

'The Arnolfini Portrait', by Jan van Eyck, 1434



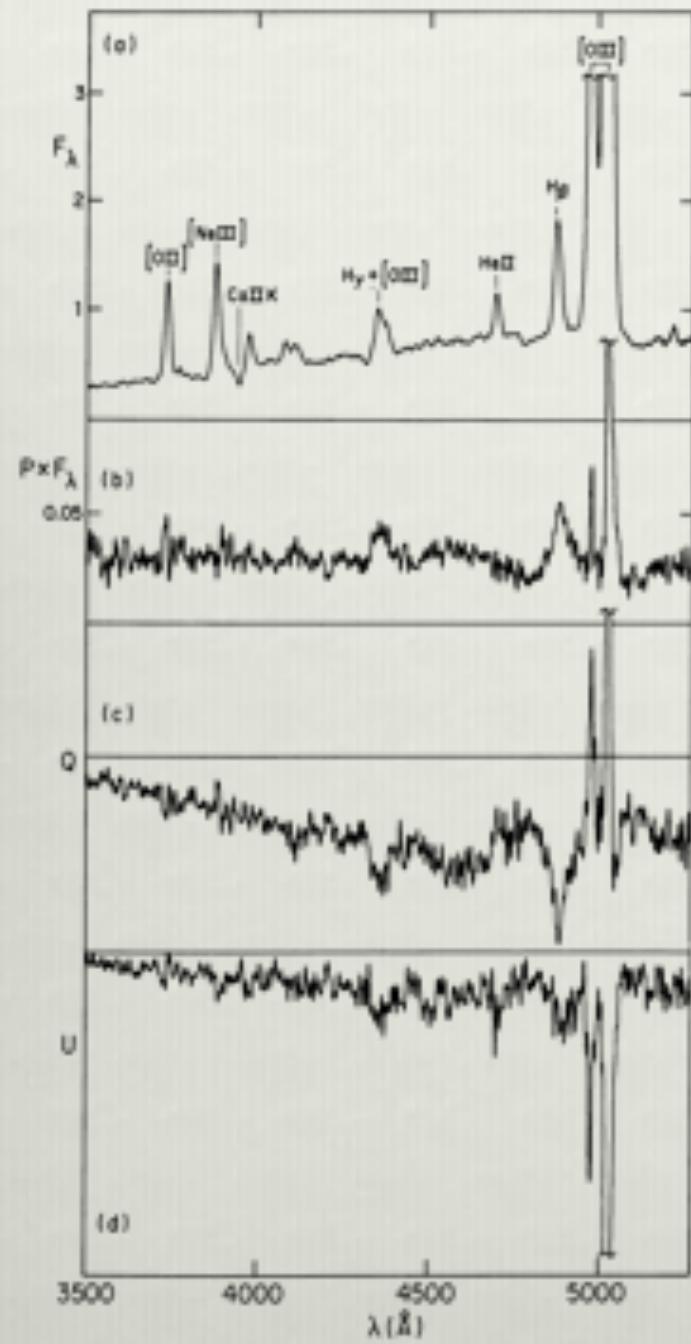
## Spectropolarimetry of the BLR

Rene Goosman  
Makoto Kishimoto

## Spectropolarimetry of the BLR

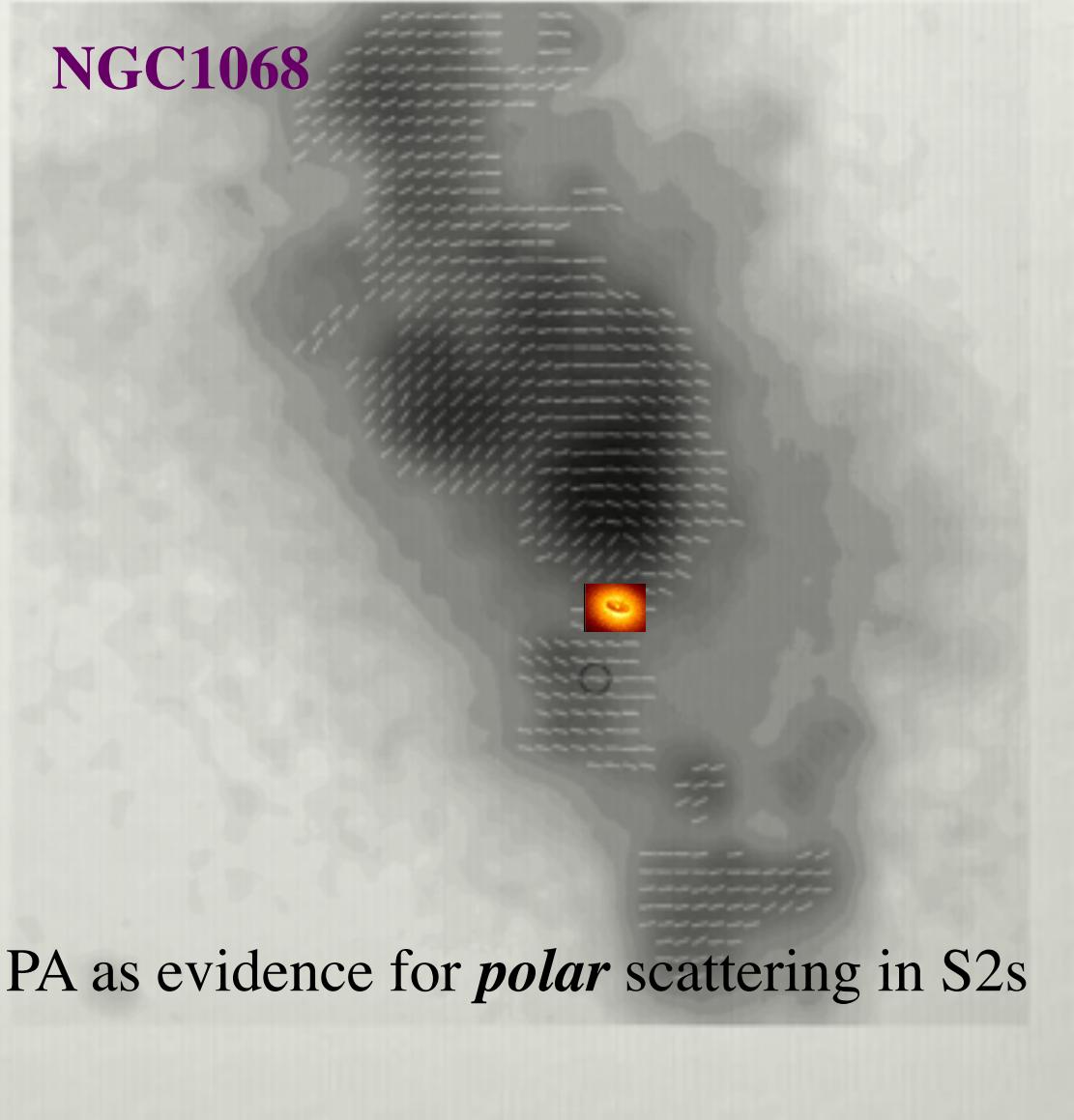


Antonucci & Miller, 1985



Capetti et al., 1995

NGC1068

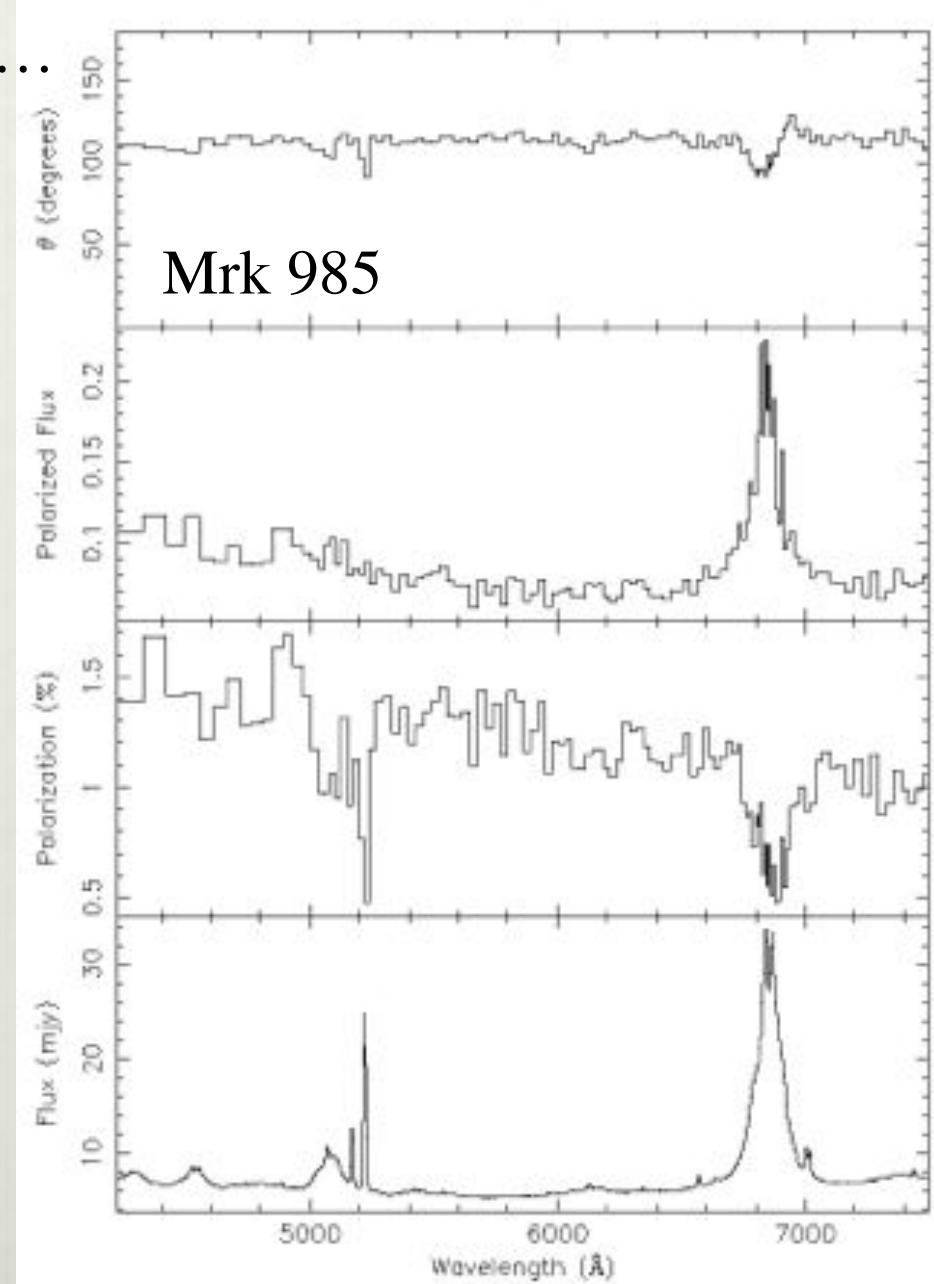


PA as evidence for *polar* scattering in S2s

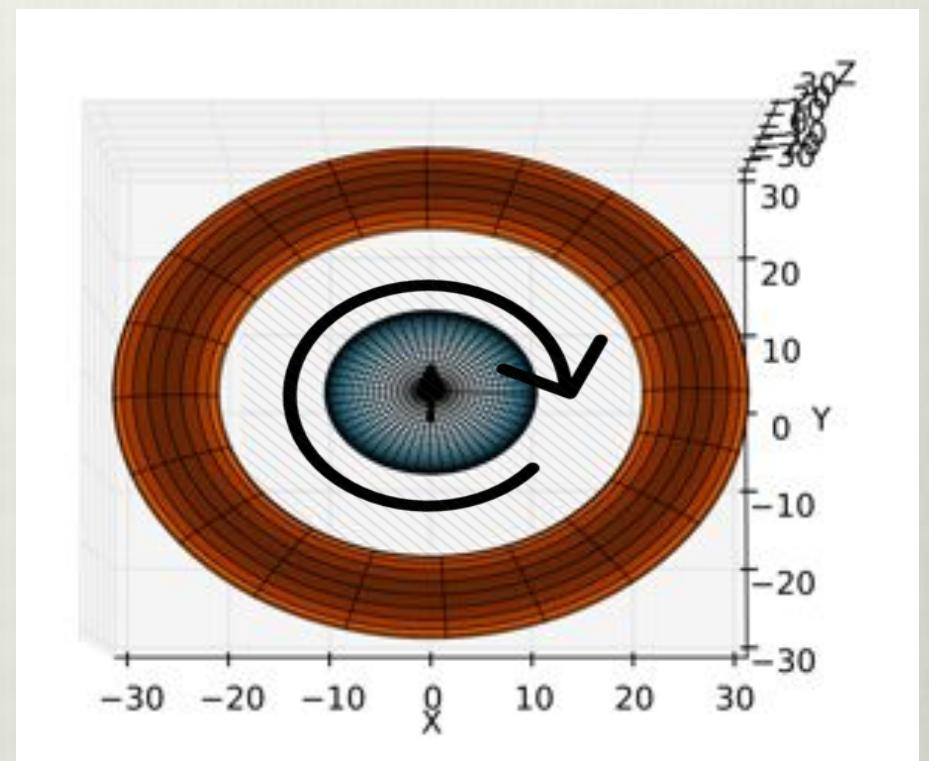
