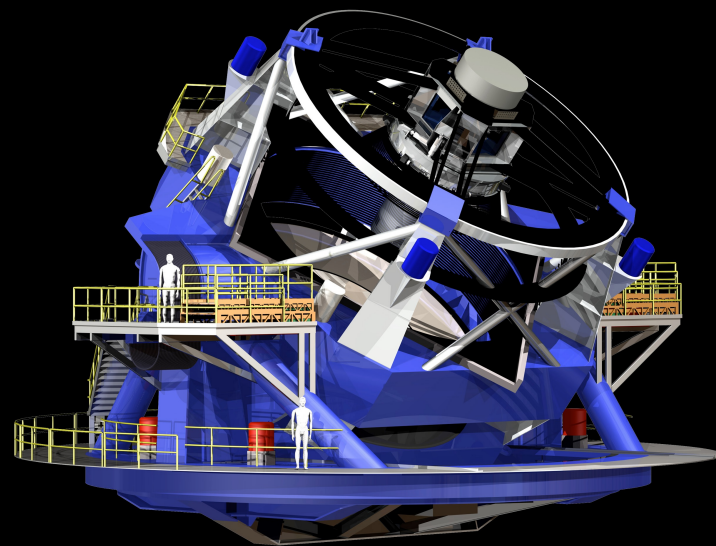
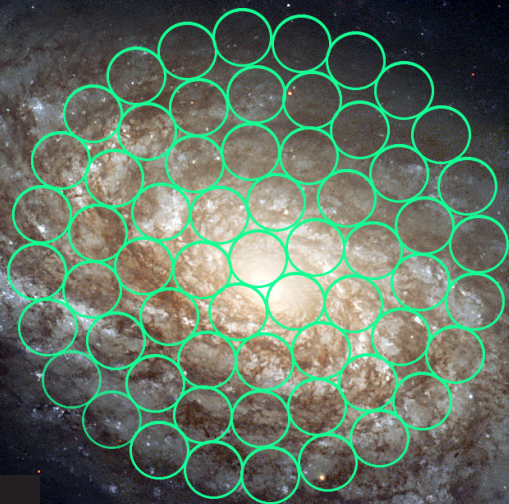
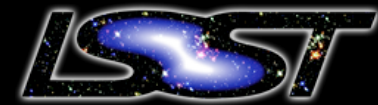


Disk galaxy scaling relations in the LSST/SKA era



CAASTRO
ARC CENTRE OF EXCELLENCE
FOR ALL-SKY ASTROPHYSICS

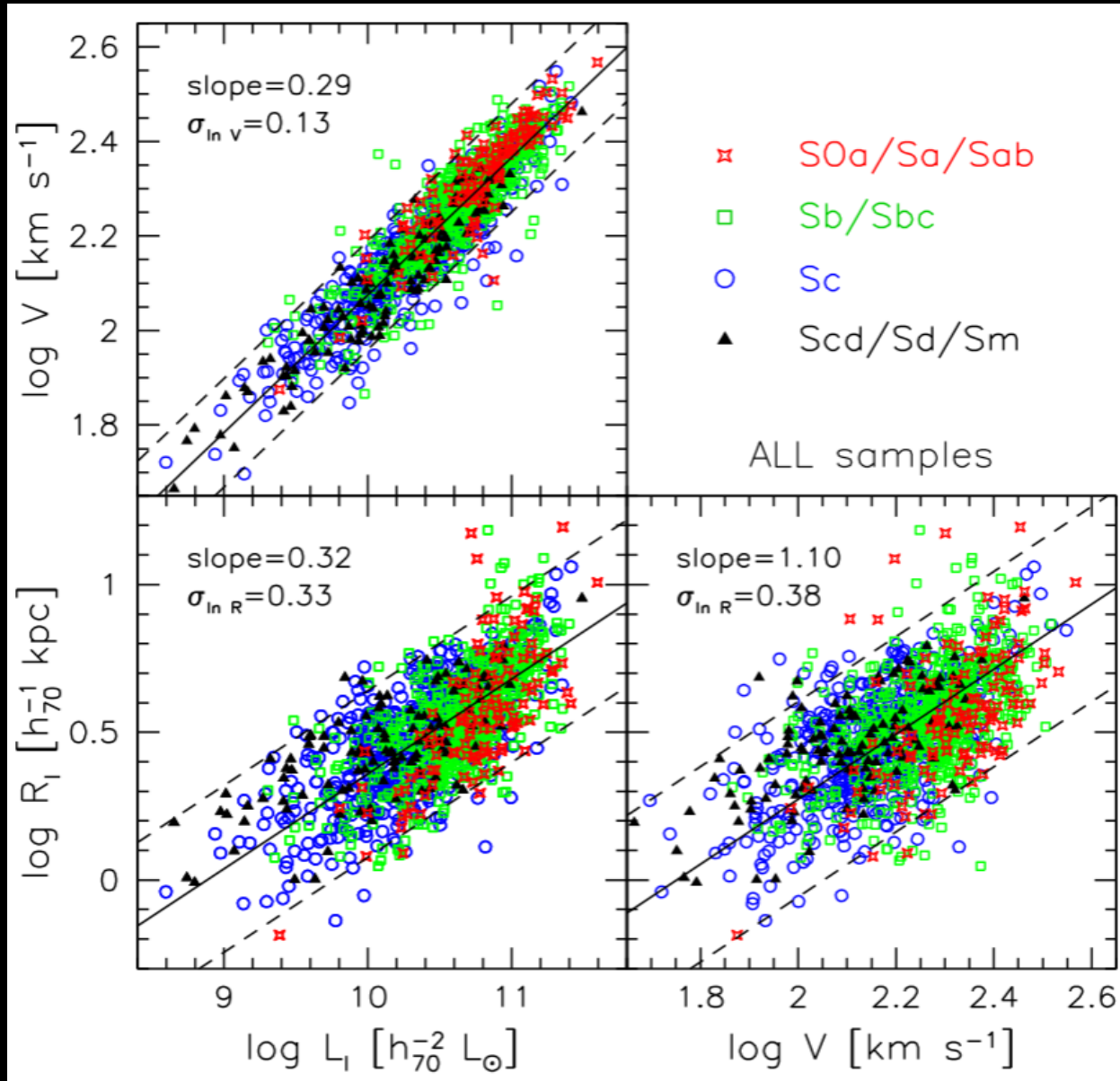
Dan Taranu
+ SAMI team et al.



