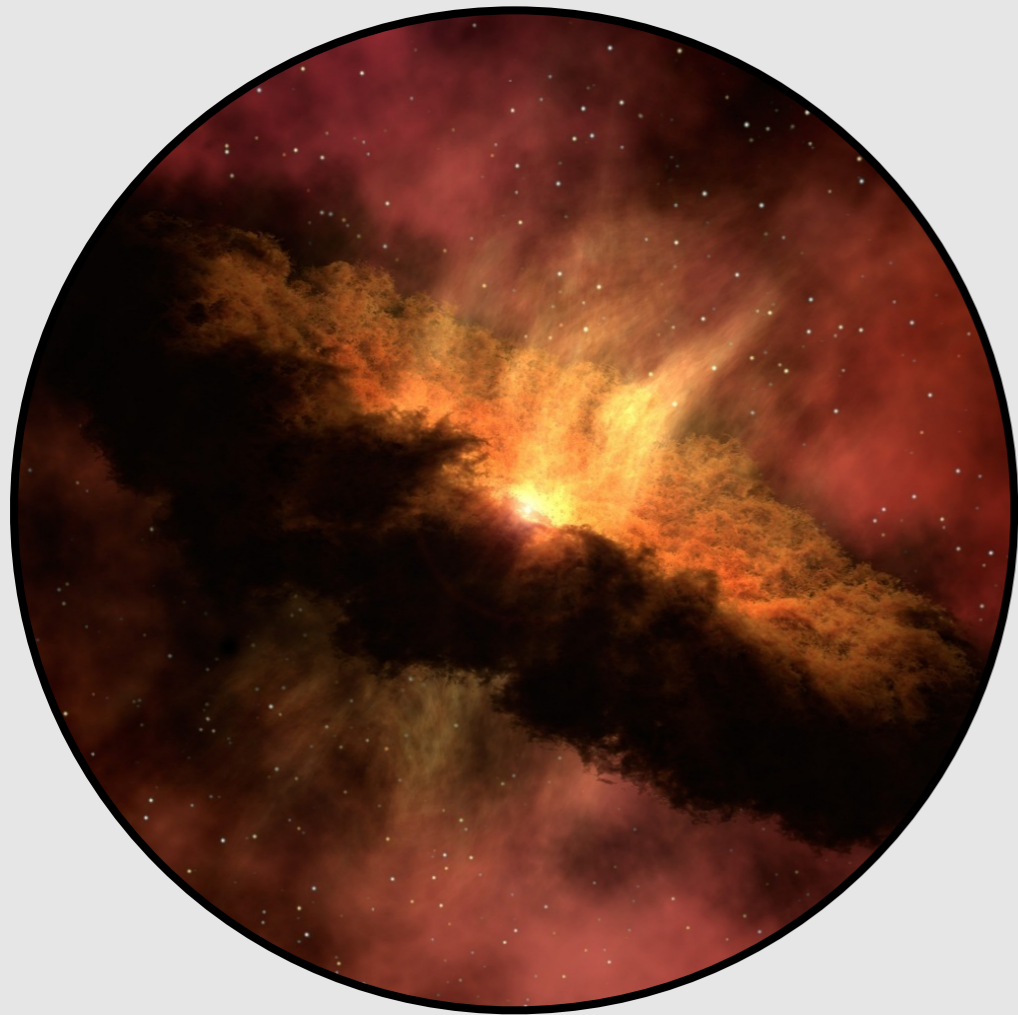


# Sculpting the transition disk around TCha

Olofsson Johan  
MPIA



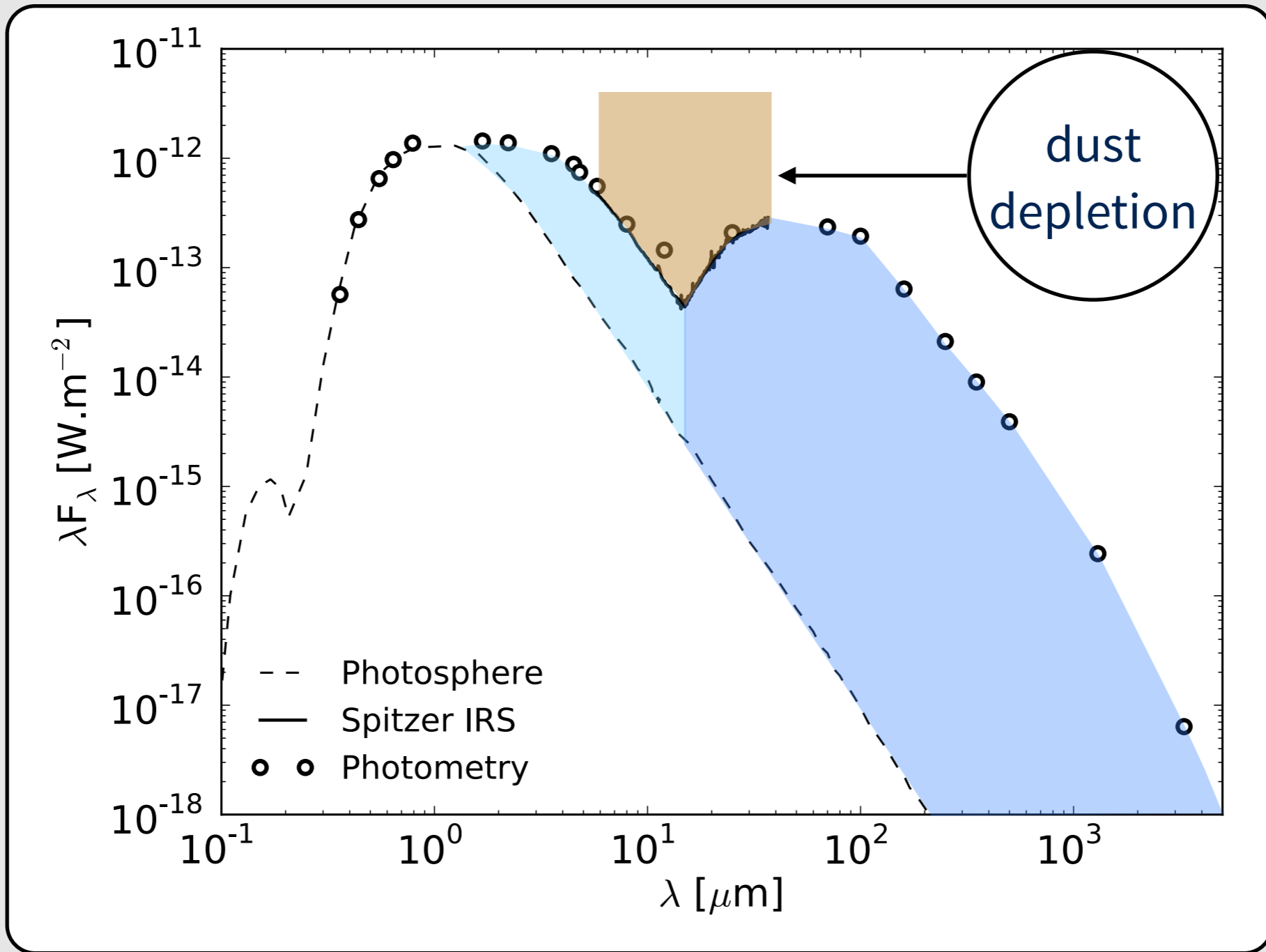


Class II

~ few Myr  
few objects



Debris  
disks

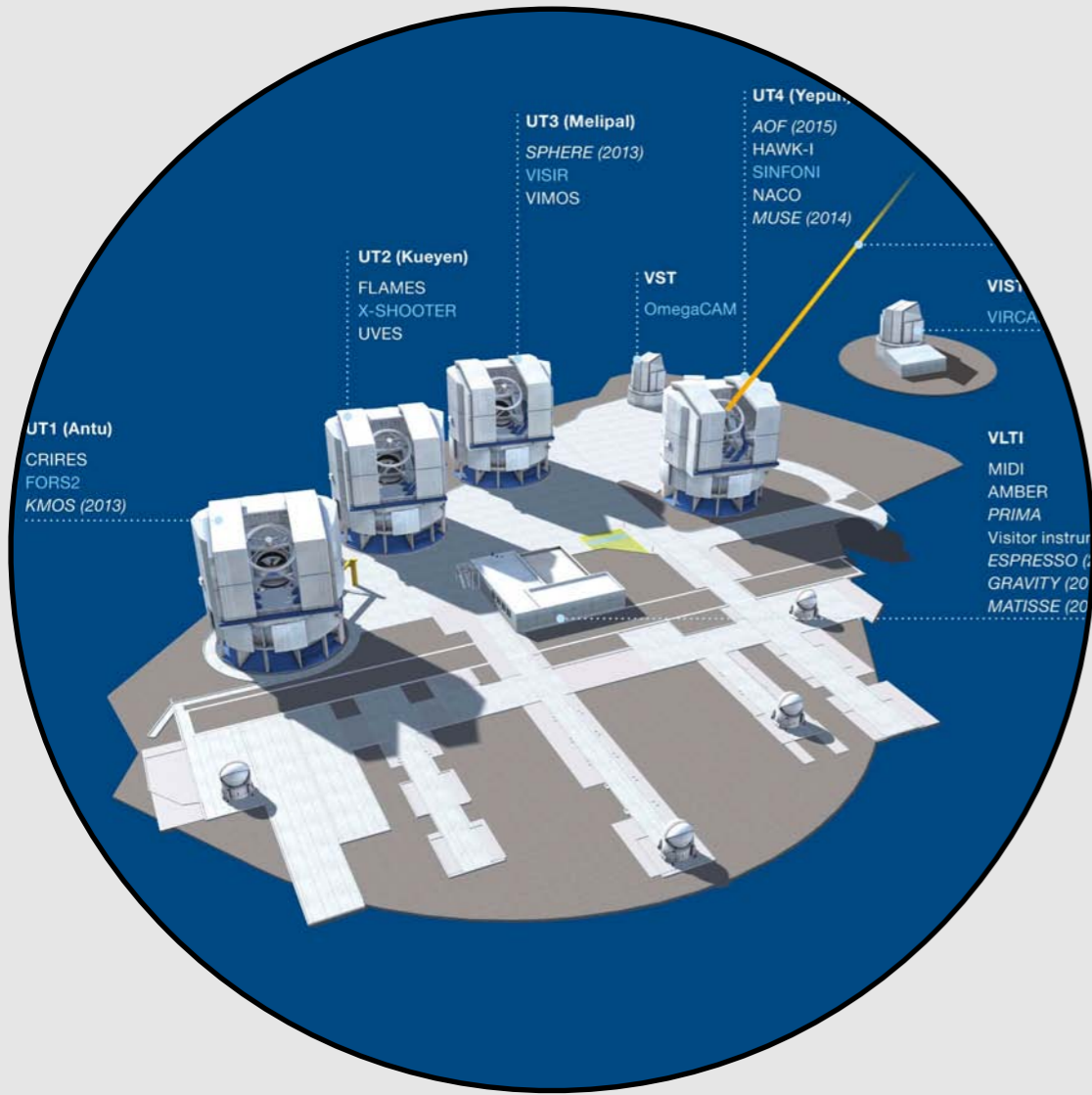


**TCha**  
 ~7 Myr  
 100 pc

photo-  
 dissociation  
 ✗

grain  
 growth  
 ✗

planet  
 formation  
 ?



MCFOST



SED +  
raytraced  
images

VLTi/PIONIER (H)  
VLTi/AMBER (H & K)  
VLTi/MIDI (N)  
VLT/NACo/SAM (L')