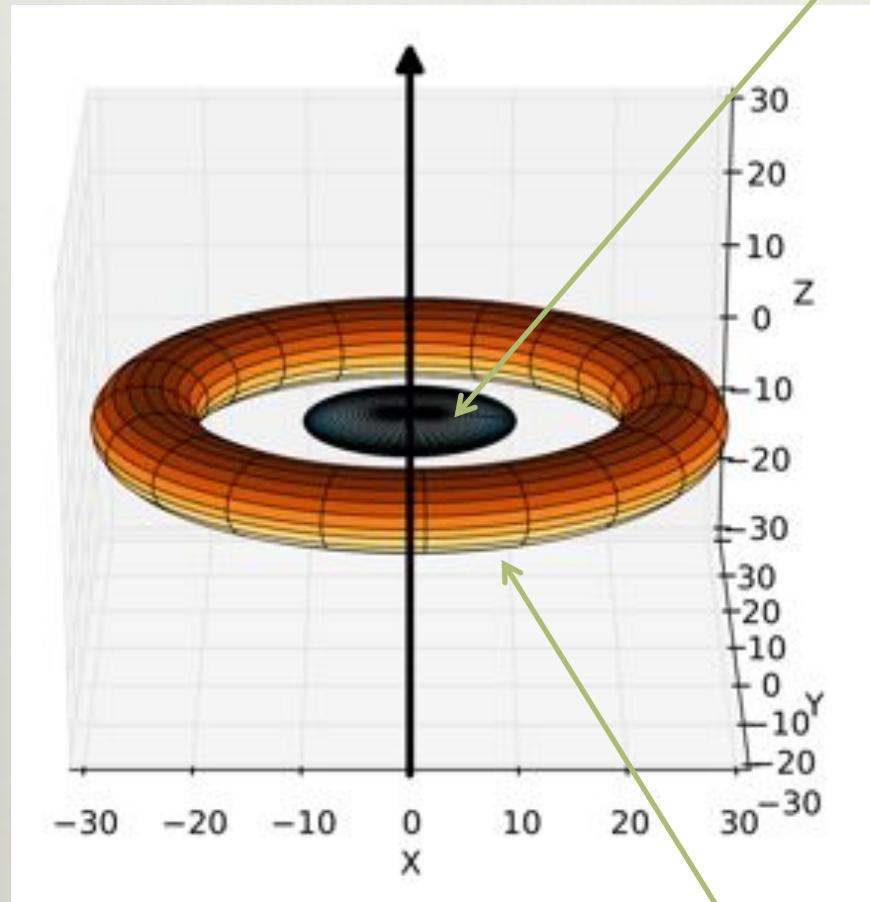
It all started with the Smiths.....

PA rotation as evidence for  
*equatorial* scattering in Sy 1s

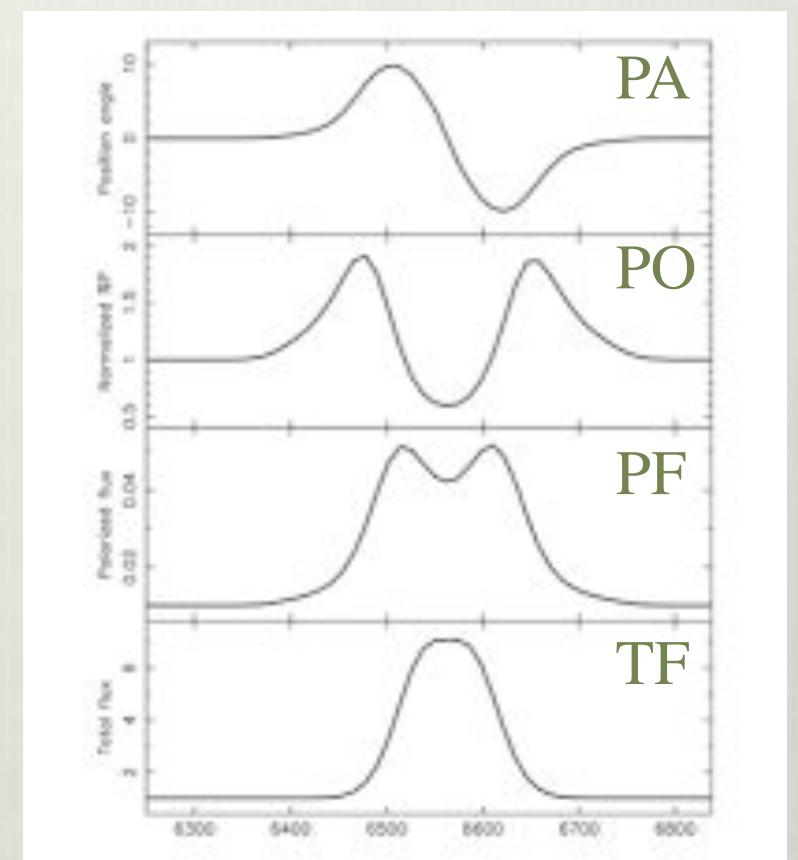
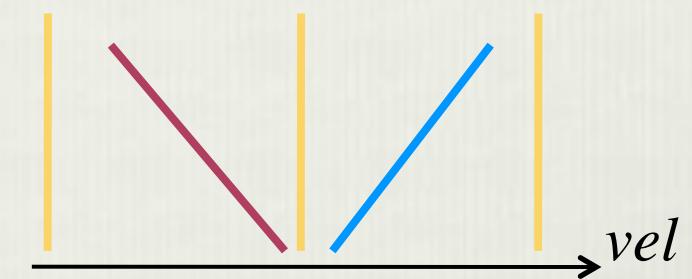
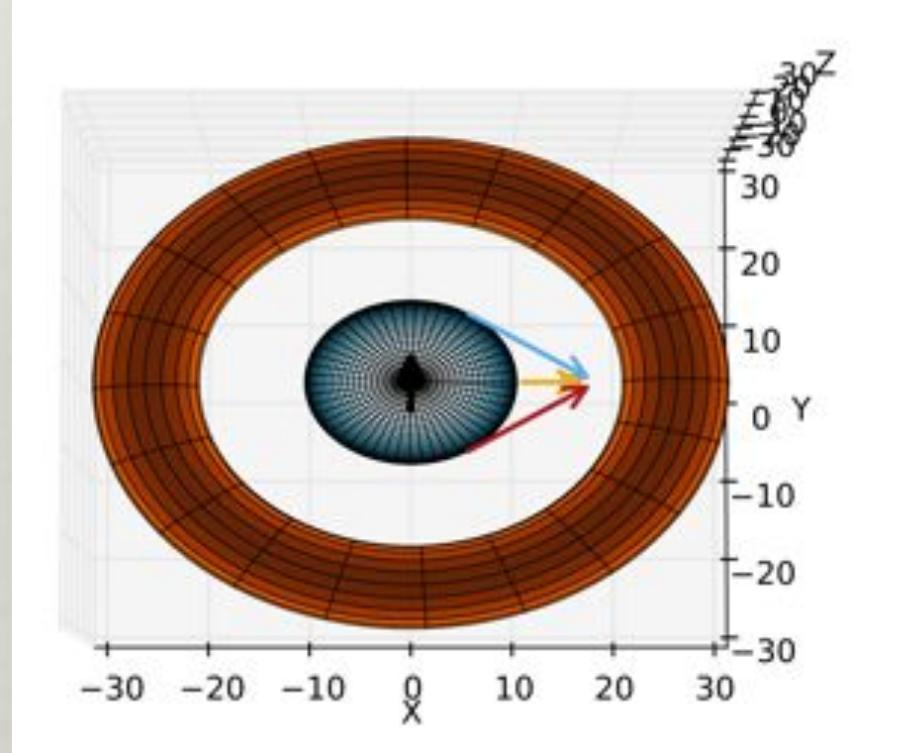
Smith et al., 2002



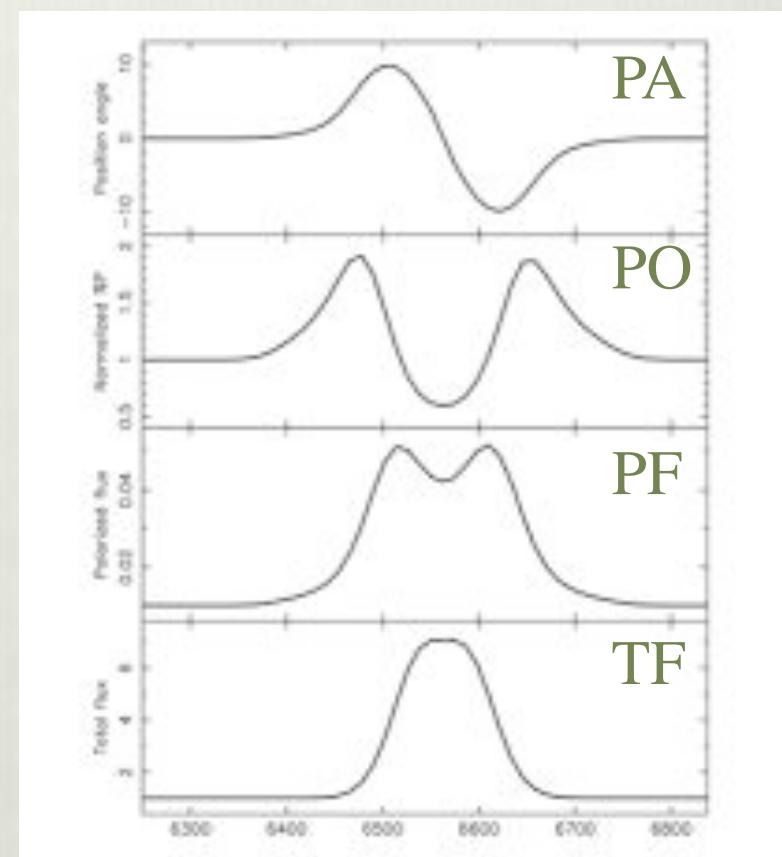
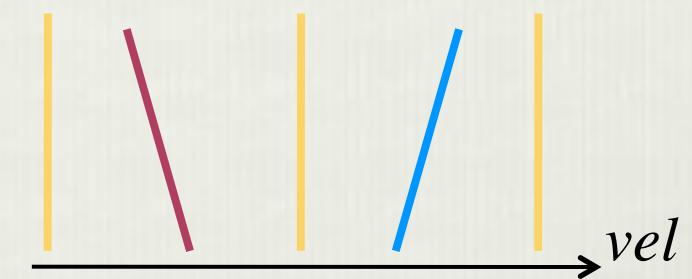
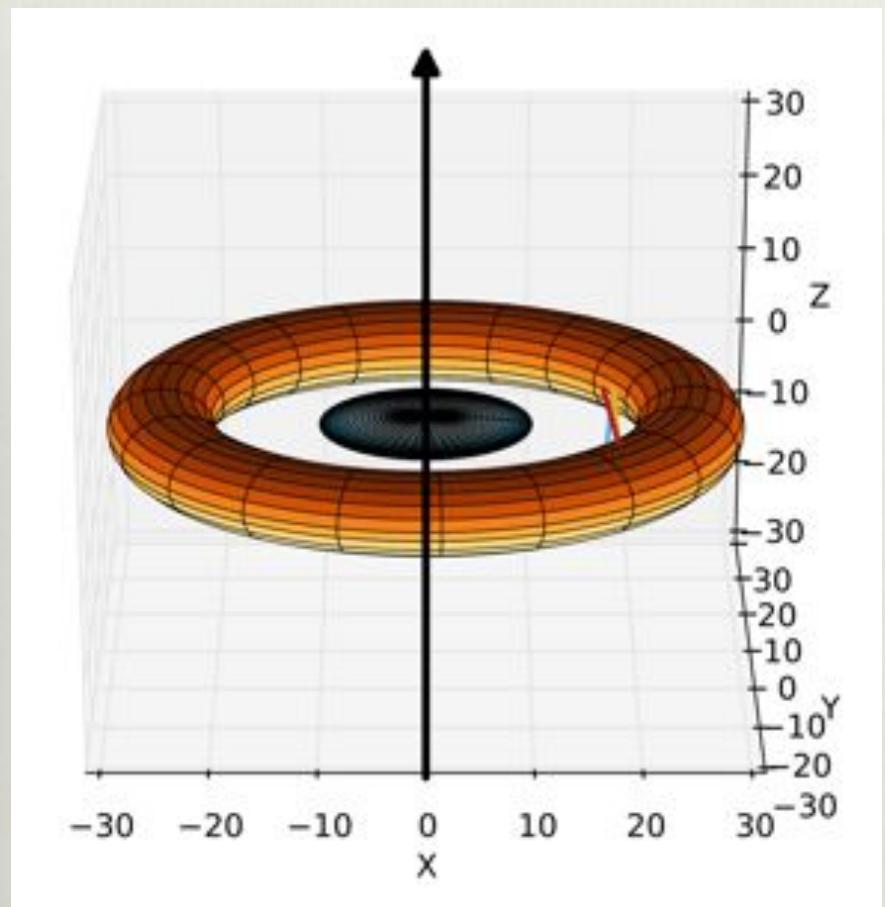
## Disk-like Broad Line Emitting Region