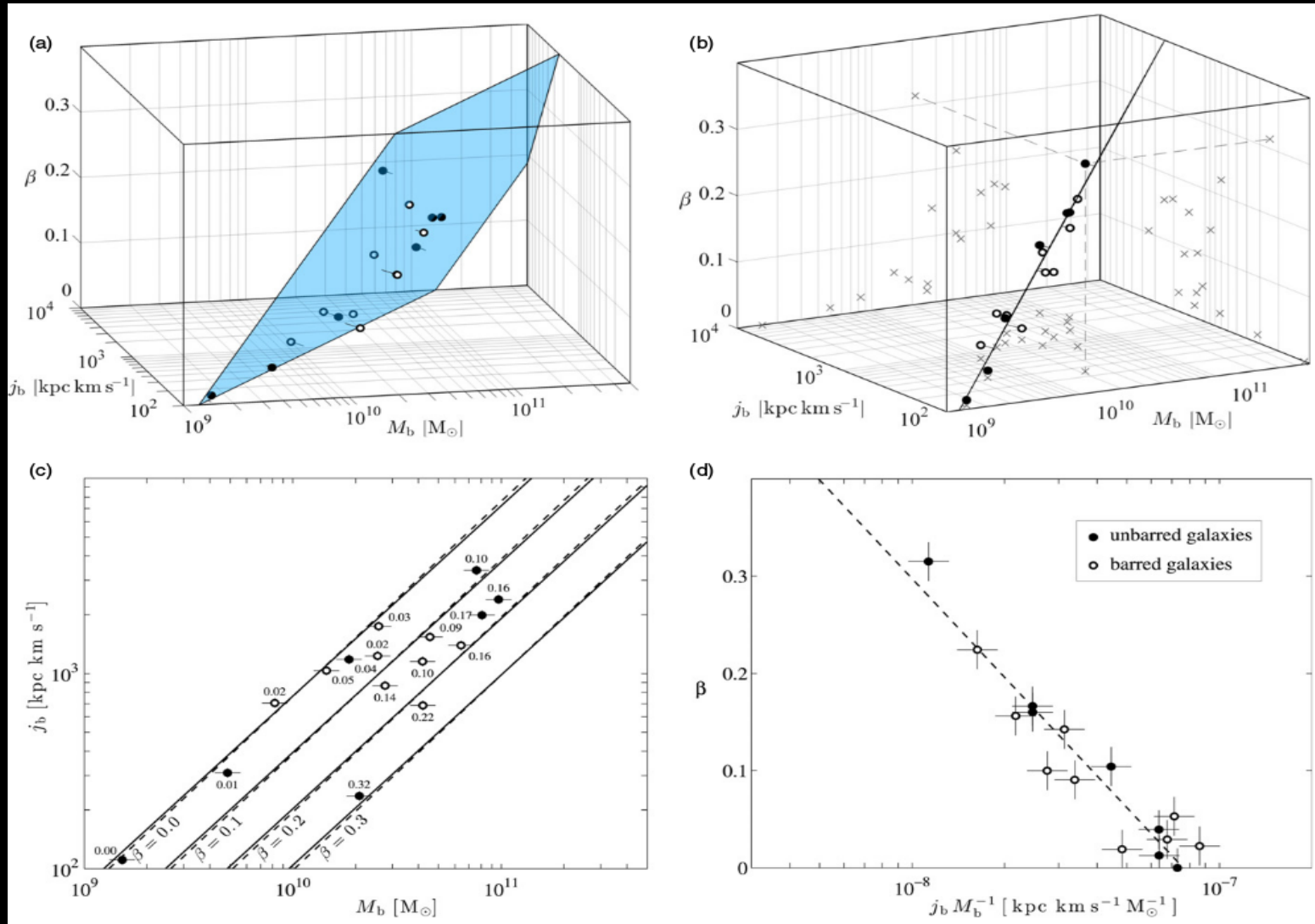
THE UNIVERSITY OF
WESTERN AUSTRALIA

Spiral Galaxy Scaling Relations

Courteau+07