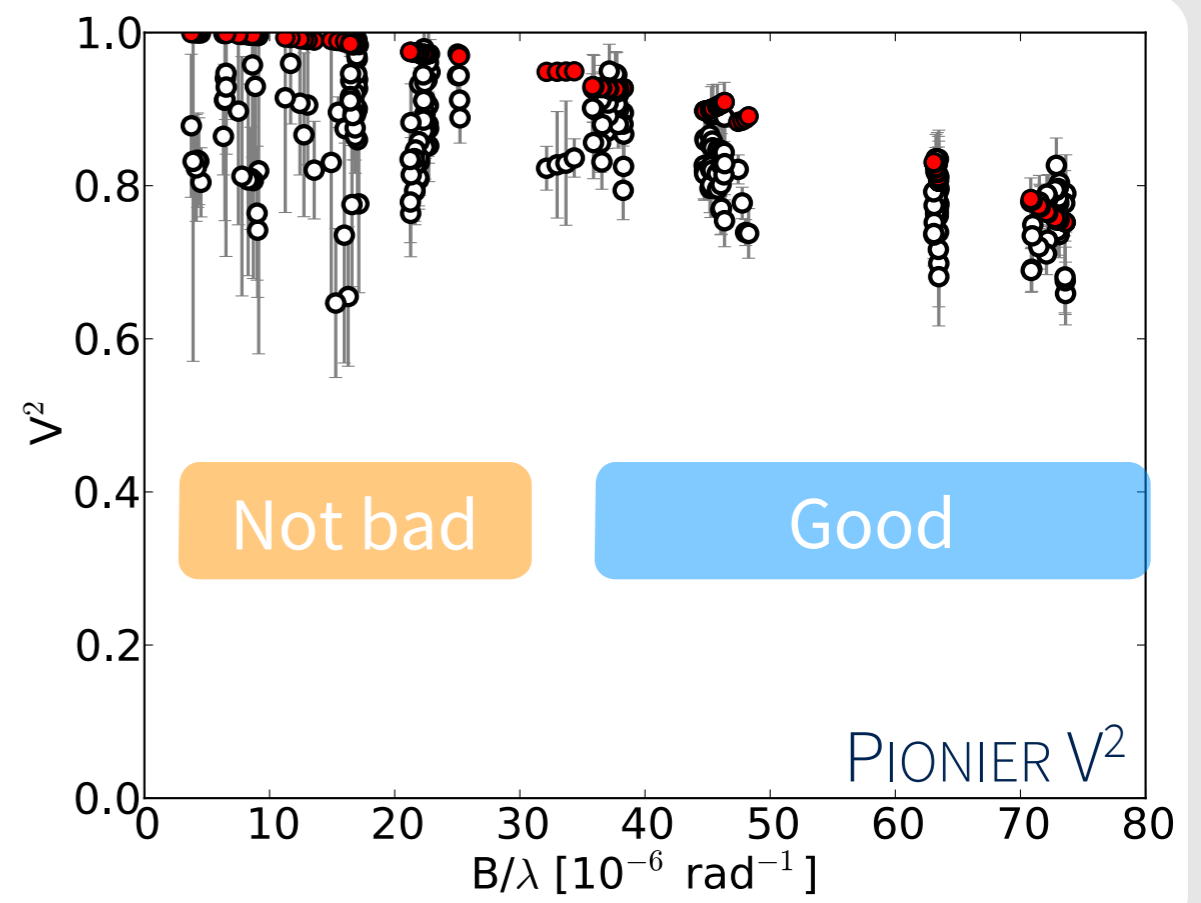
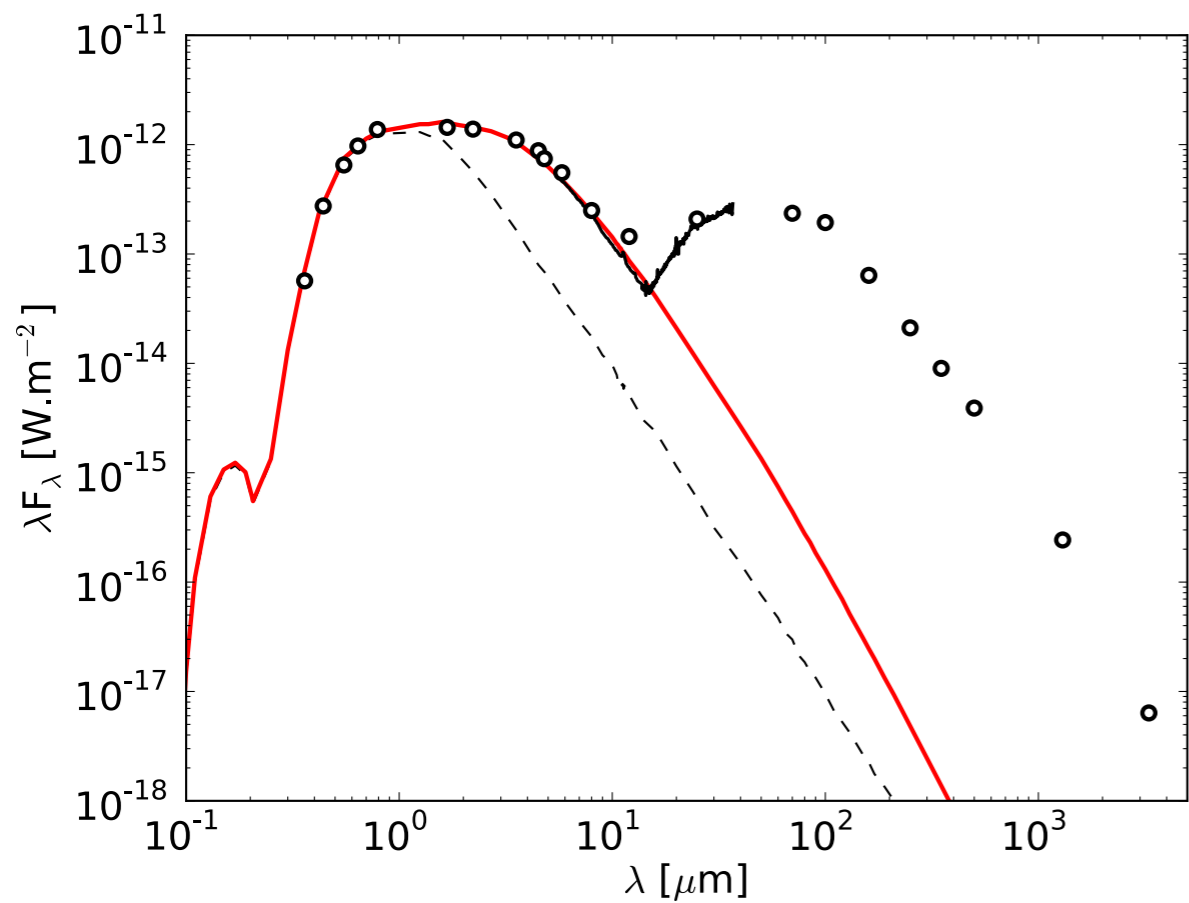