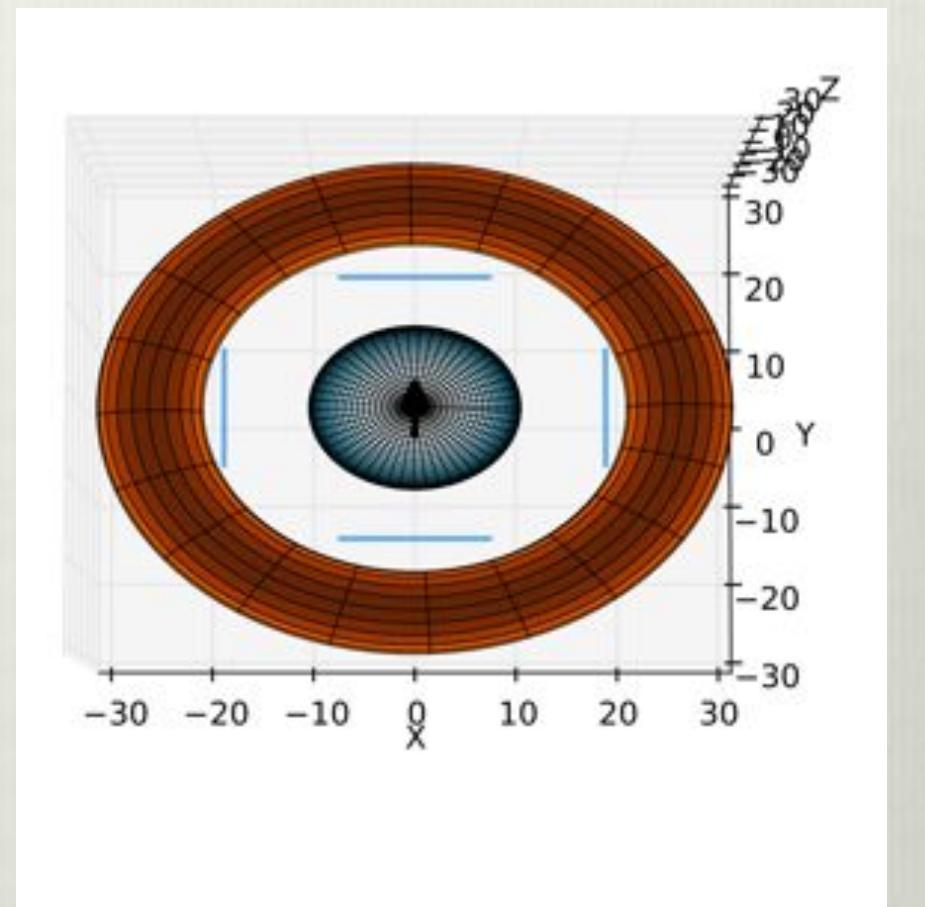
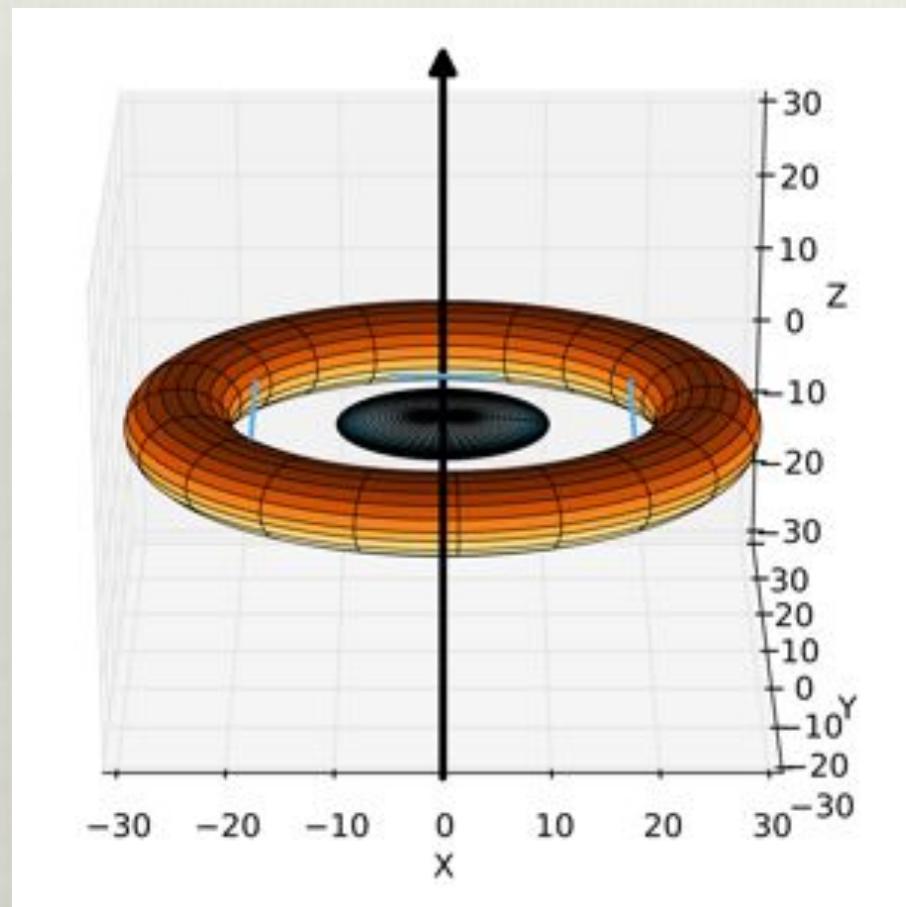
Equatorial scatterer