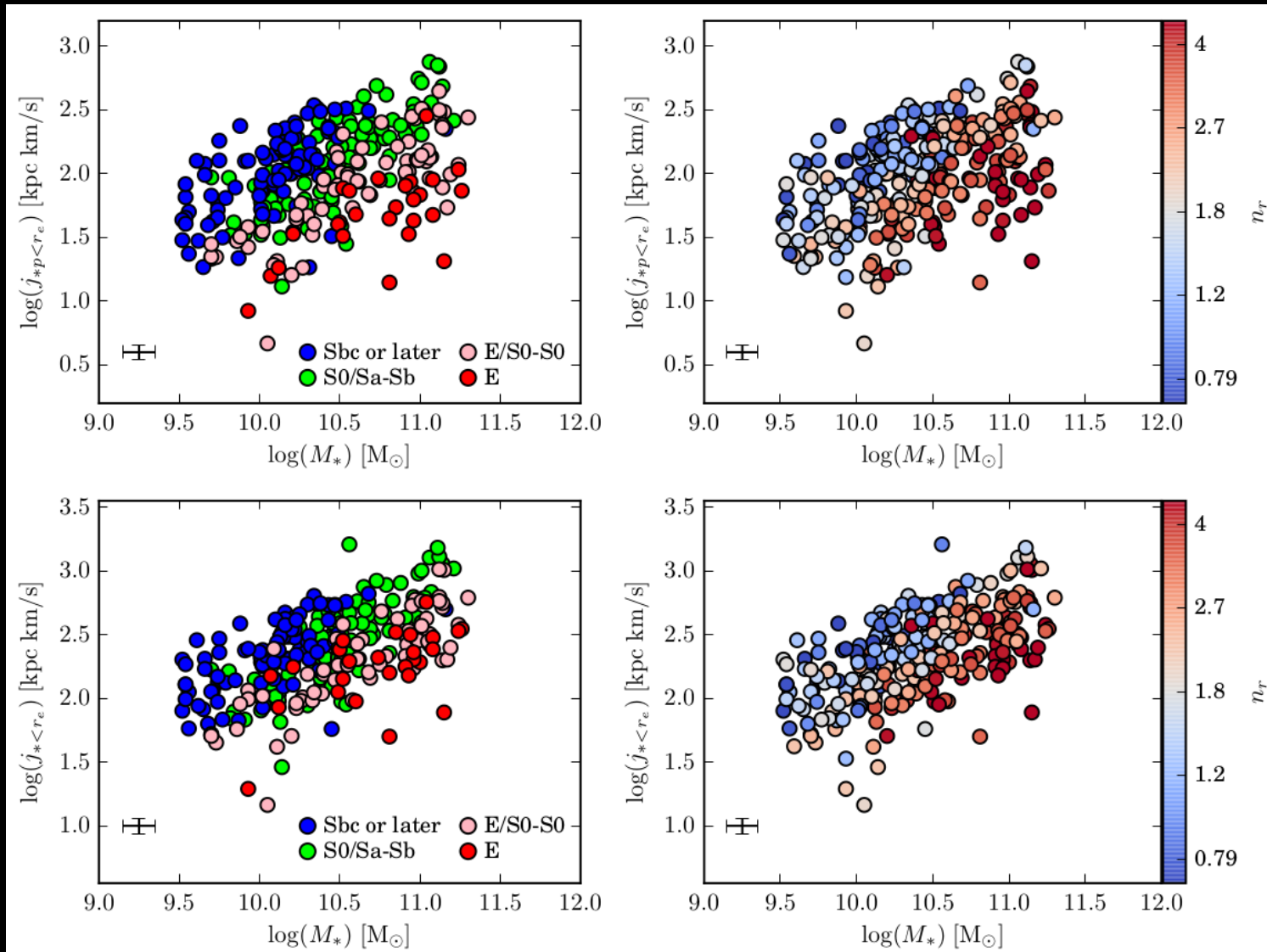
Spiral Galaxy Angular Momentum



Obreschkow & Glazebrook 14

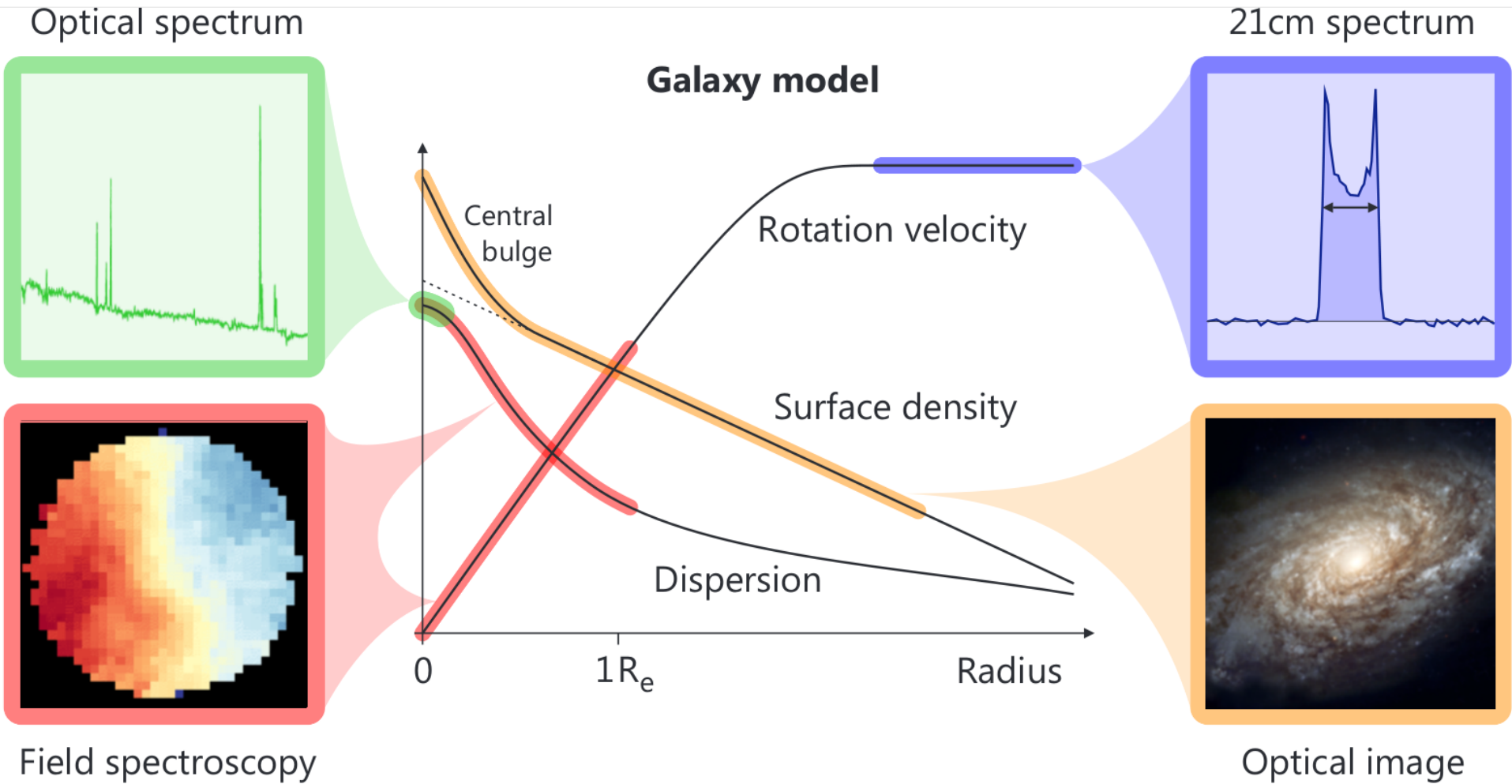
See also Fall/Romanowsky