Near-IR:  
inner disk



Mid-IR +  
large FoV:  
outer disk

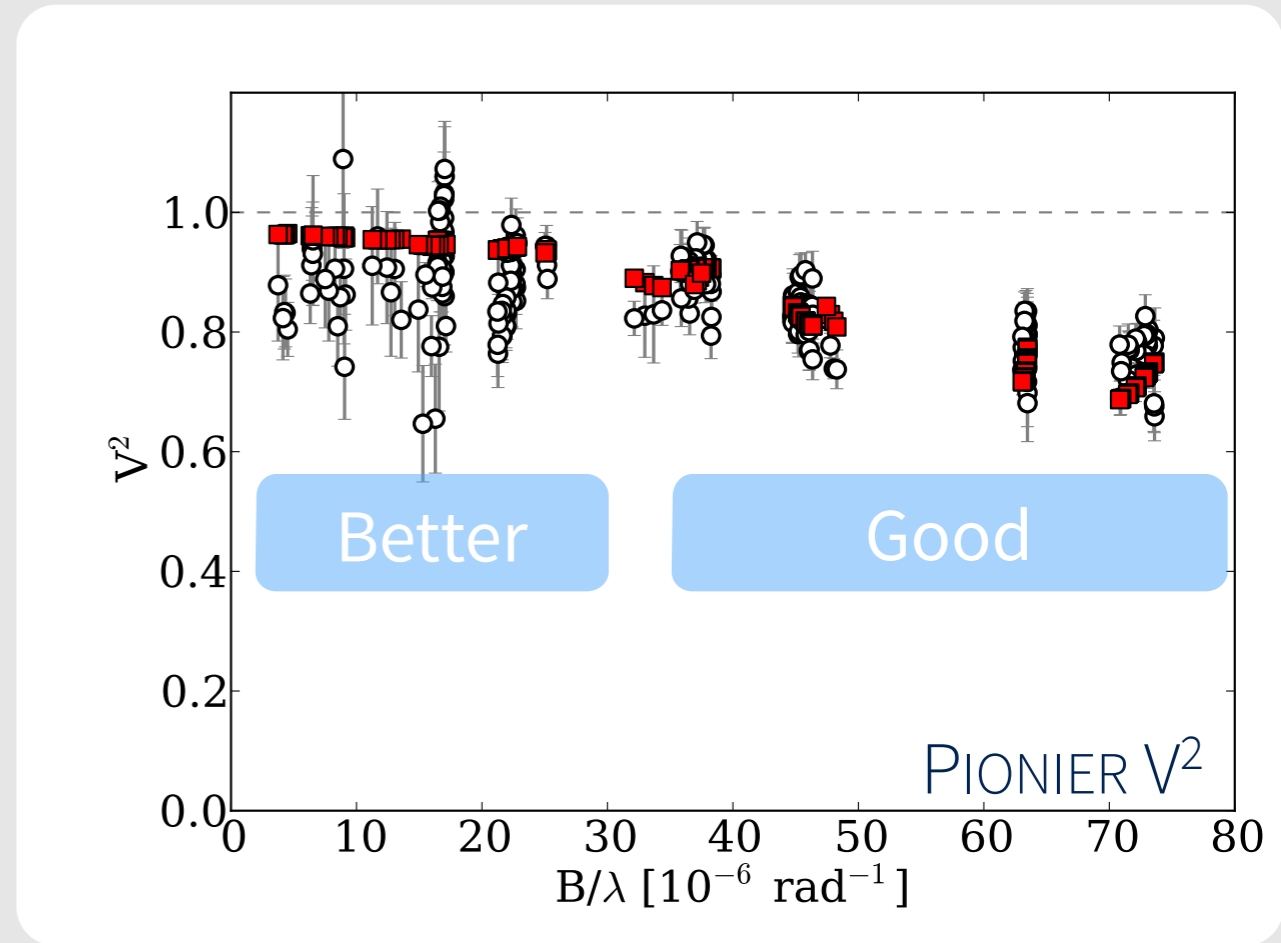
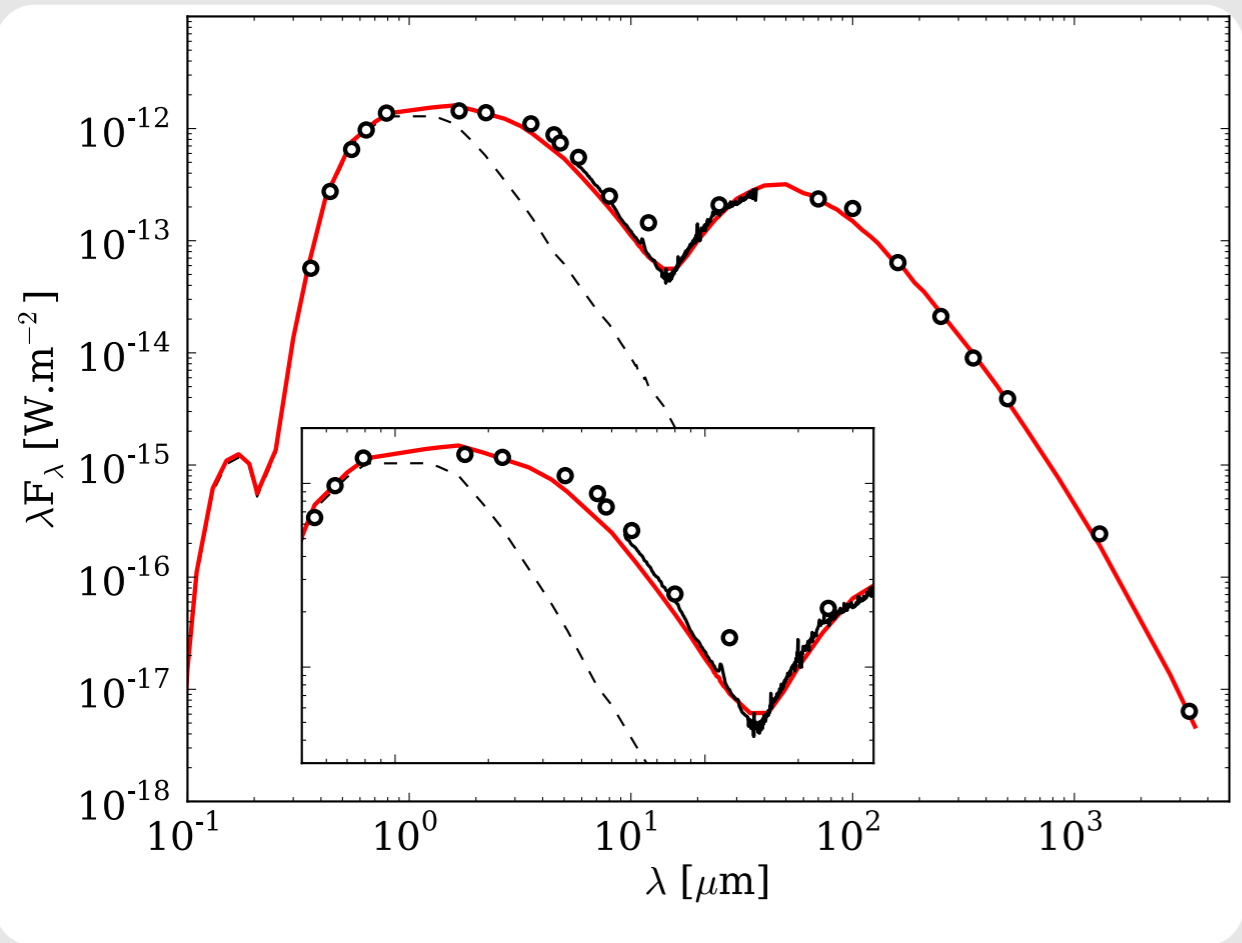