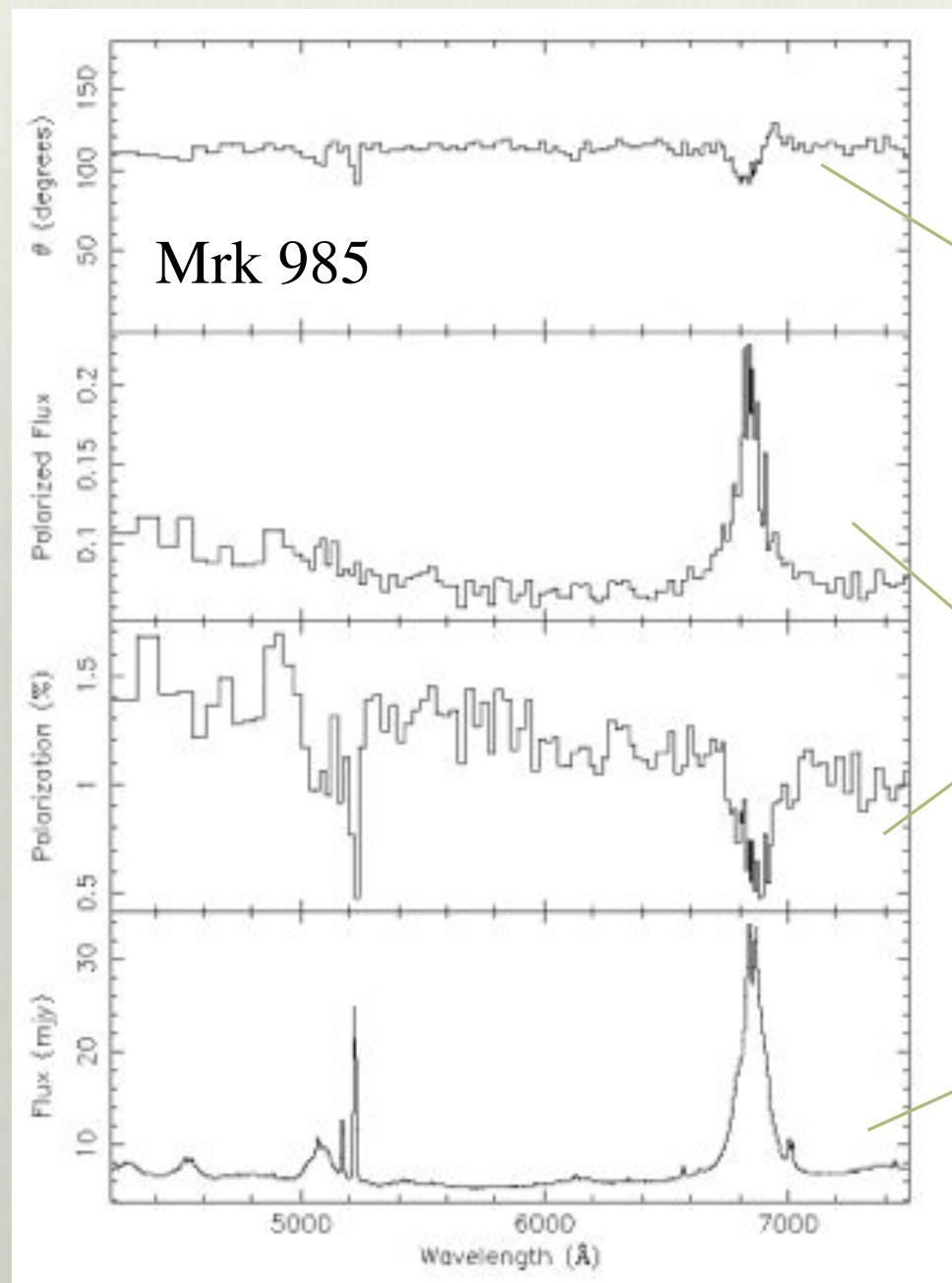


Smith et al., 2005

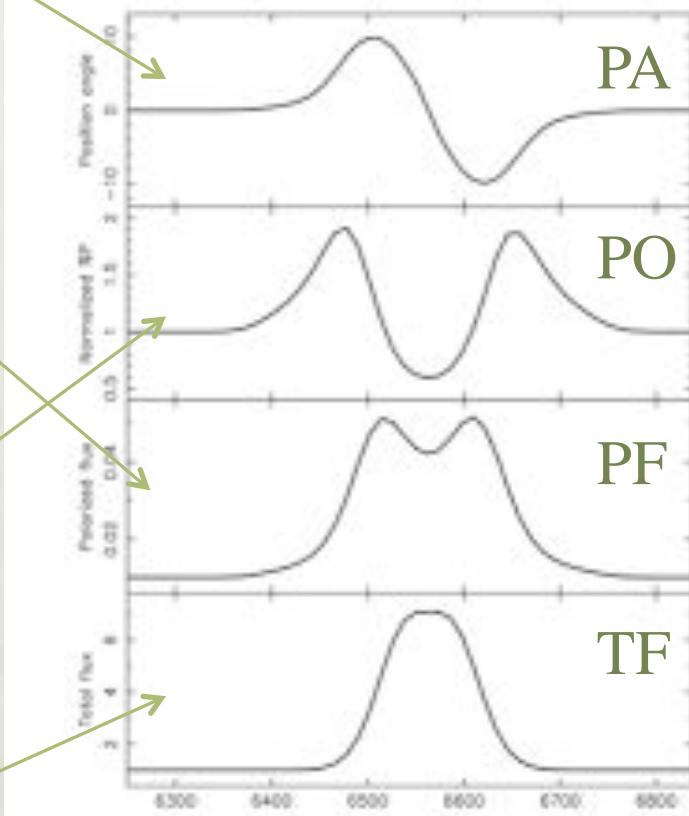


Smith et al., 2005





Smith et al., 2002



Rotating PA  
Broad PF line

Goosmann 2014

# STOKES FISH

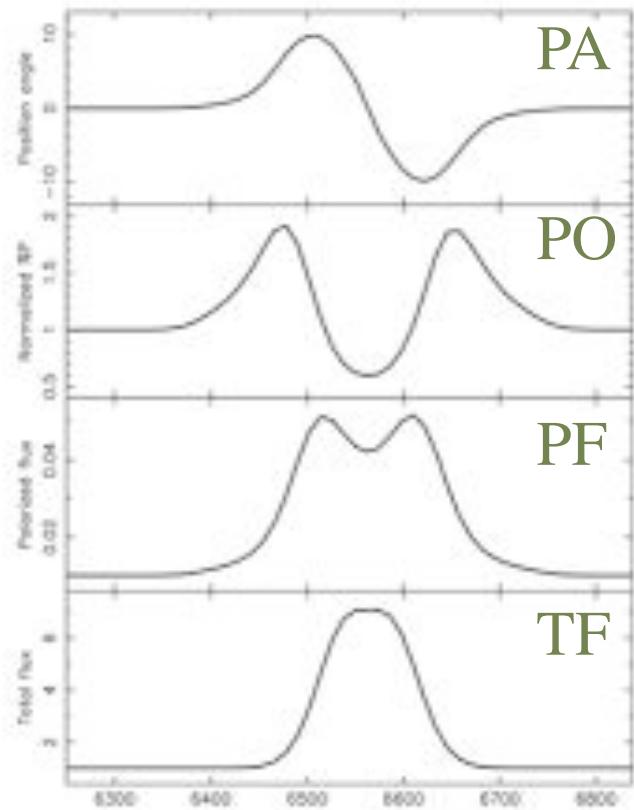
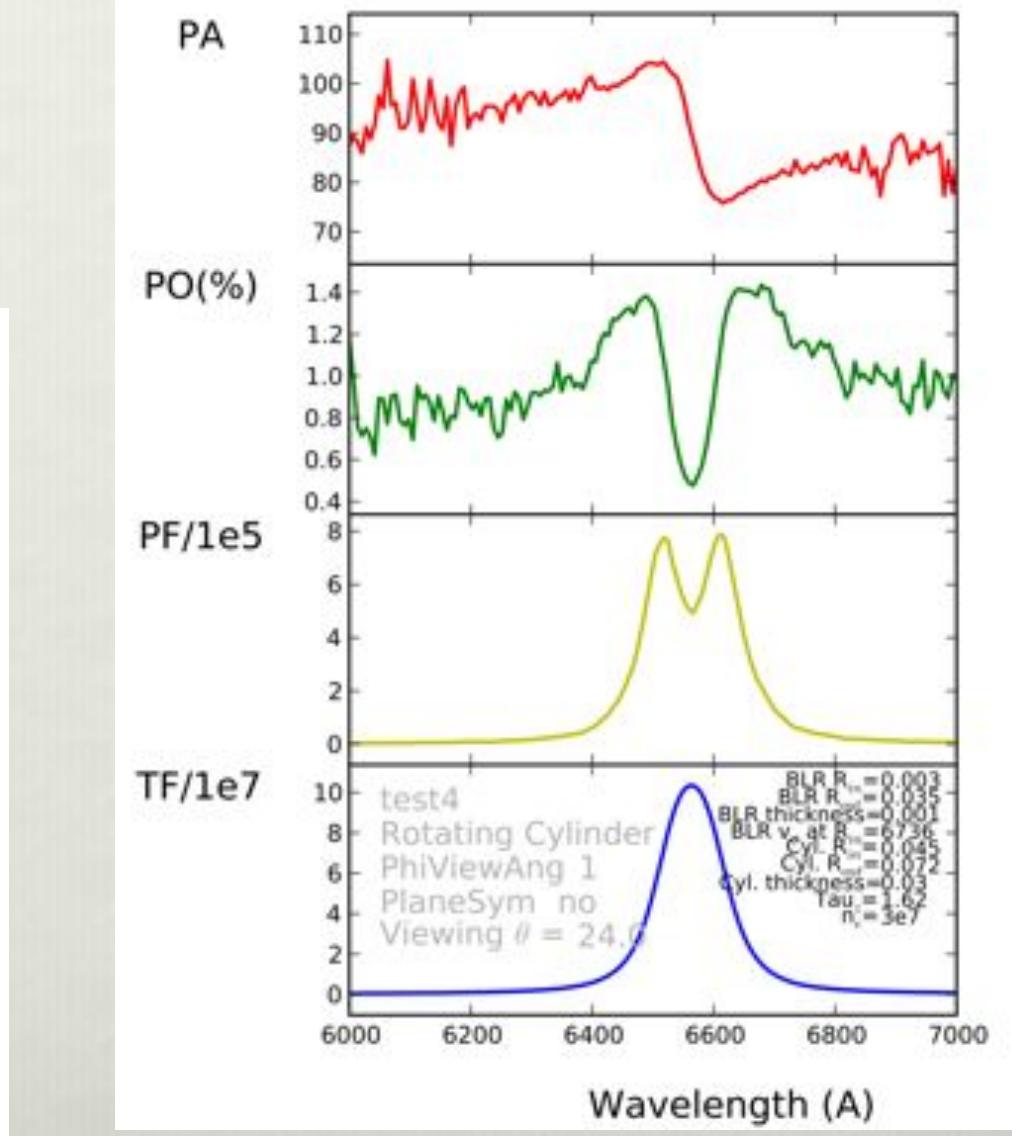
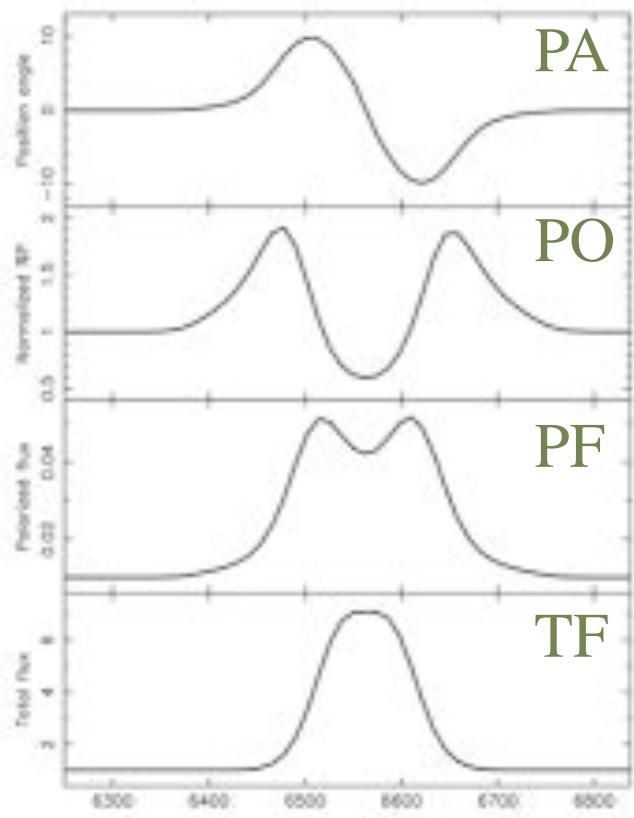
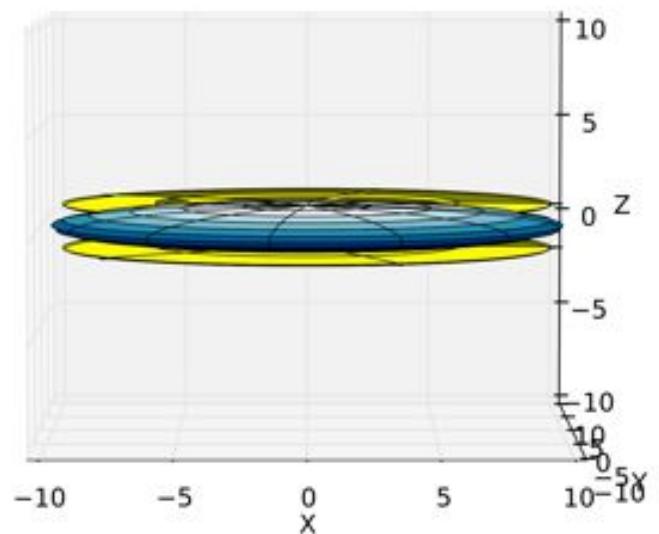


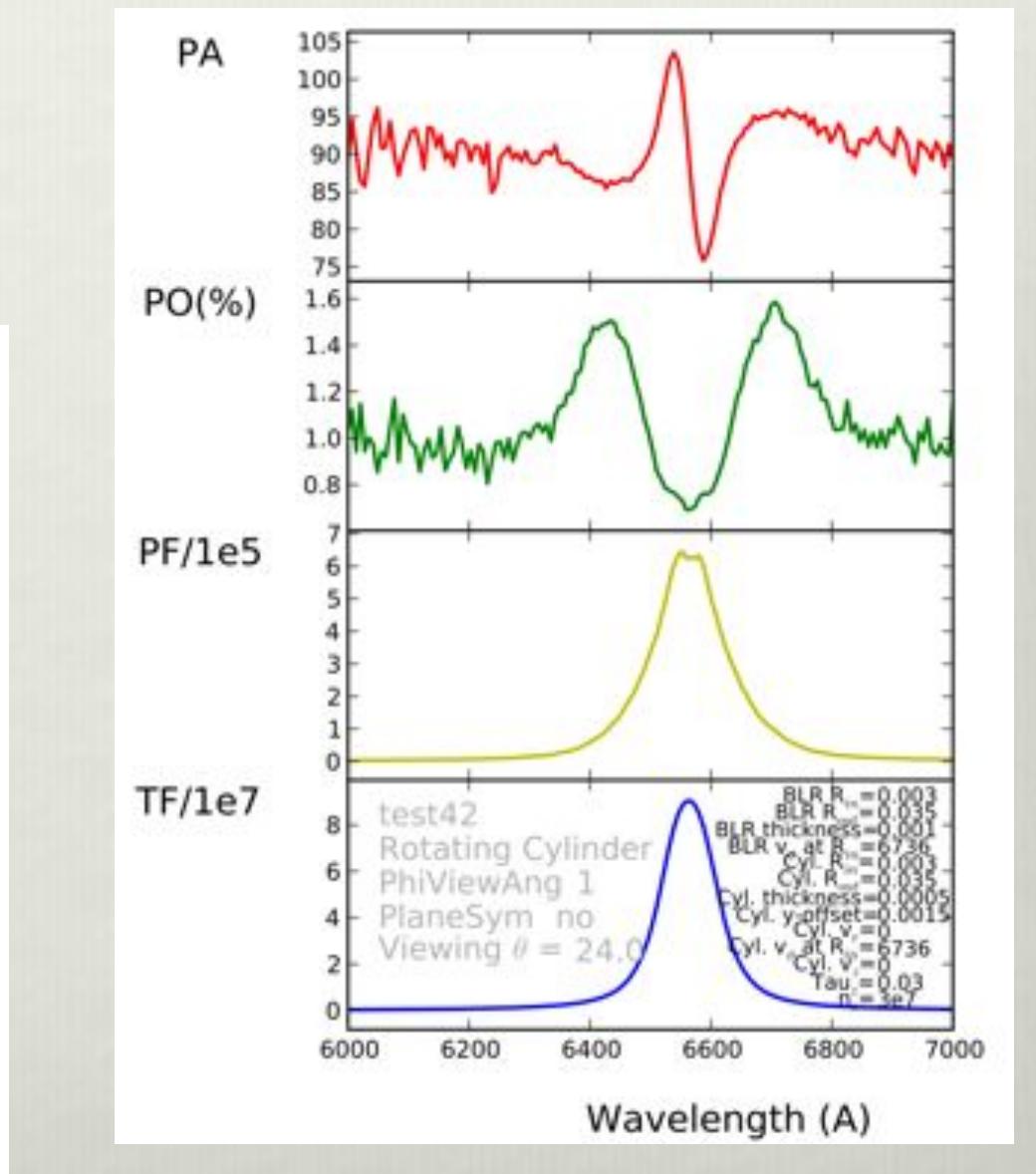
Table 8. Parameters for the Standard Equatorial Model.

System inclination	35°
Emission disc inner radius	$1.0 \times 10^{14}$ m
Emission disc outer radius	$1.0 \times 10^{15}$ m
Rotational velocity at inner radius of emission disc	7500 km s <sup>-1</sup>