Galaxy Angular Momentum*



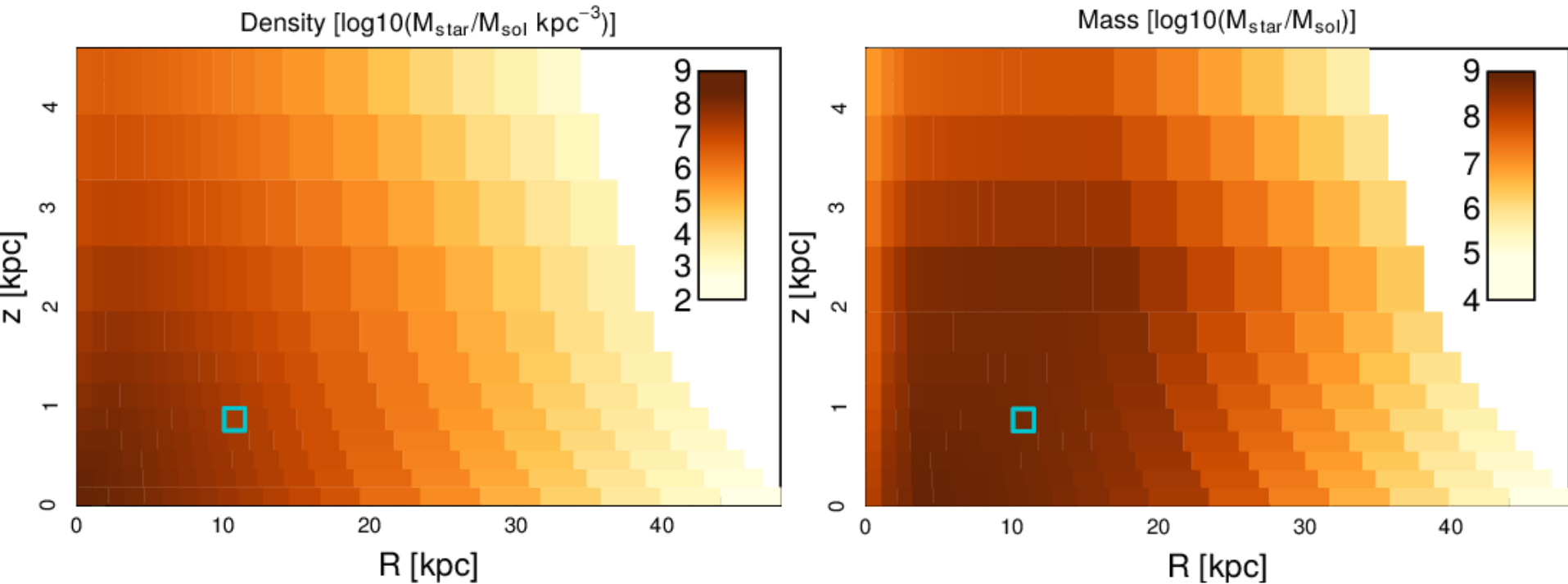
Cortese+16

Dissecting Galaxies

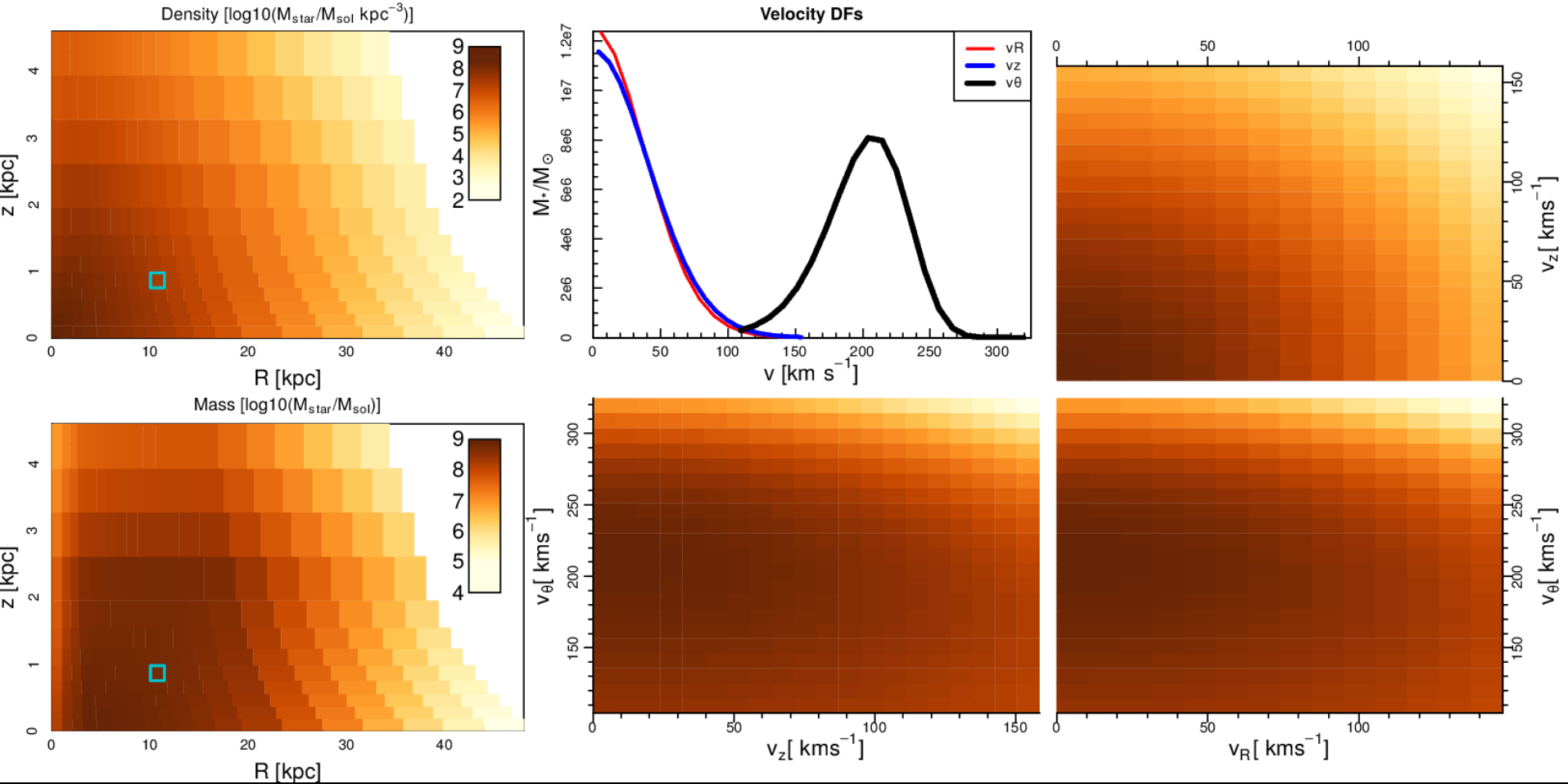