Narrow disk:  
 0.07-0.11 AU

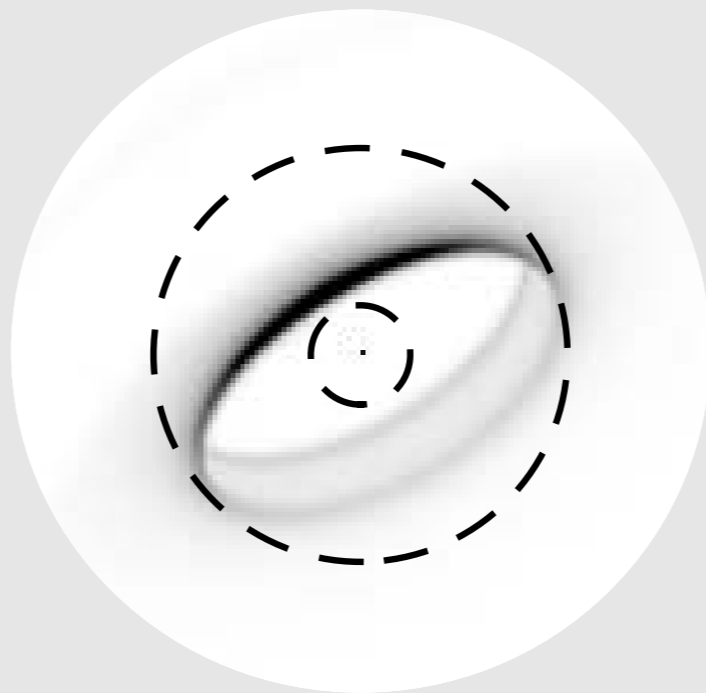
Puffed up:  
 $H/R \sim 0.2$

Sublimation:  
 $T \sim 1500$  K

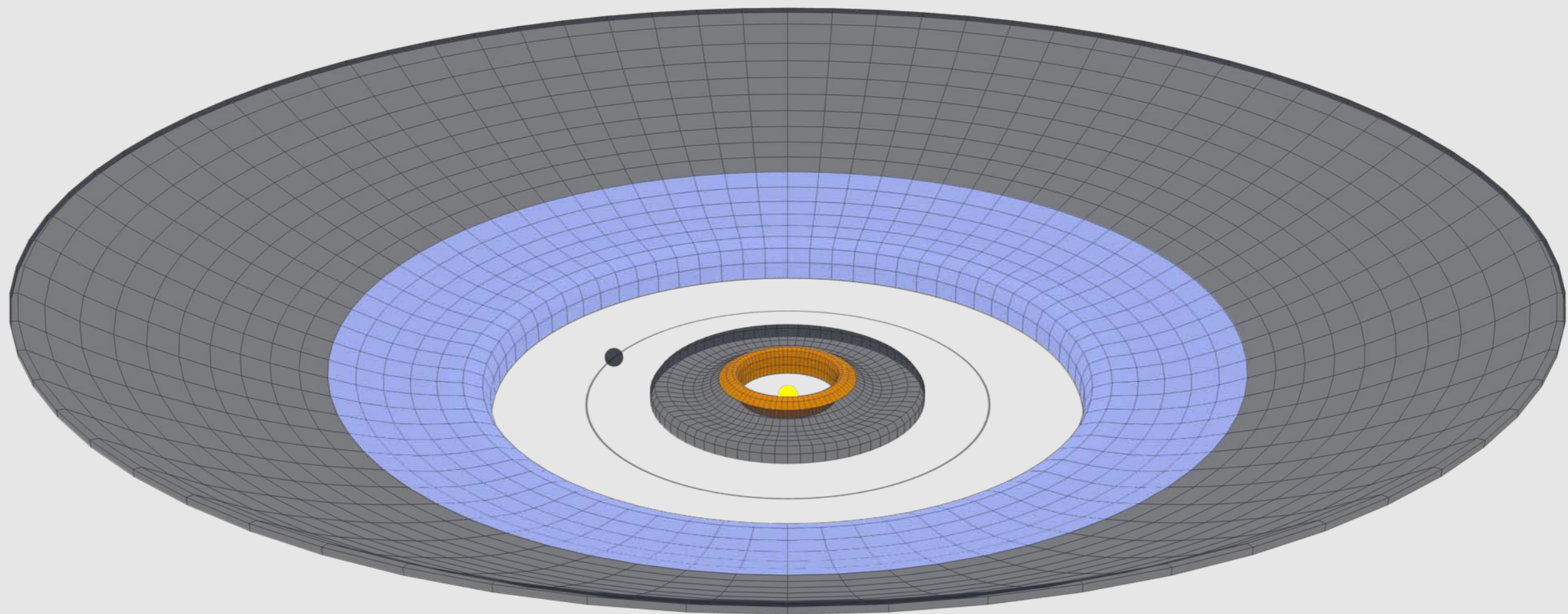


Narrow disk:  
 12-25 AU

Cieza et al. (2011)