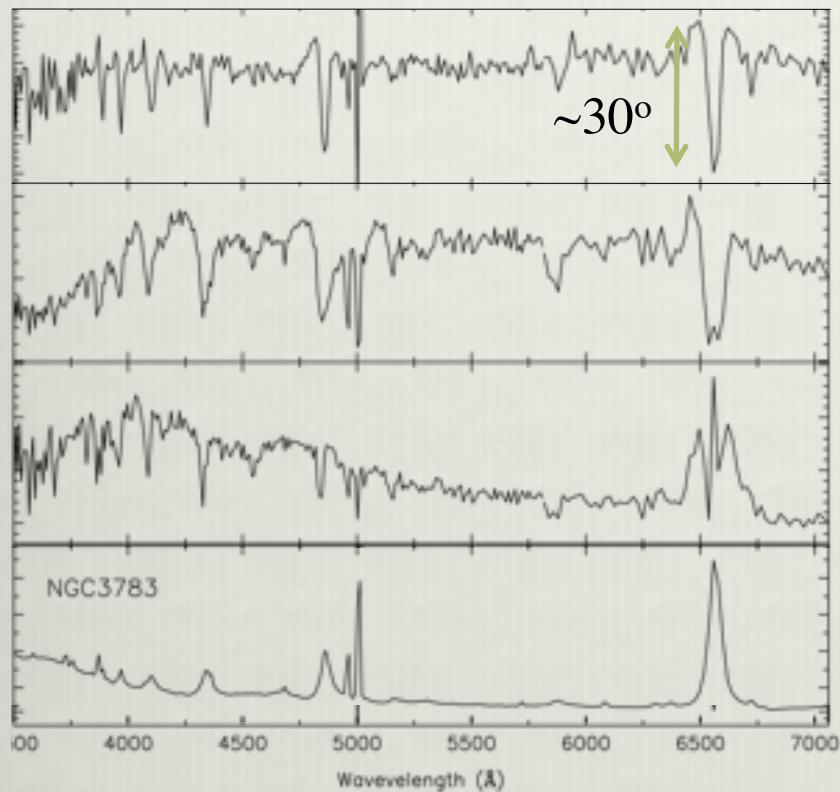


Sharper Rotation  
Narrower PF line

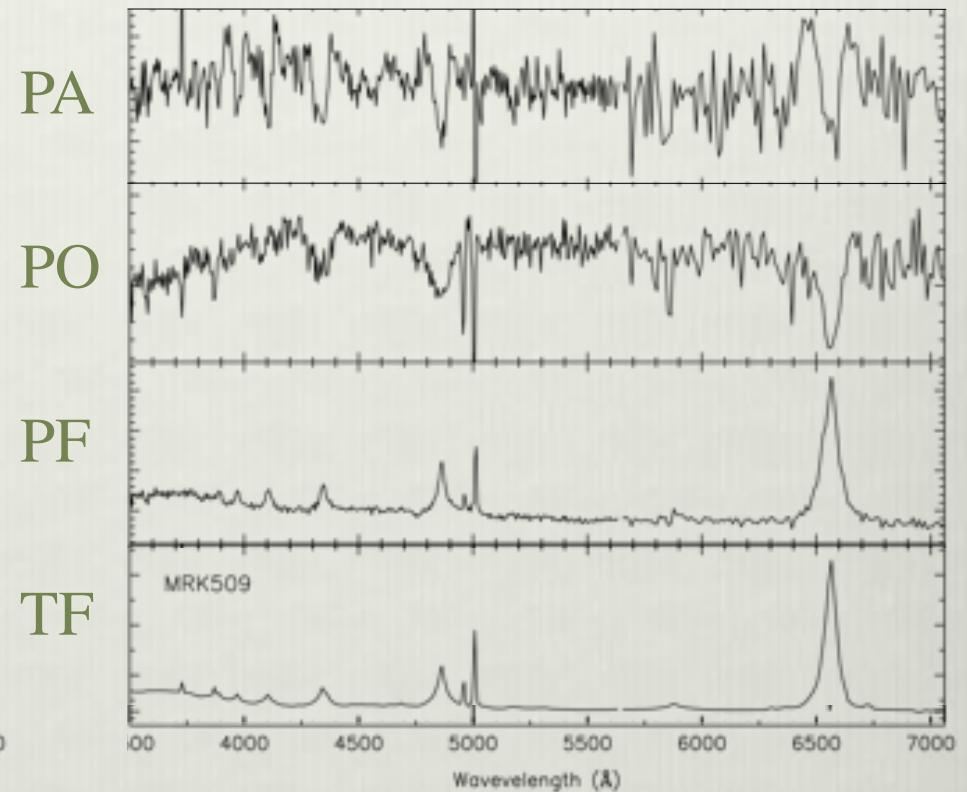


# High S/N spectropolarimetry of type 1 Seyfert galaxies with ESO

**NGC3783**

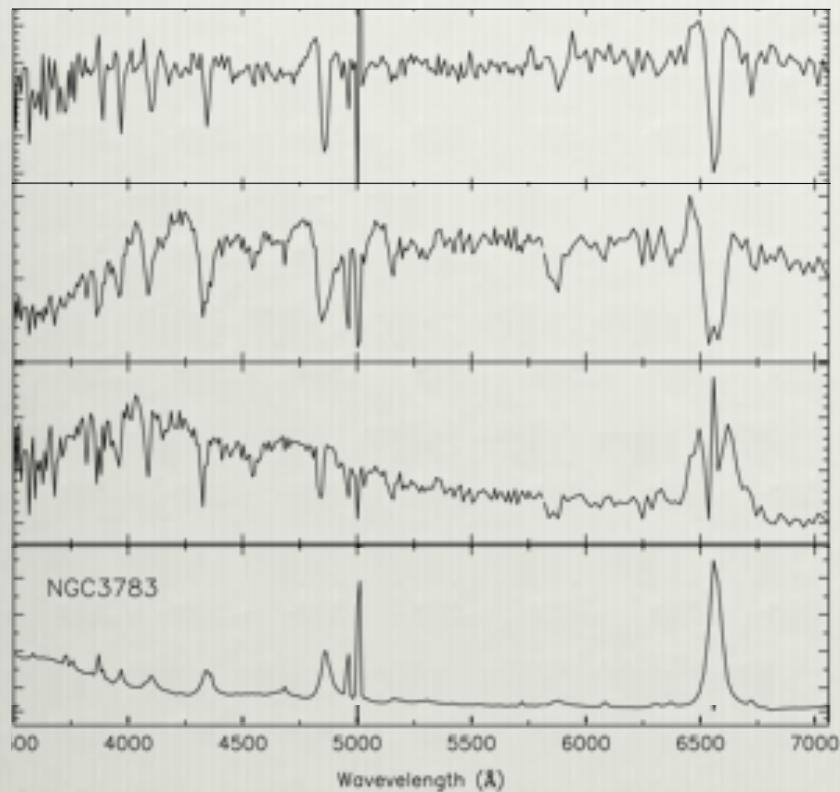


**Mrk 509**

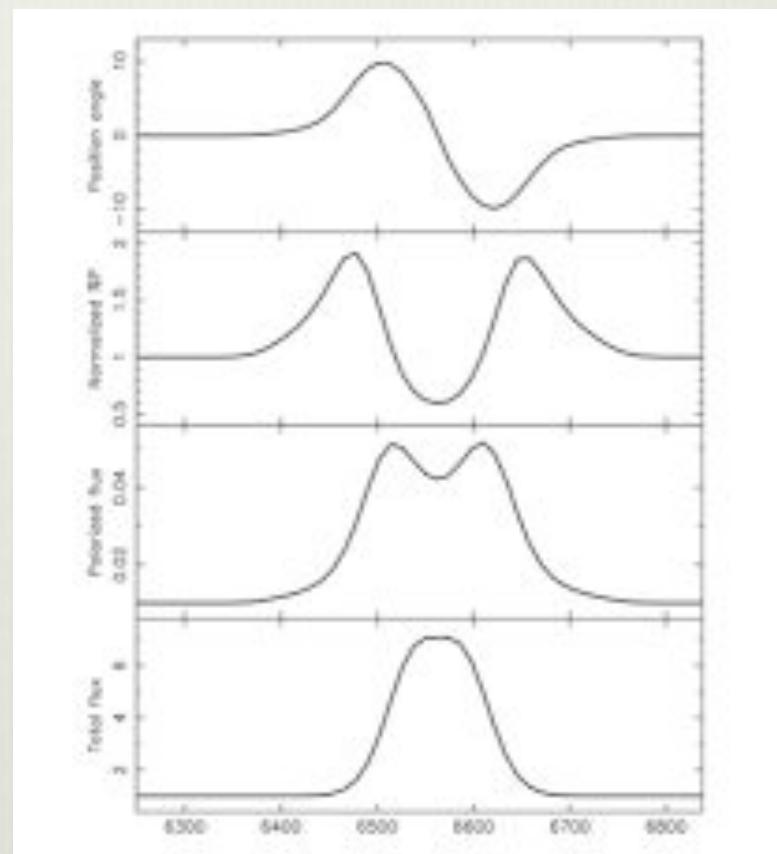


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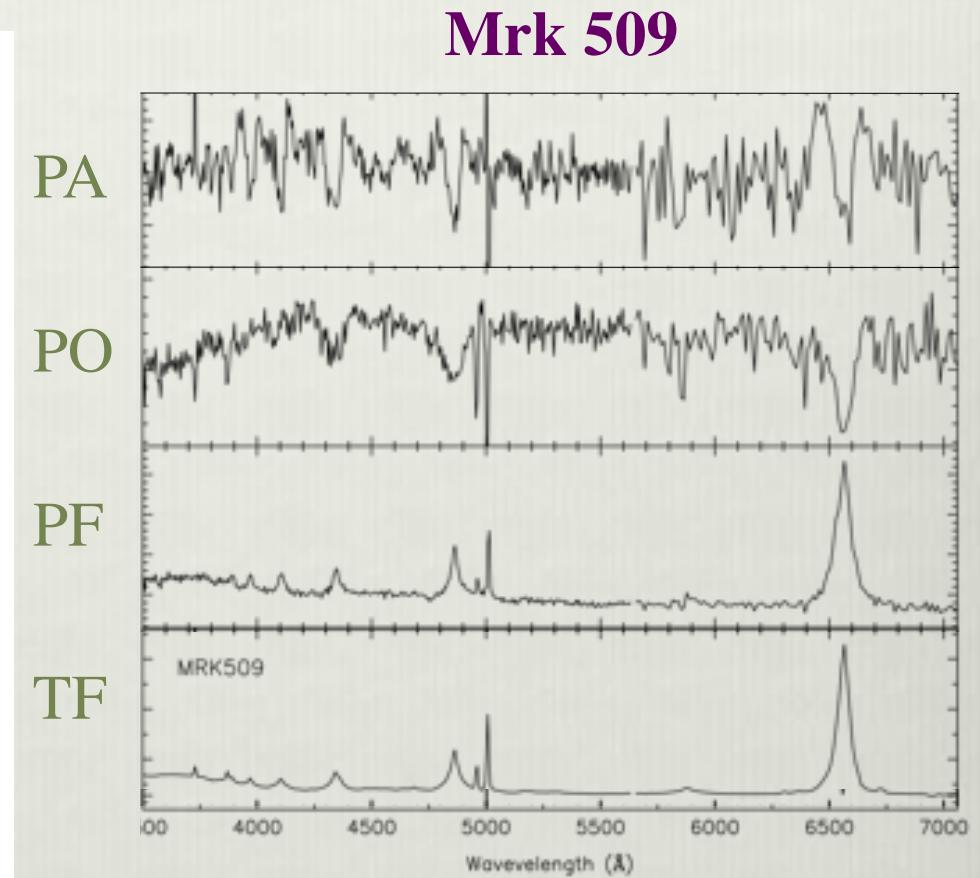
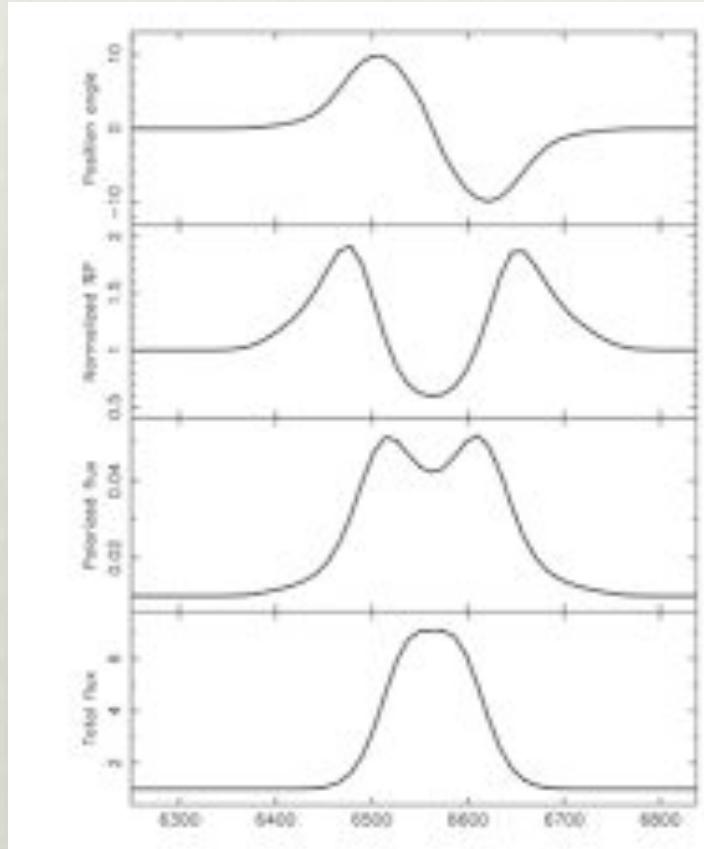
**NGC3783**