6D Physical Models

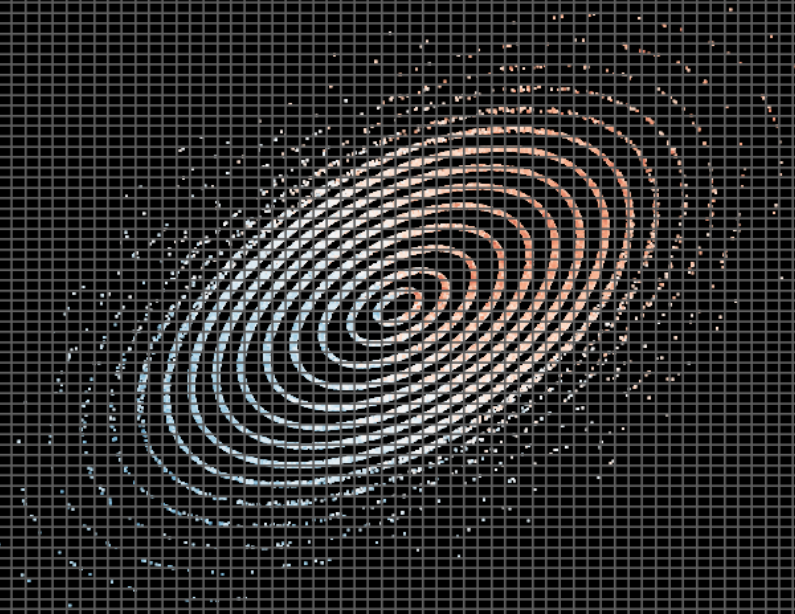
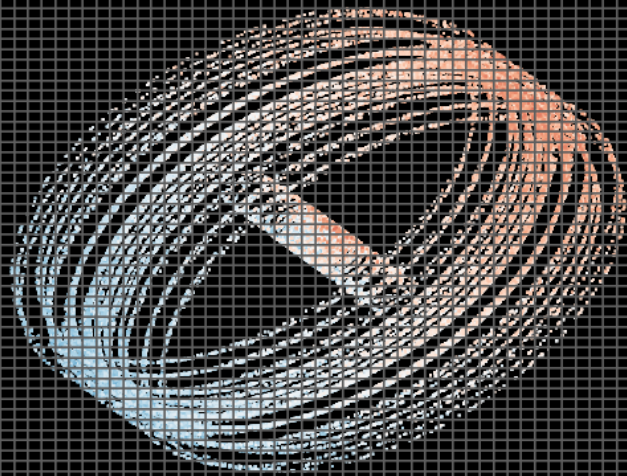
GalactICS v3.0, Dubinski+ in prep.