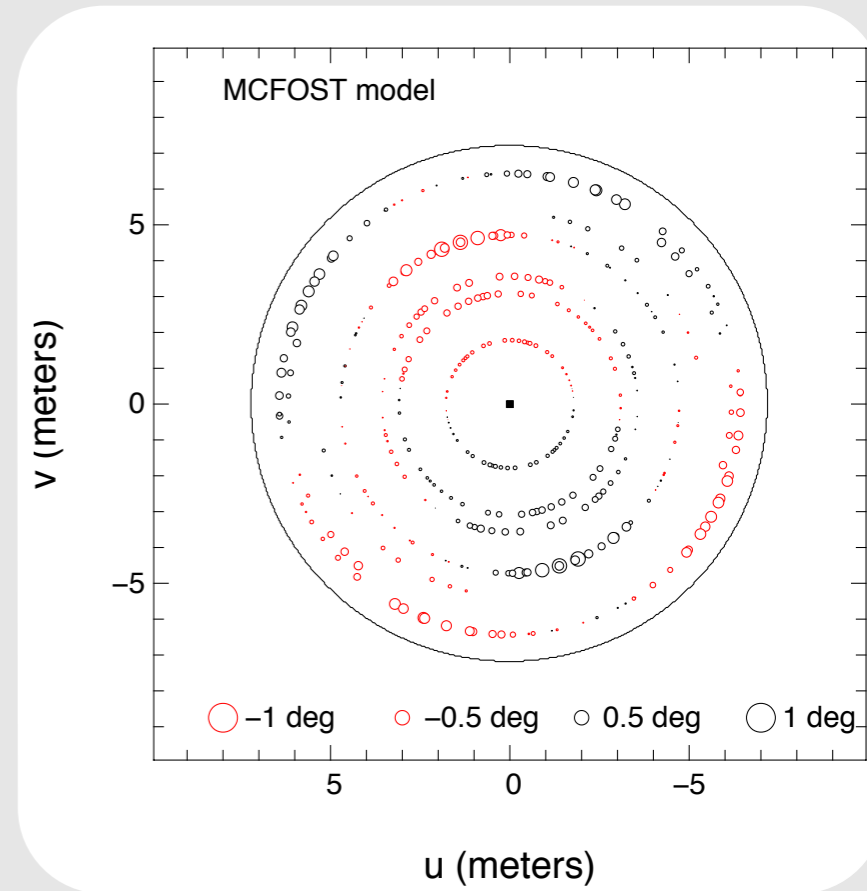
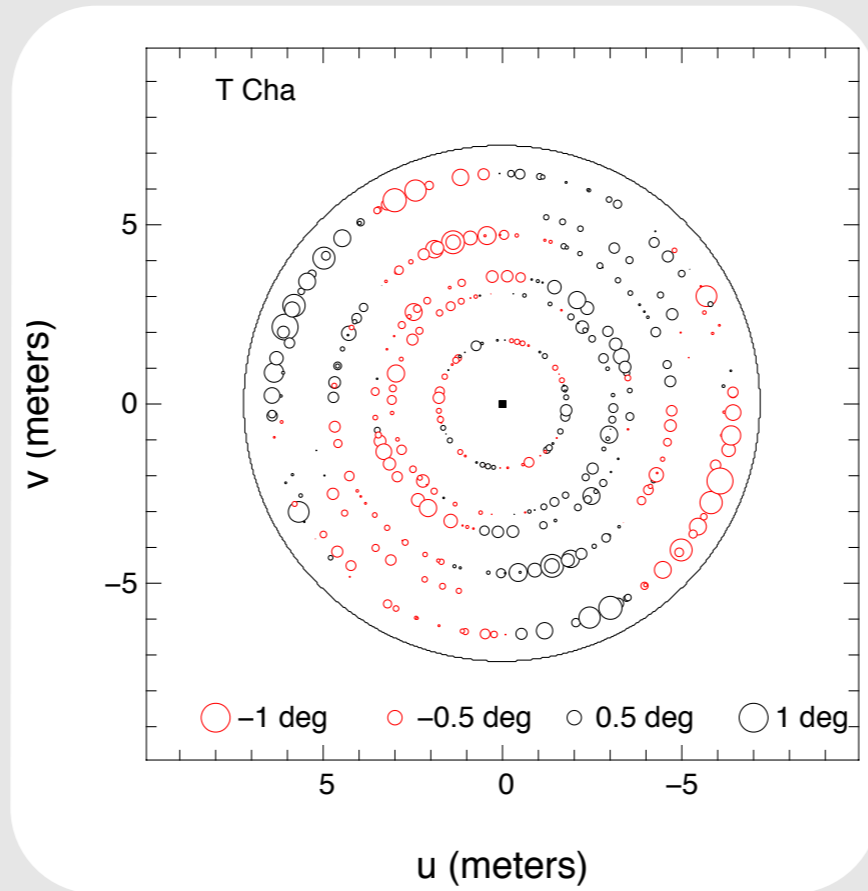
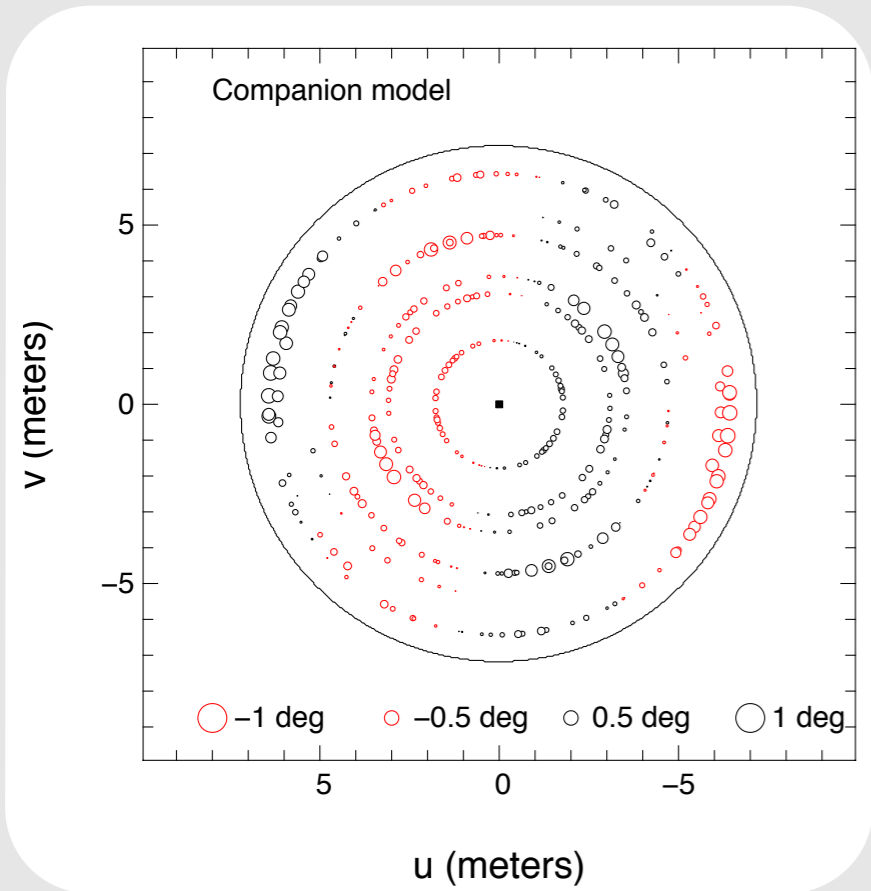
Improvement  
 on  $V^2$