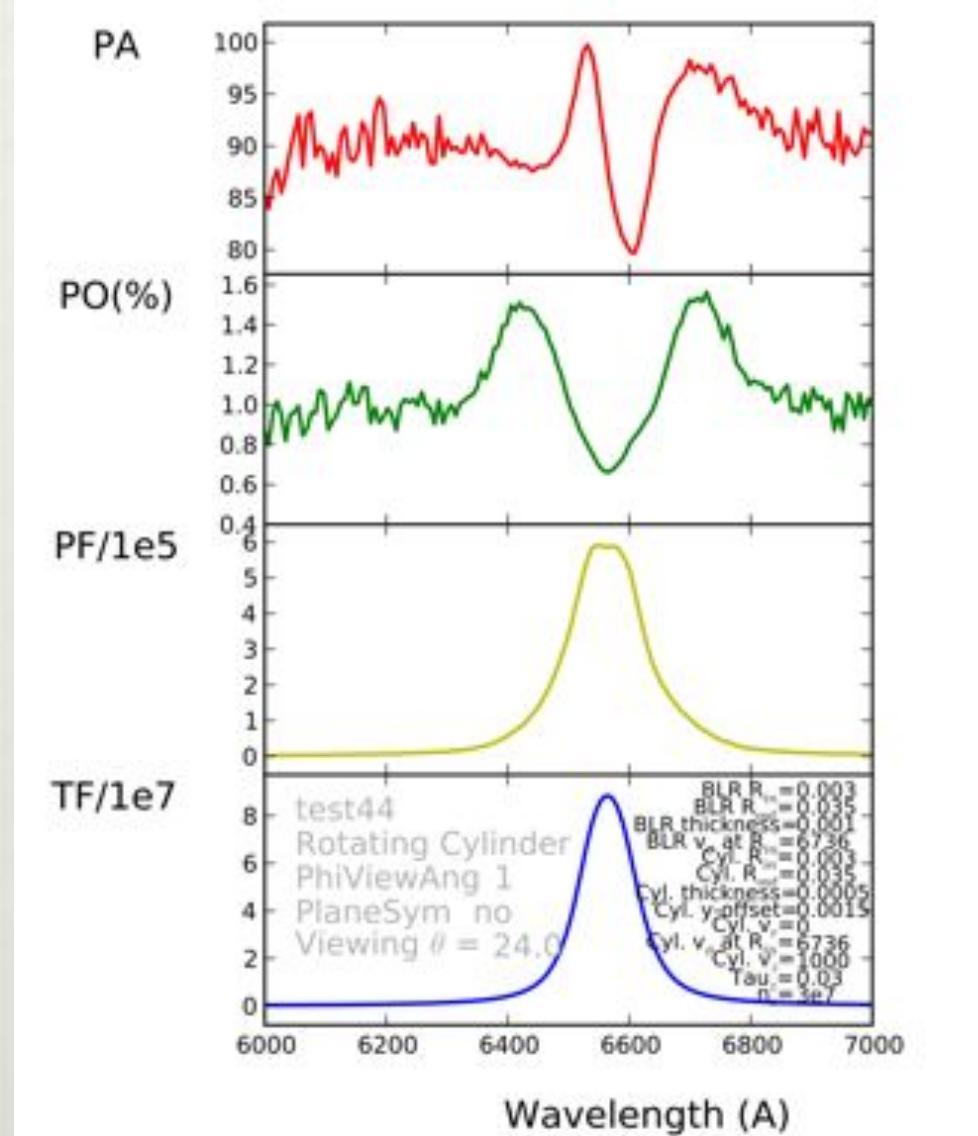
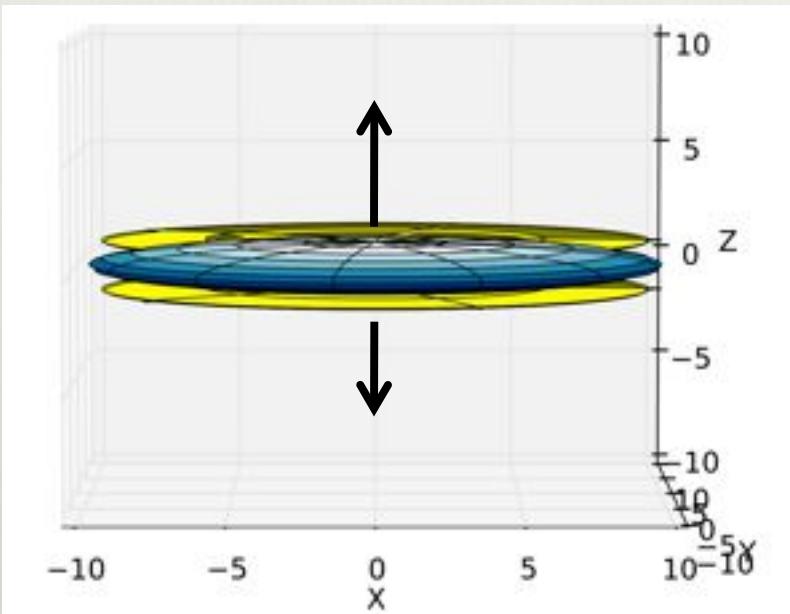


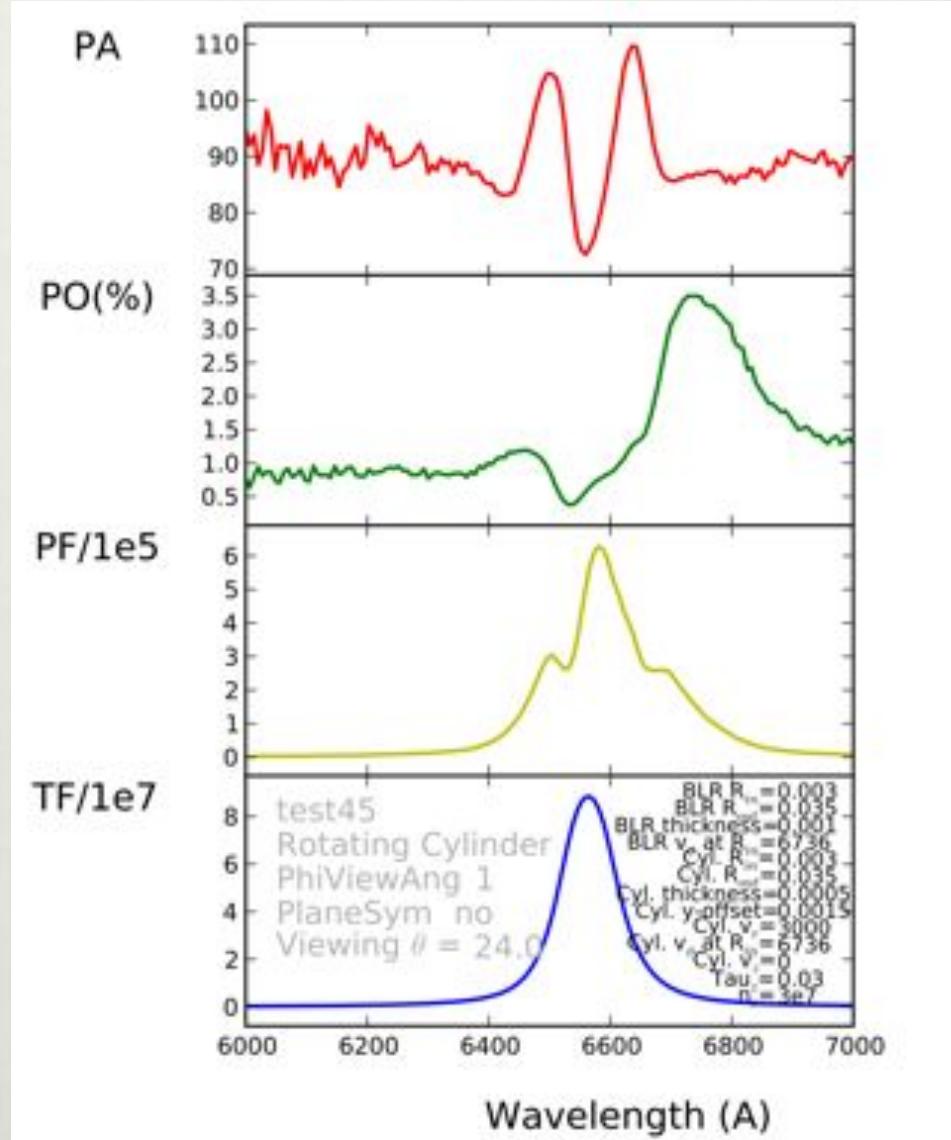
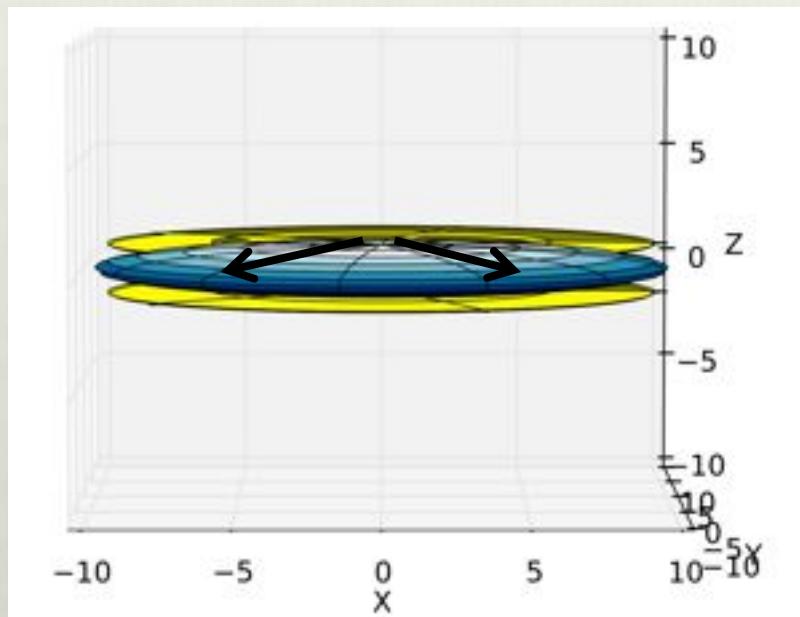
PA  
PO  
PF  
TF

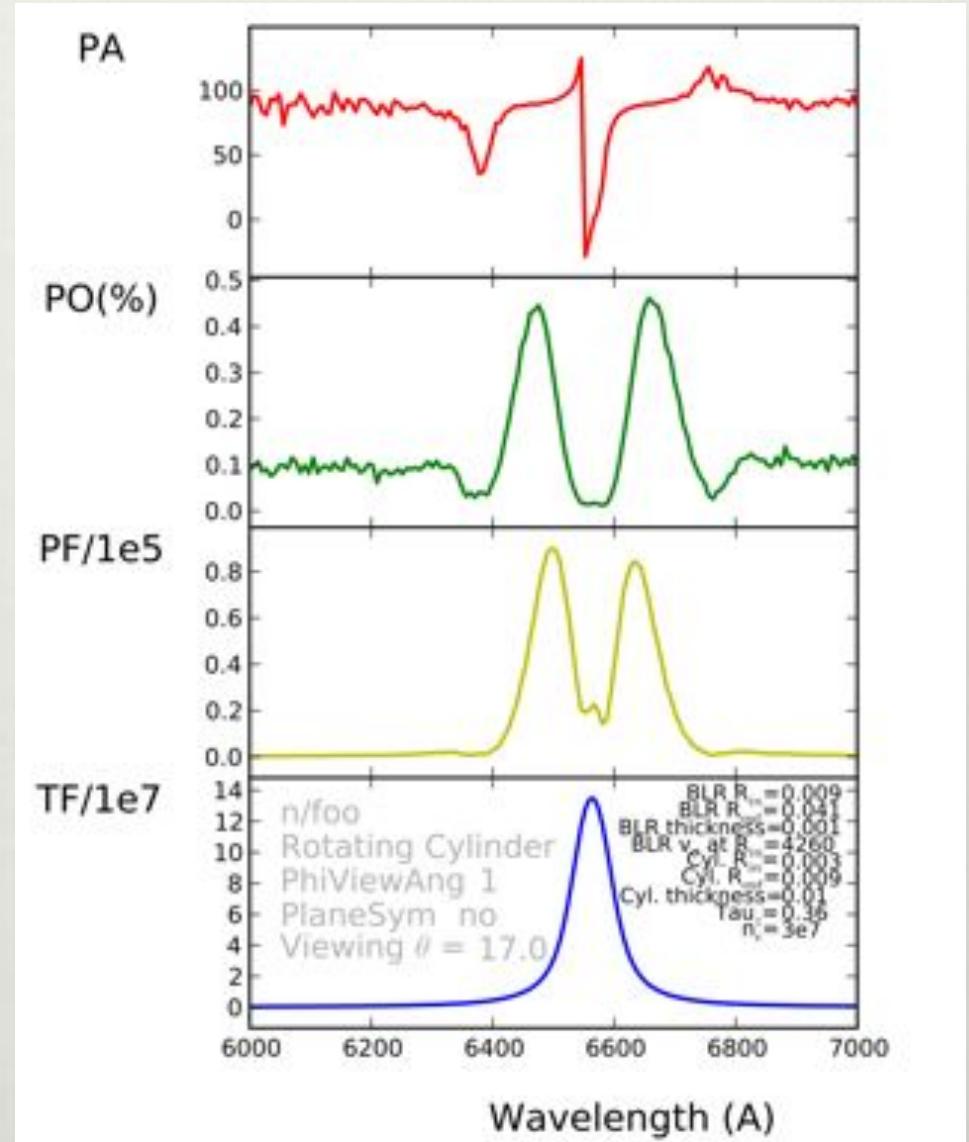
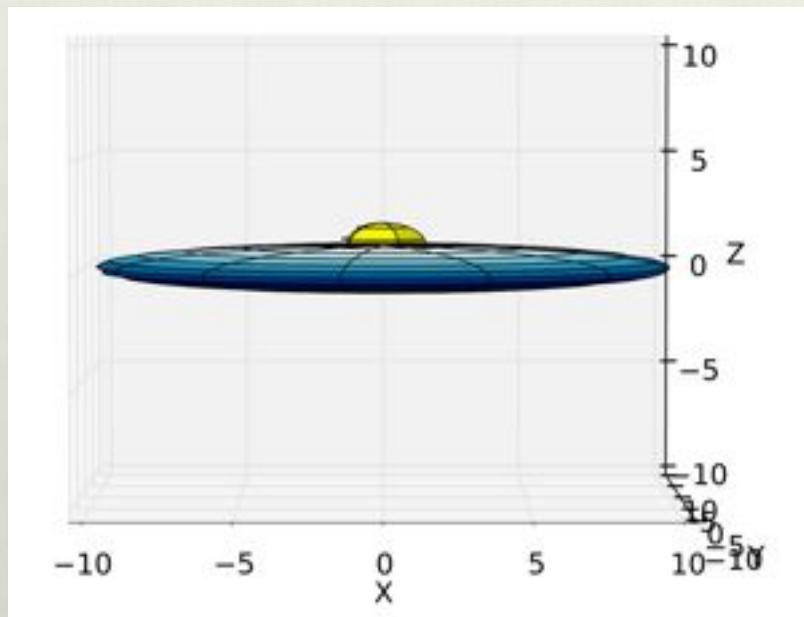