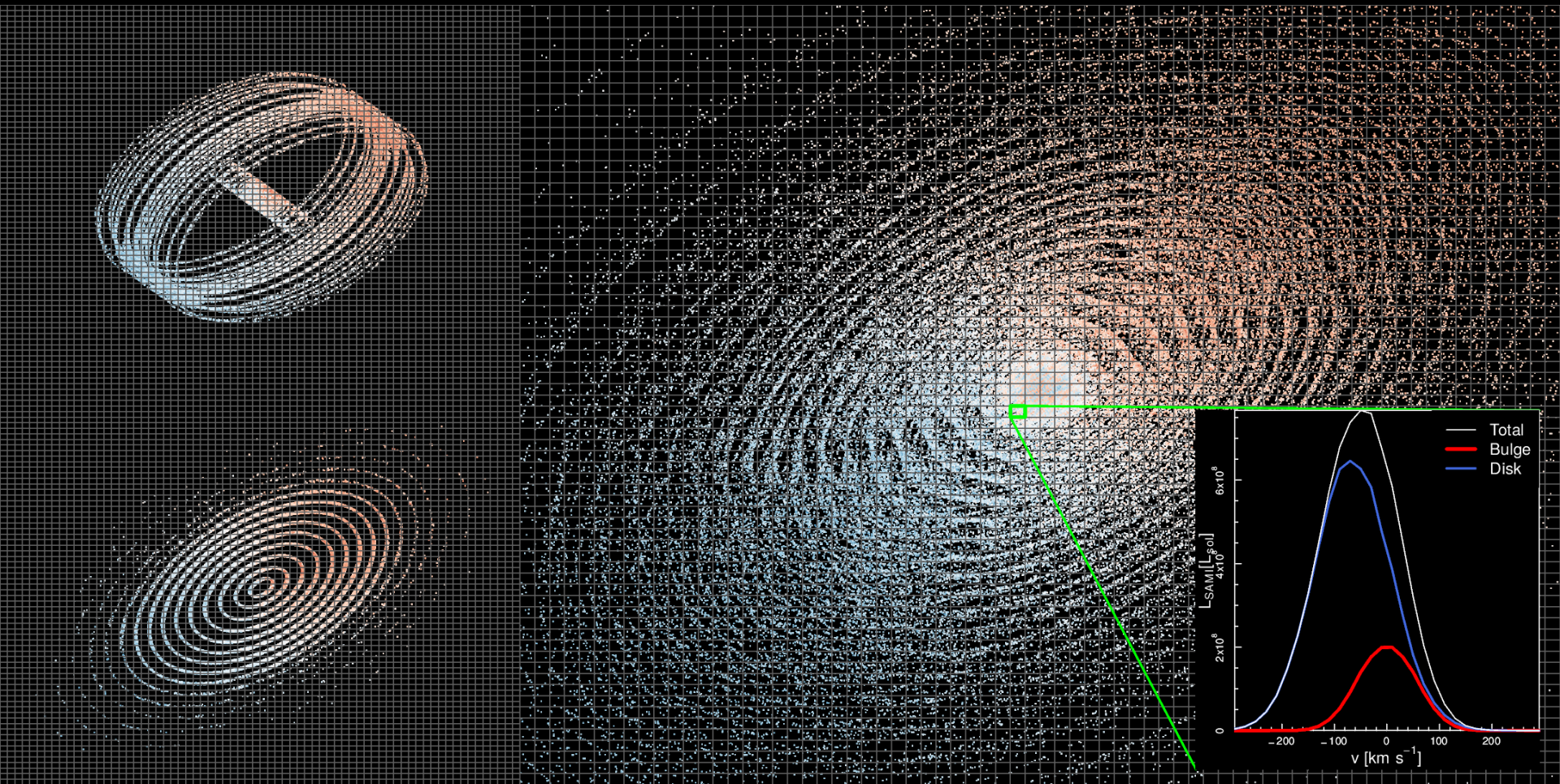
6D Physical Models (GalactICS v3.0)



