



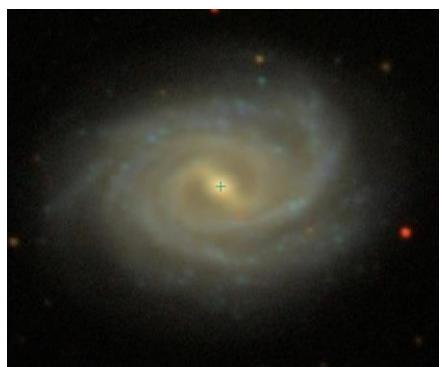
MAPPING THE DARK MATTER OF A LENTICULAR GALAXY NGC 2974

Meng Yang

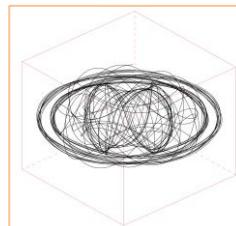
Anne-Marie Weijmans, Ling Zhu, Glenn van de Ven



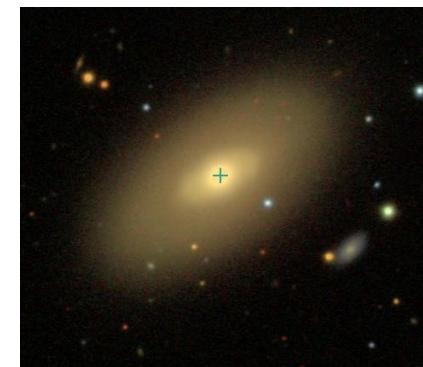
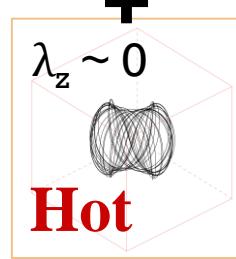
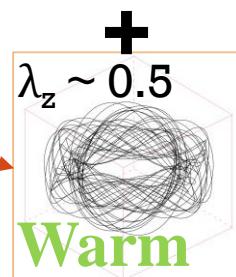
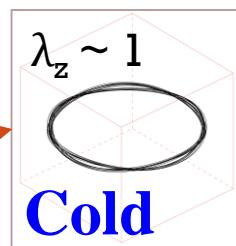
ORBIT -> SCHWARZSCHILD'S TECHNIQUE



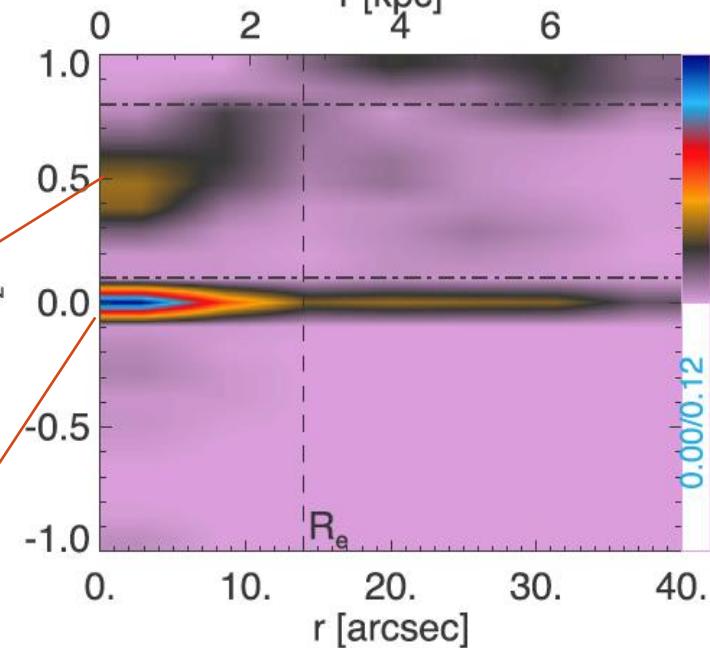
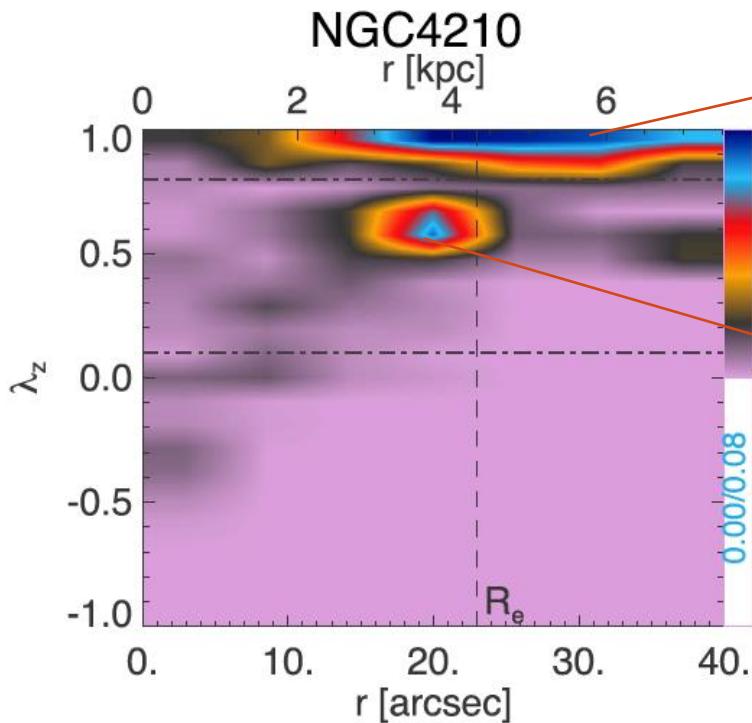
Galaxy