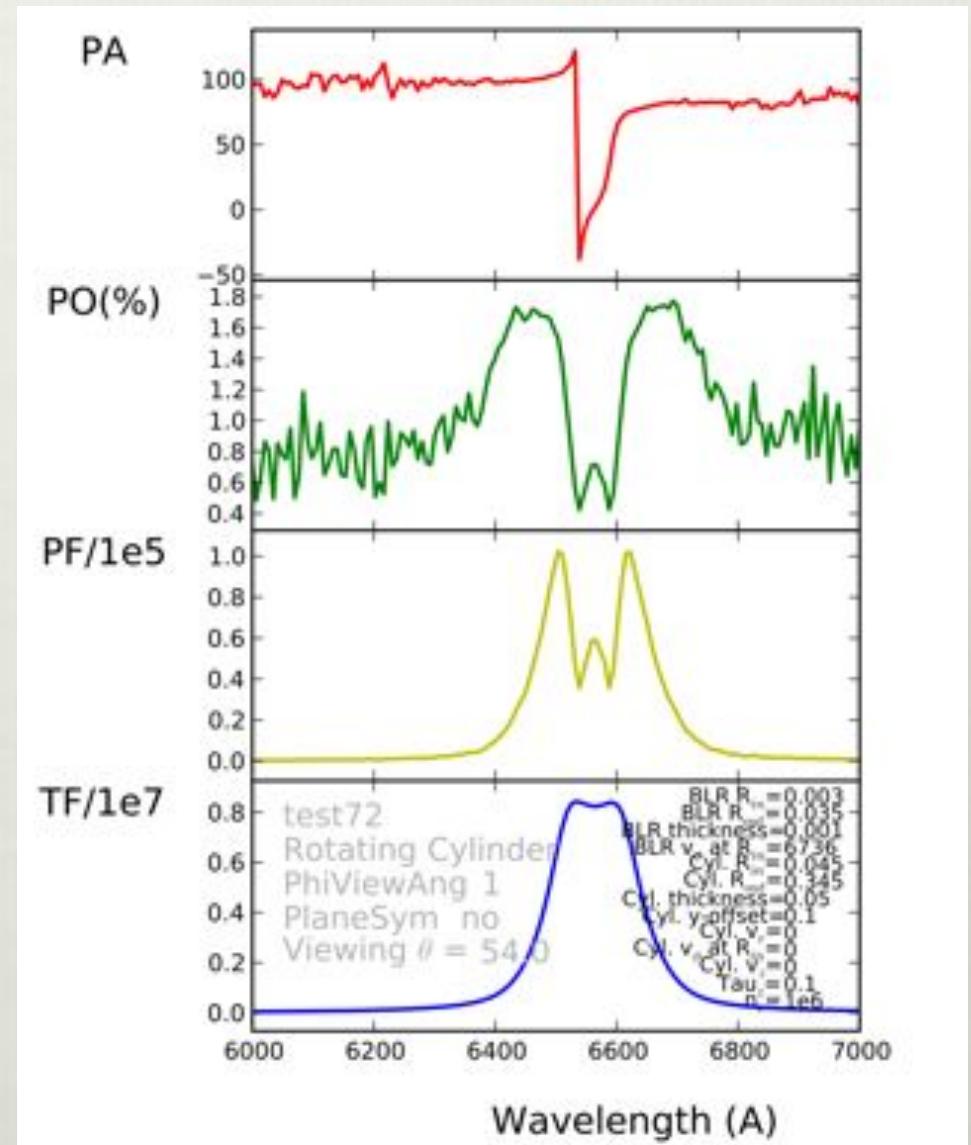
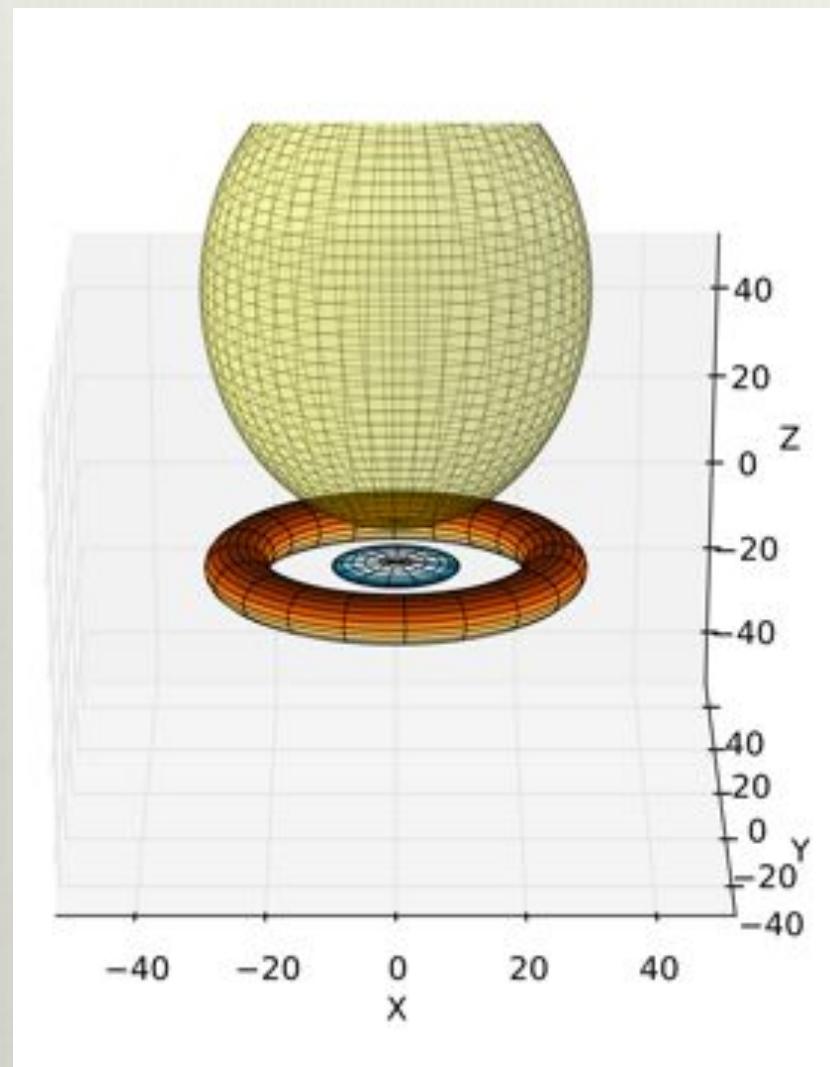
# High S/N spectropolarimetry of type 1 Seyfert galaxies with ESO









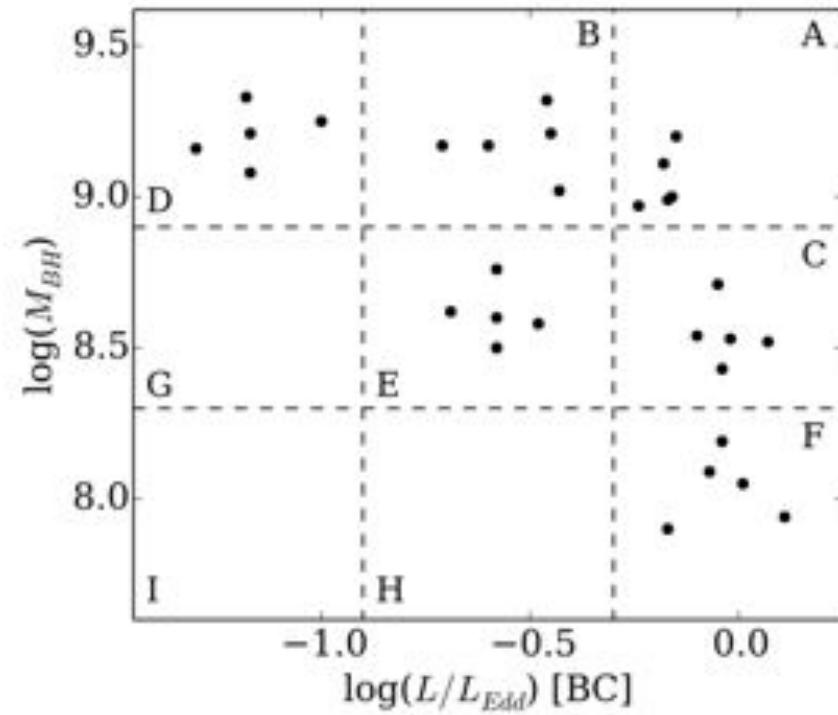


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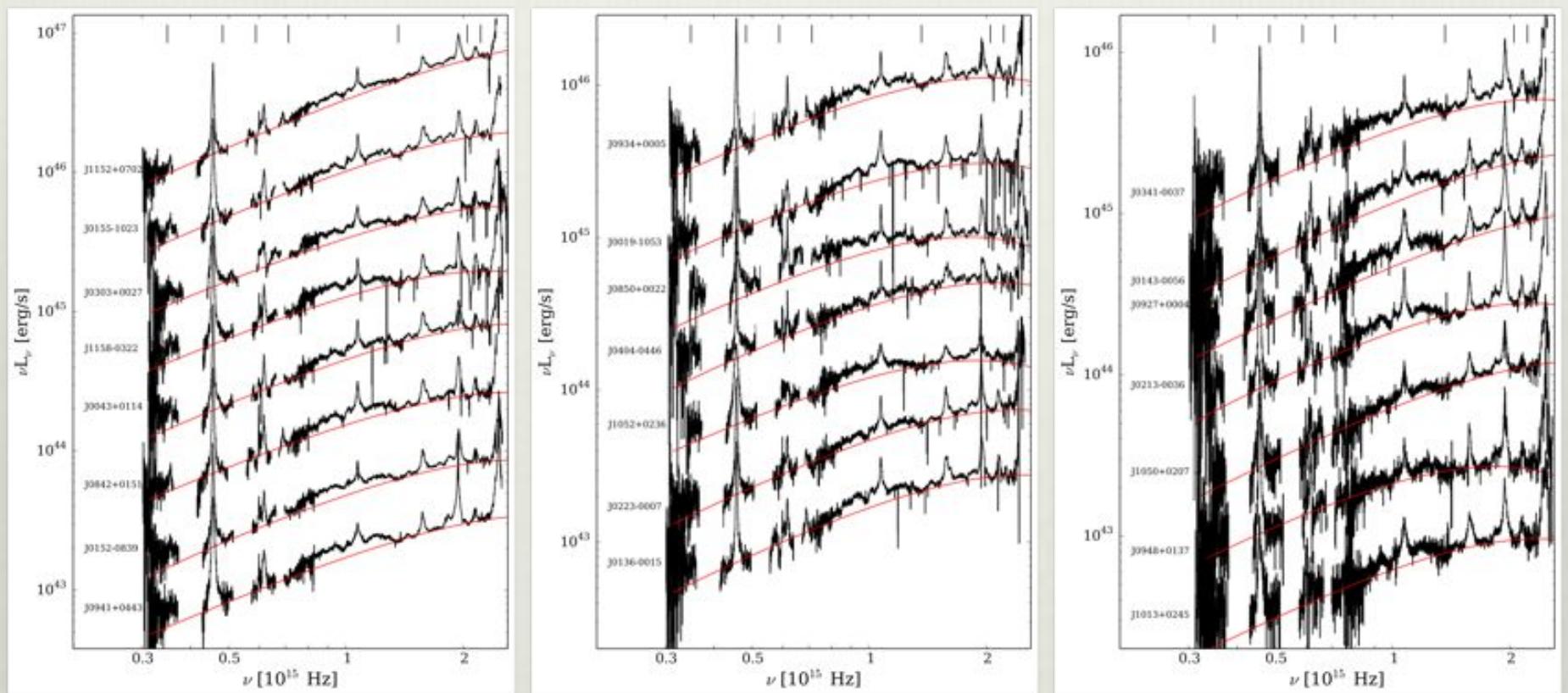