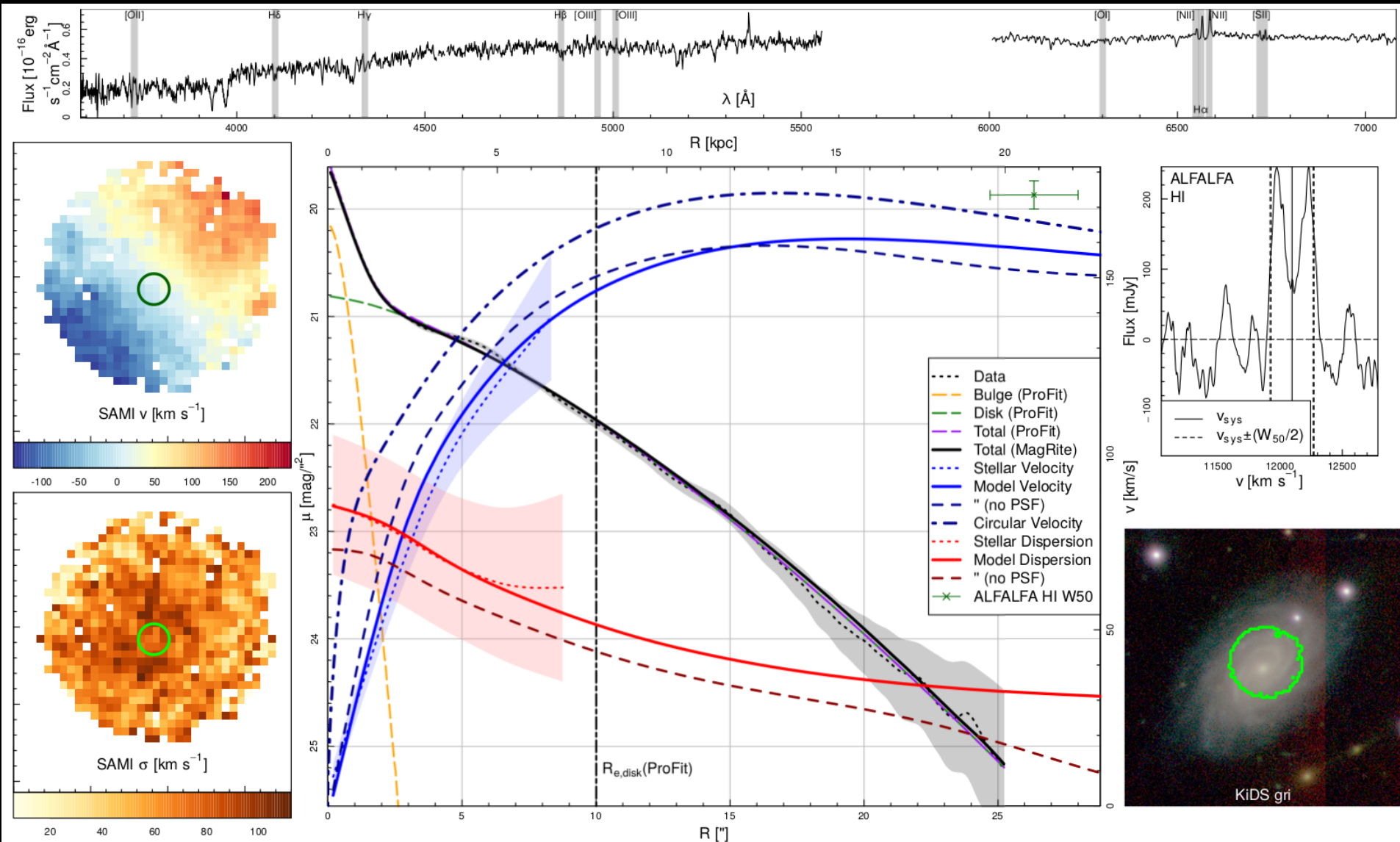
6D Physical Model to 3D Cubes