||



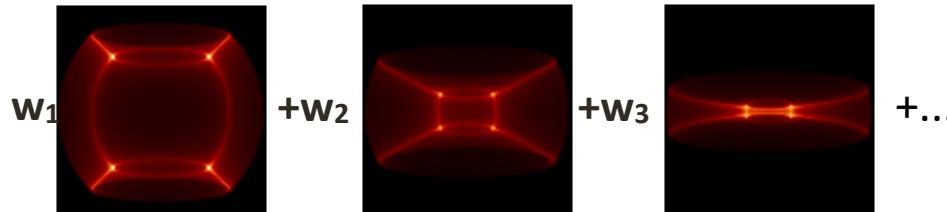
NGC6278
 r [kpc]



For each model

gravitational potential
(stars+BH+DM+...)

Calculate orbit library



Orbit library distribution function = orbital weights ≥ 0

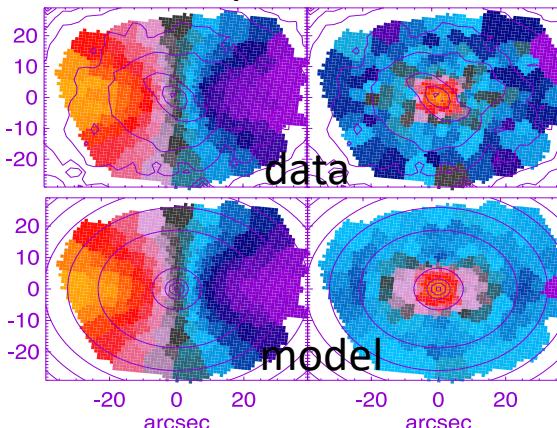
Solve weights and recover

Minimum Chi-square Method

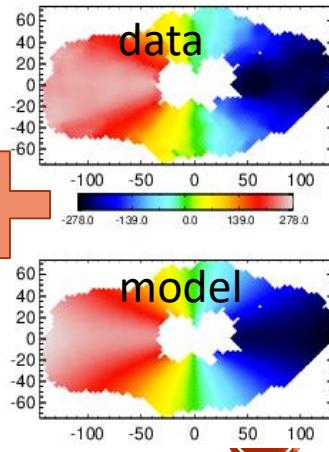


velocity

dispersion

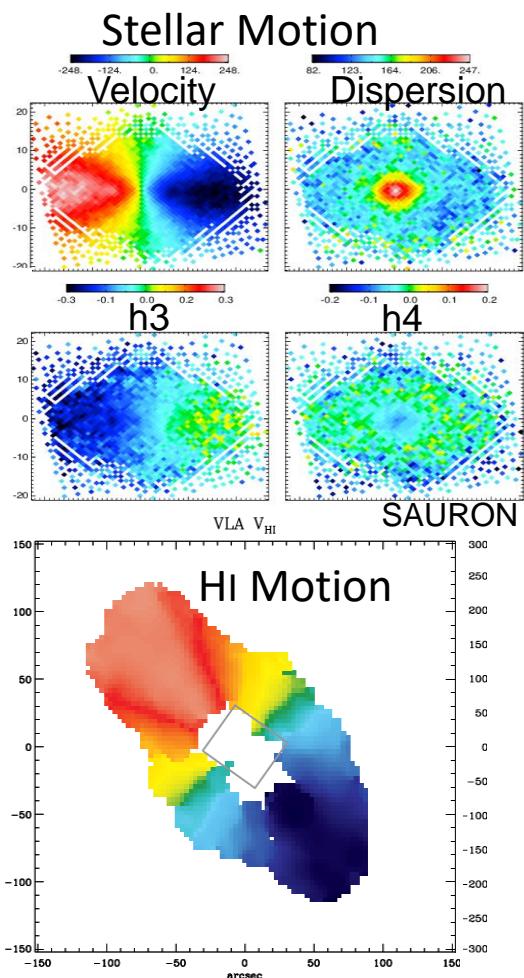
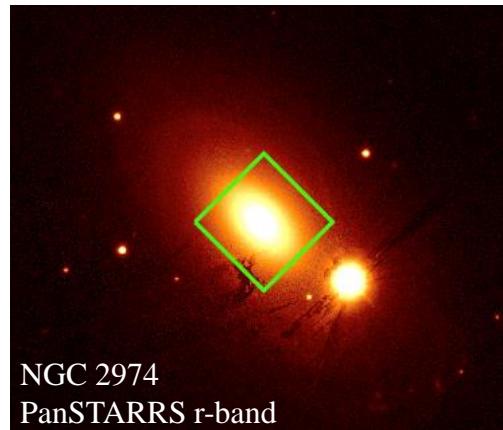