## **How I Learned to Stop Worrying and Love the $\alpha$ -Disks**

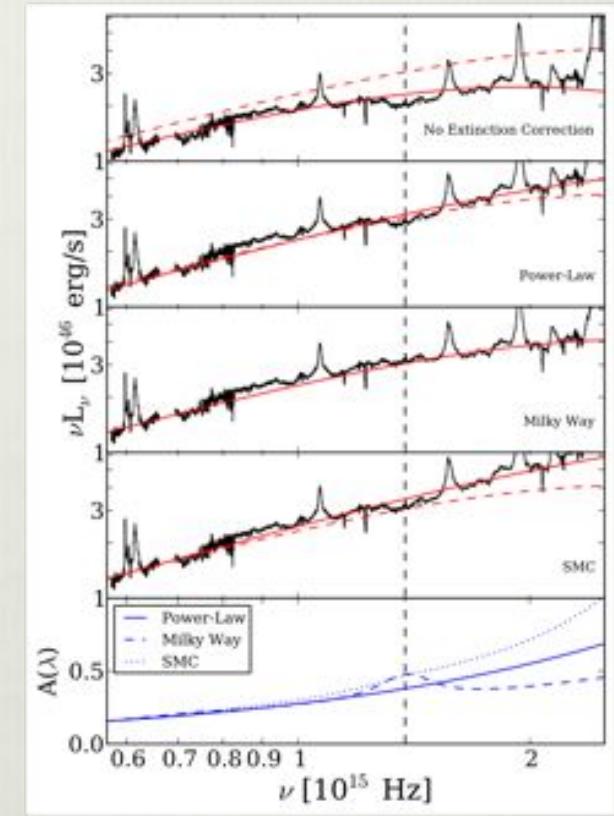
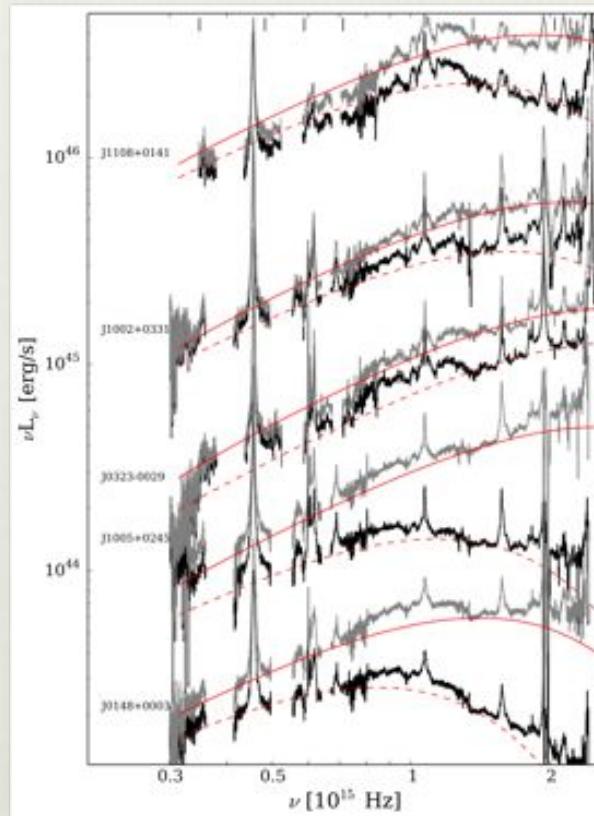
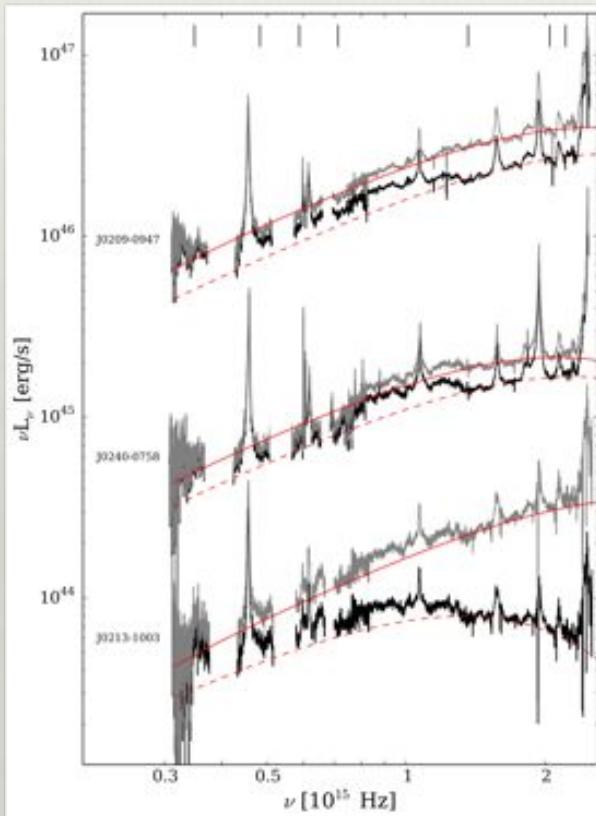
Dan Capellupo  
Hagai Netzer  
Benny Trakhtenbrot  
Julian Mejia-Restrepo



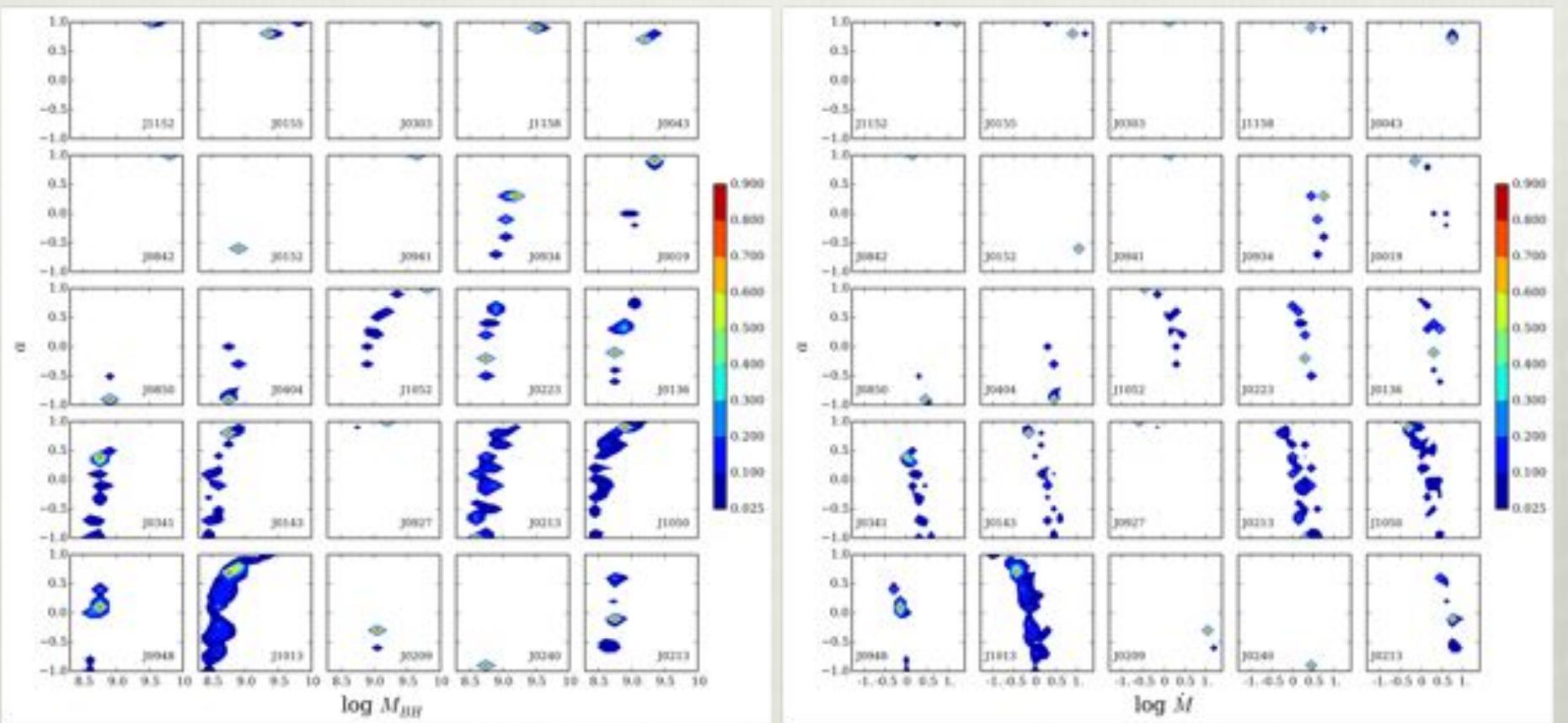
80+ hours of X-shooter to measure  $z \sim 1.55$  SMBHs' mass, accretion rate and spin



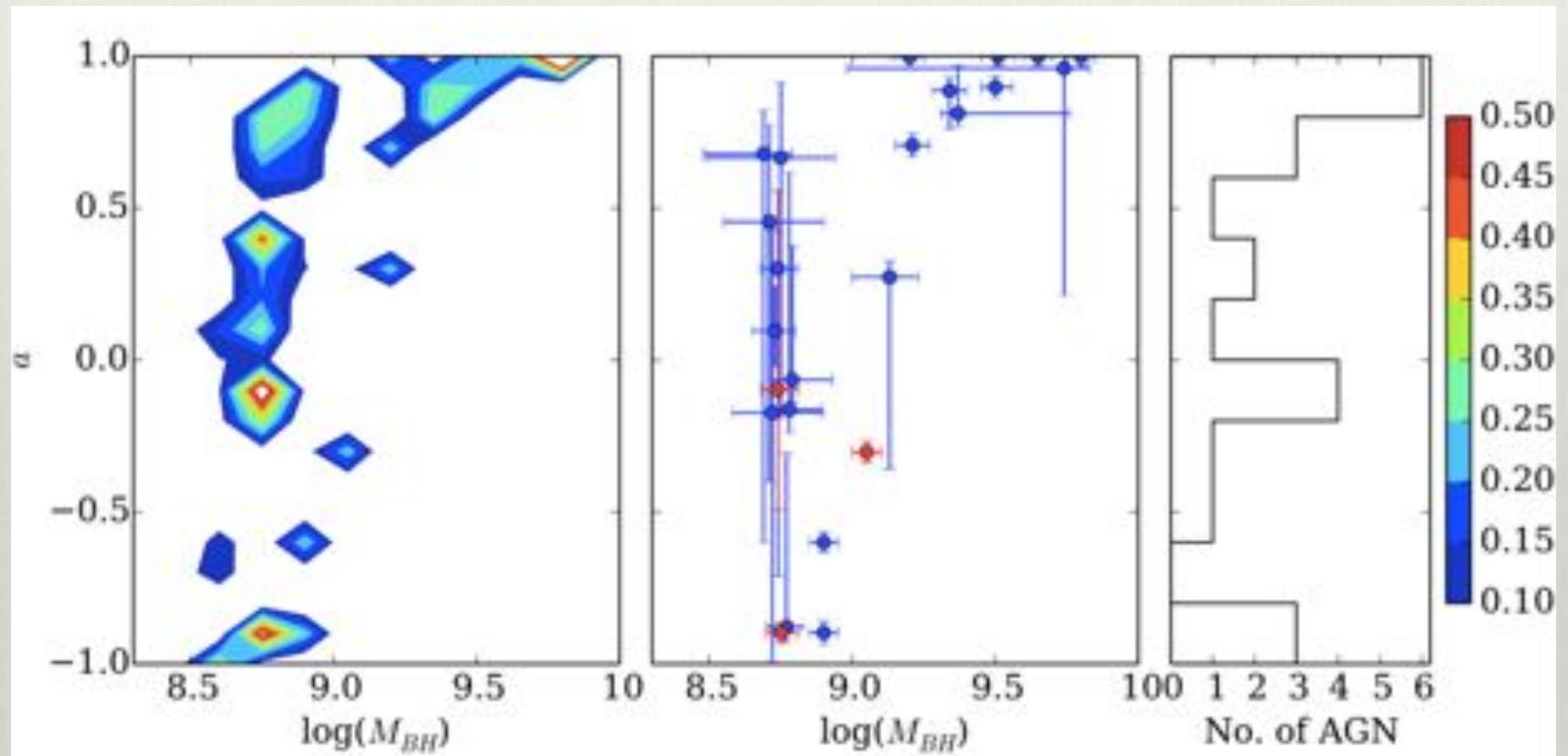
Capellupo et al., 2014, submitted



**Capellupo et al., 2014, submitted**



Capellupo et al., 2014, submitted



Capellupo et al., 2014, submitted