 Inner disk

 Outer disk

 Unconstrained



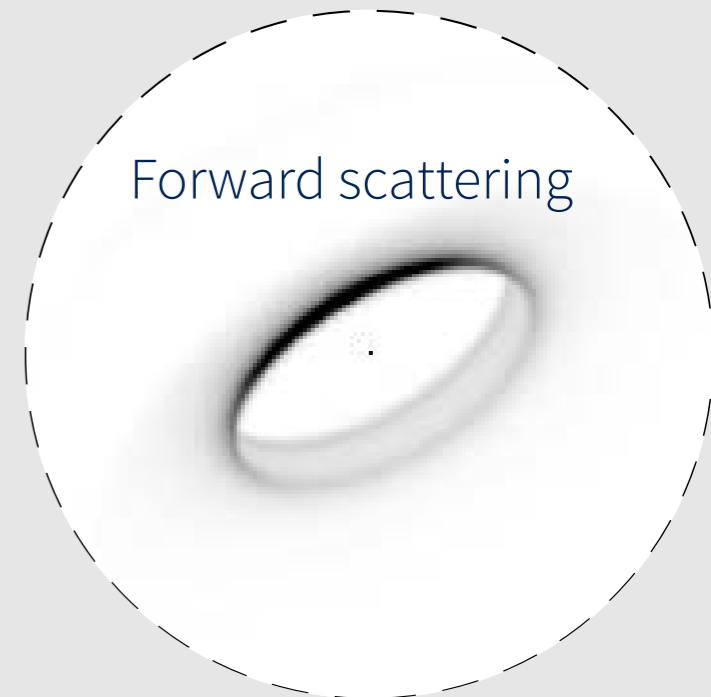
Binary model

SAM data

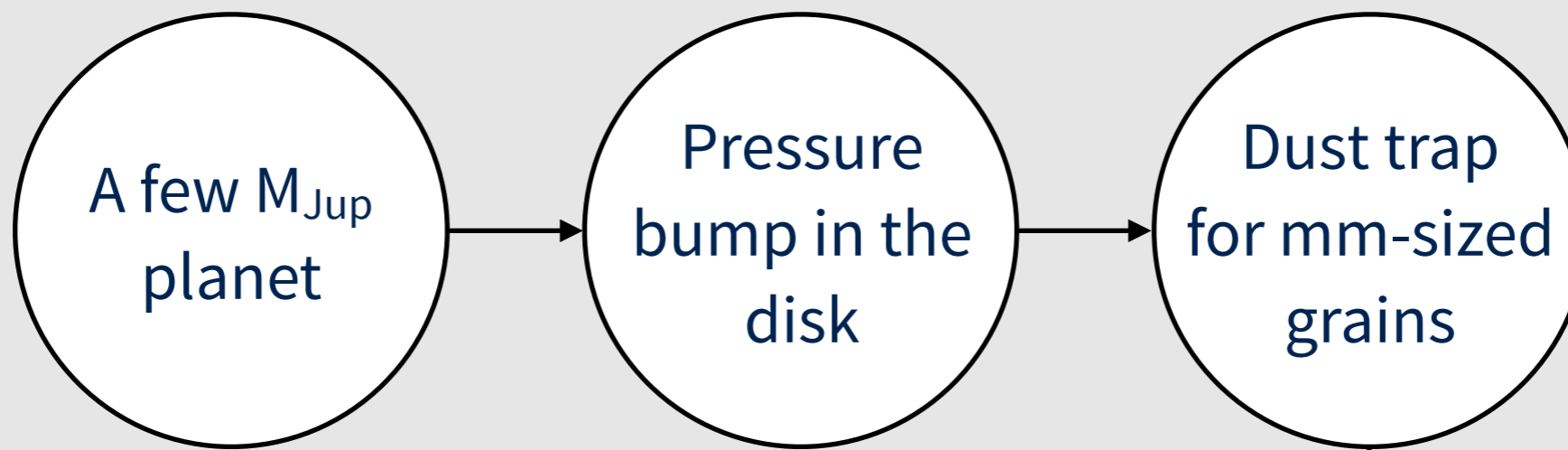
Disk model

Equivalent goodness of fit  
Not equivalent assumptions

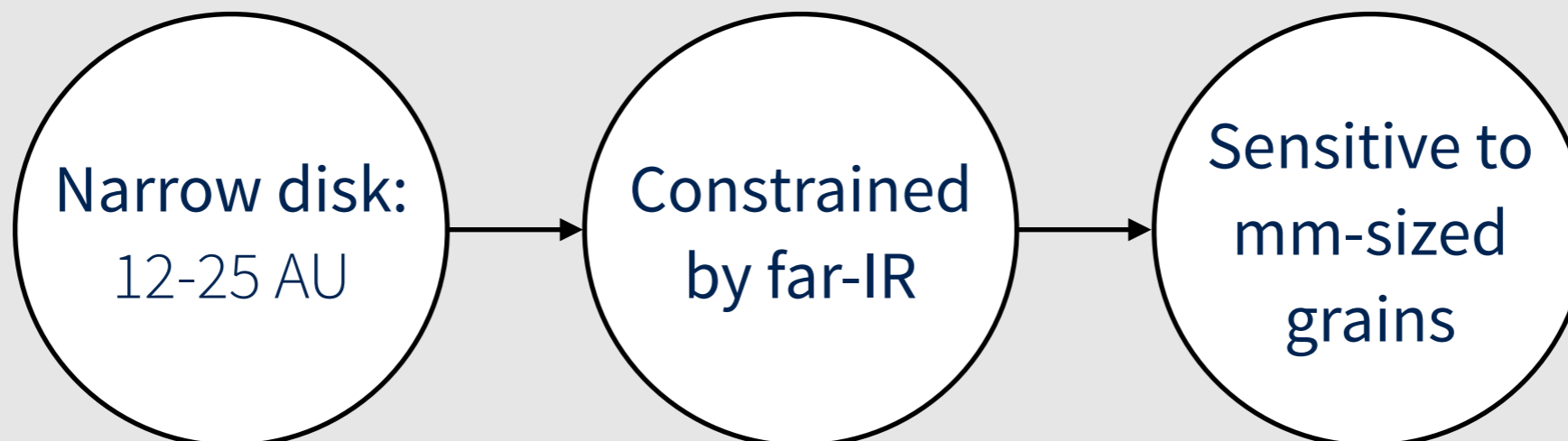
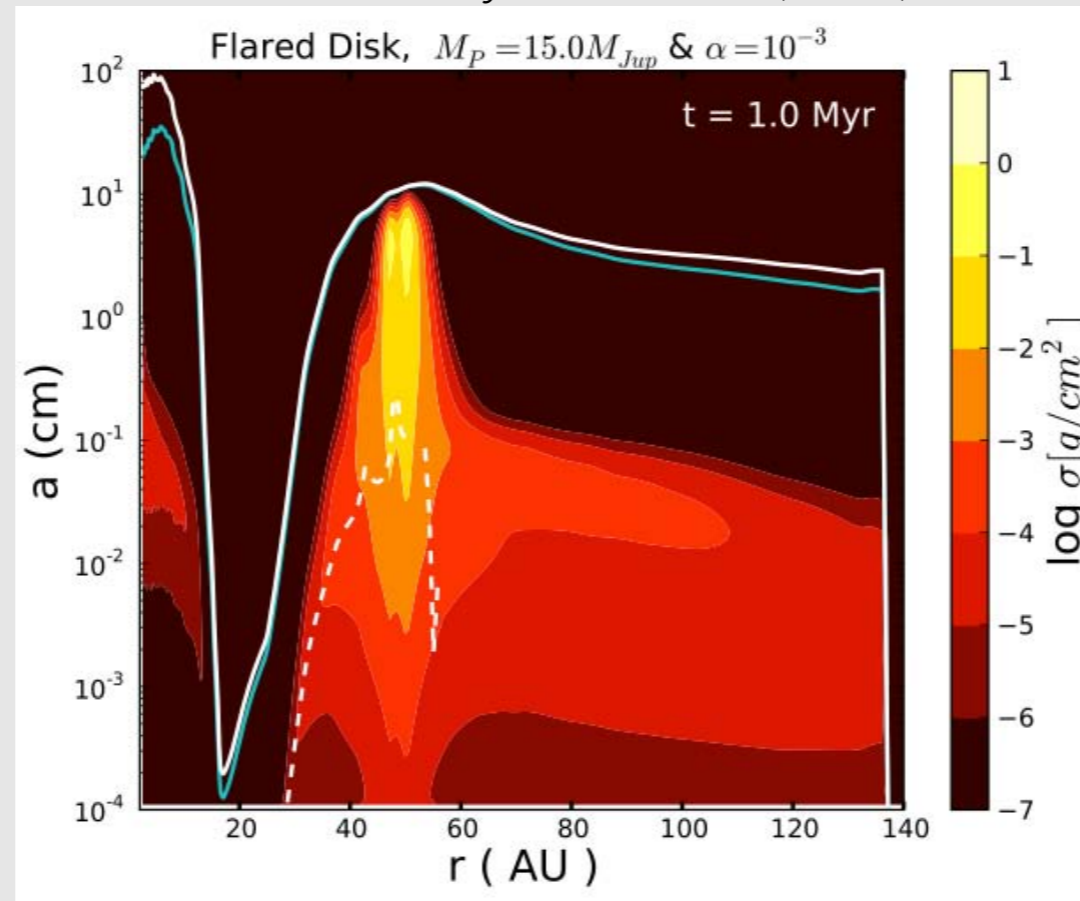