HI velocity

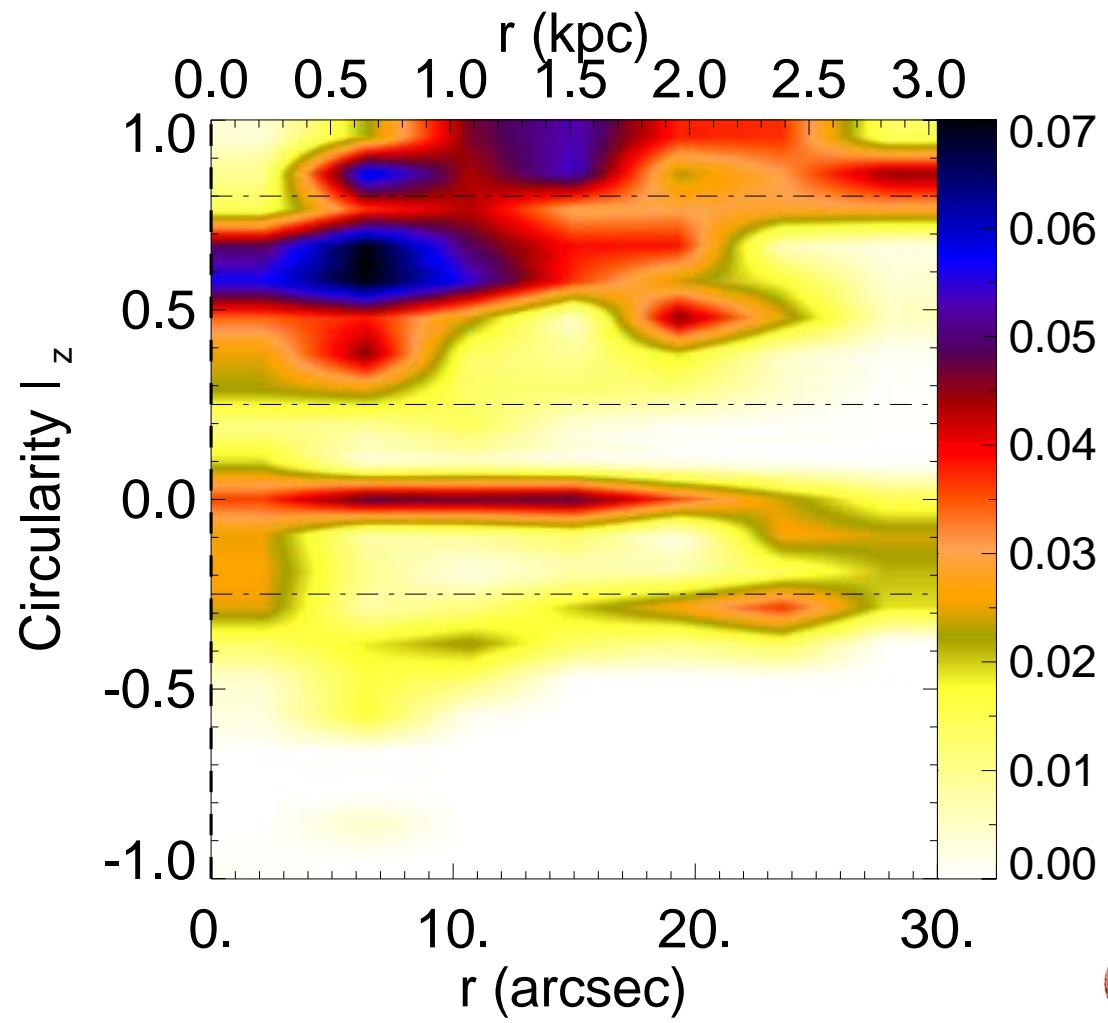


Best-fitting
Model

METHOD S

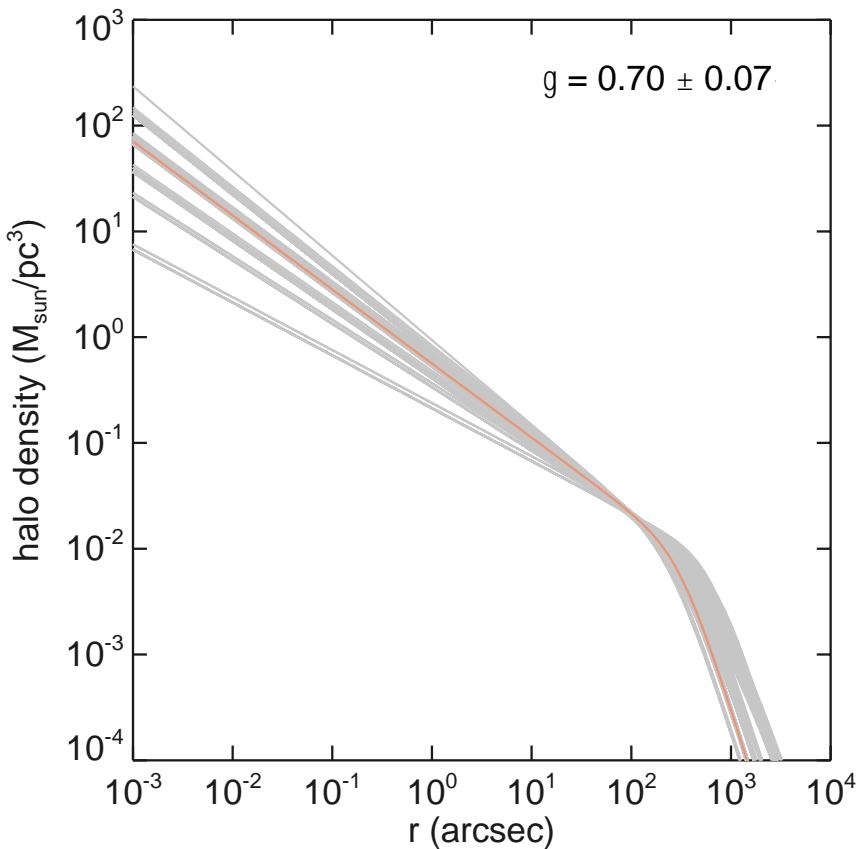


ORBIT DISTRIBUTION

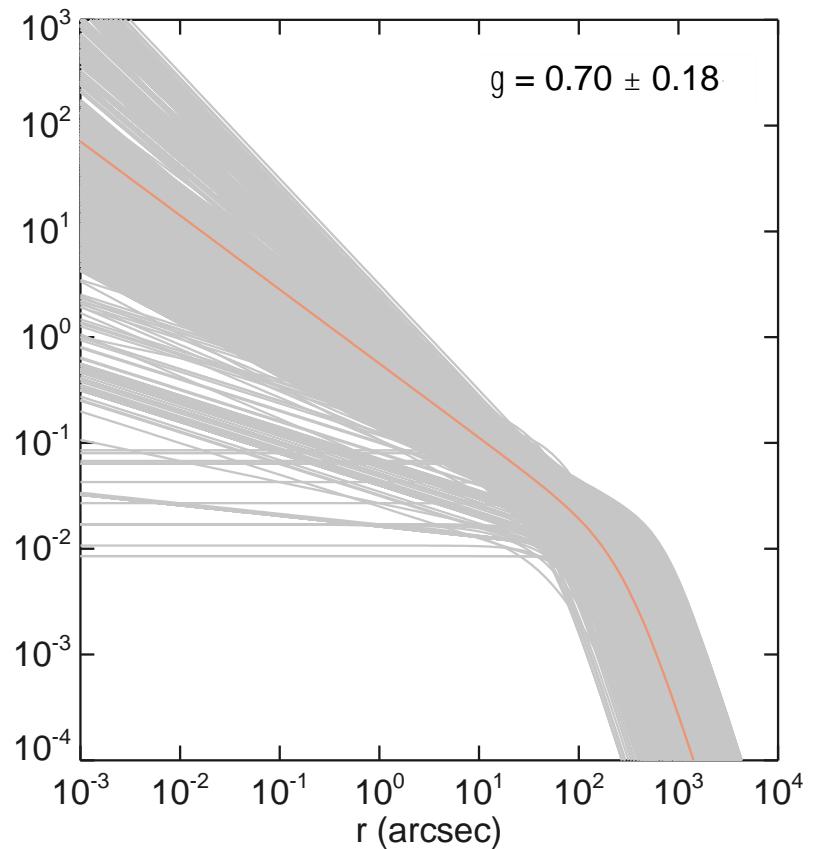


DARK MATTER PROFILE

Our Method



Previous Method



Only 1/10 possible dark matter profiles than before!

Next Step: Apply our method to more galaxies!

