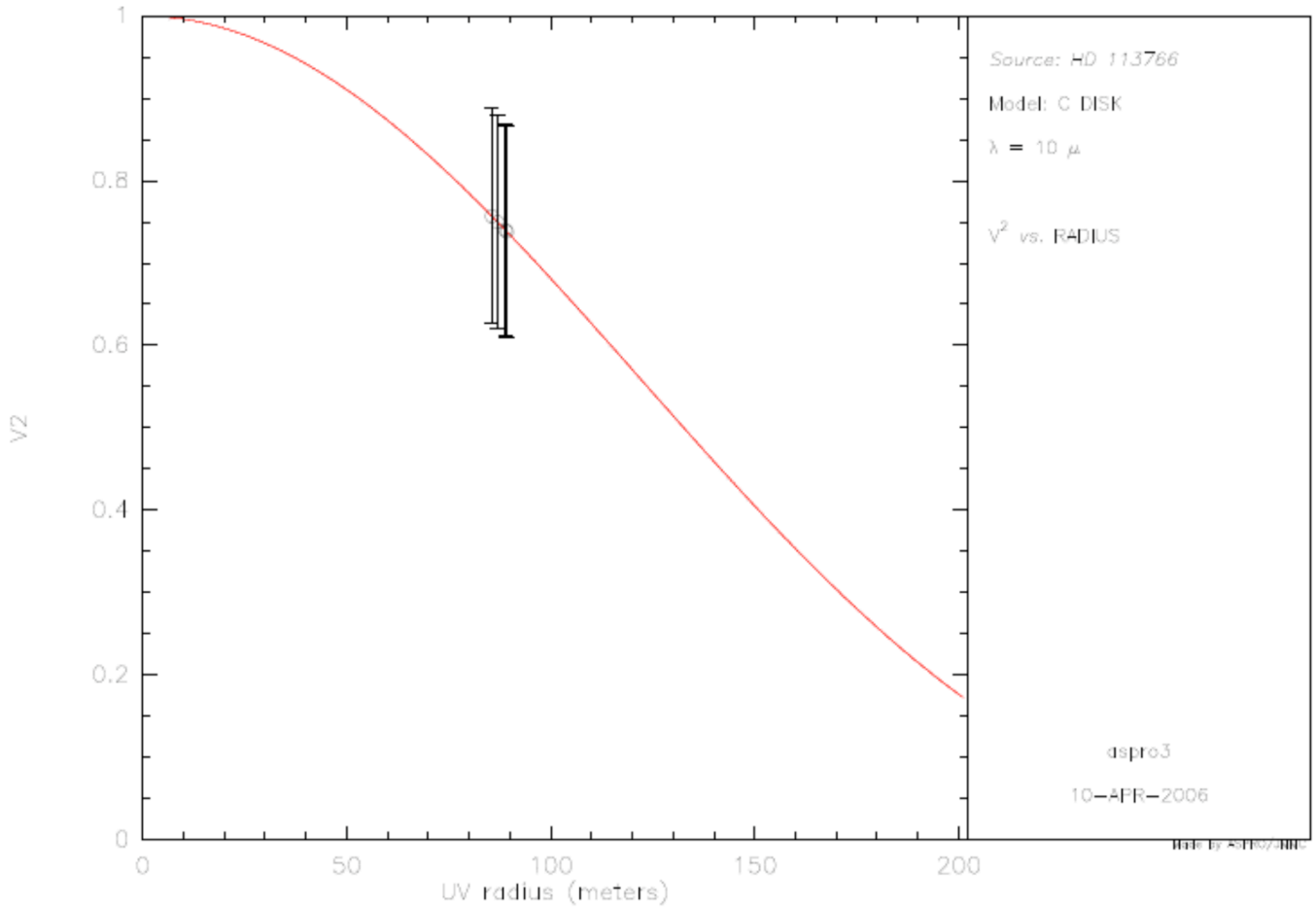




Need 2 hours for enough uv-coverage

Measurements distinguish the orientation of the disk
If phase closure measurements available, measure the brightness difference
(Monnier talk)
Compare with model predictions

MIDI Measurements



Measurements sensitive to inner disk
Compare spectra to Spitzer outer disk properties
Baseline choice crucial to match size of disk