The planet has to be unambiguously detected

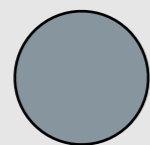
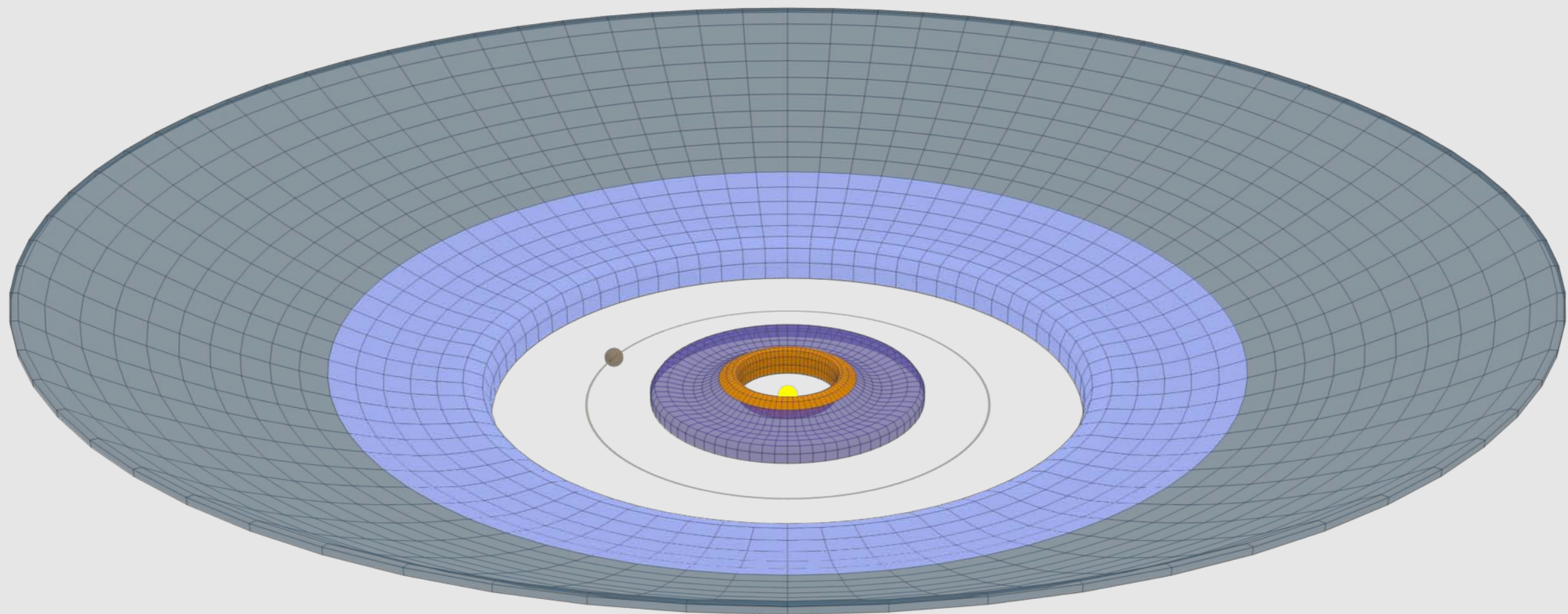




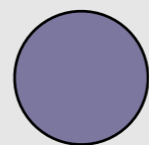


Pinilla, Benisty & Birnstiel (2012)





Outer disk: ALMA & SPHERE (?)



Inner disk: MATISSE