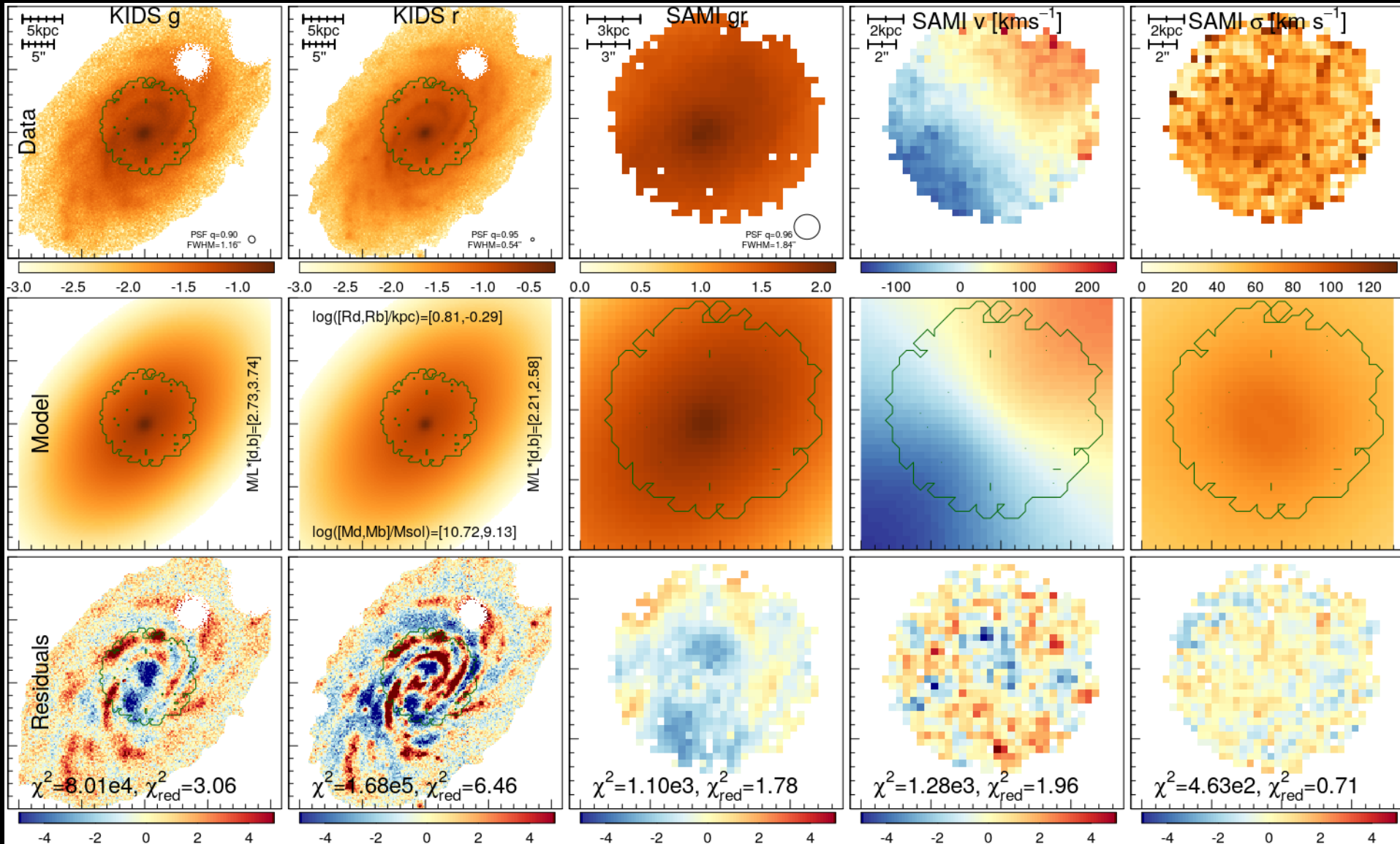
6D Physical Model to 3D Cubes



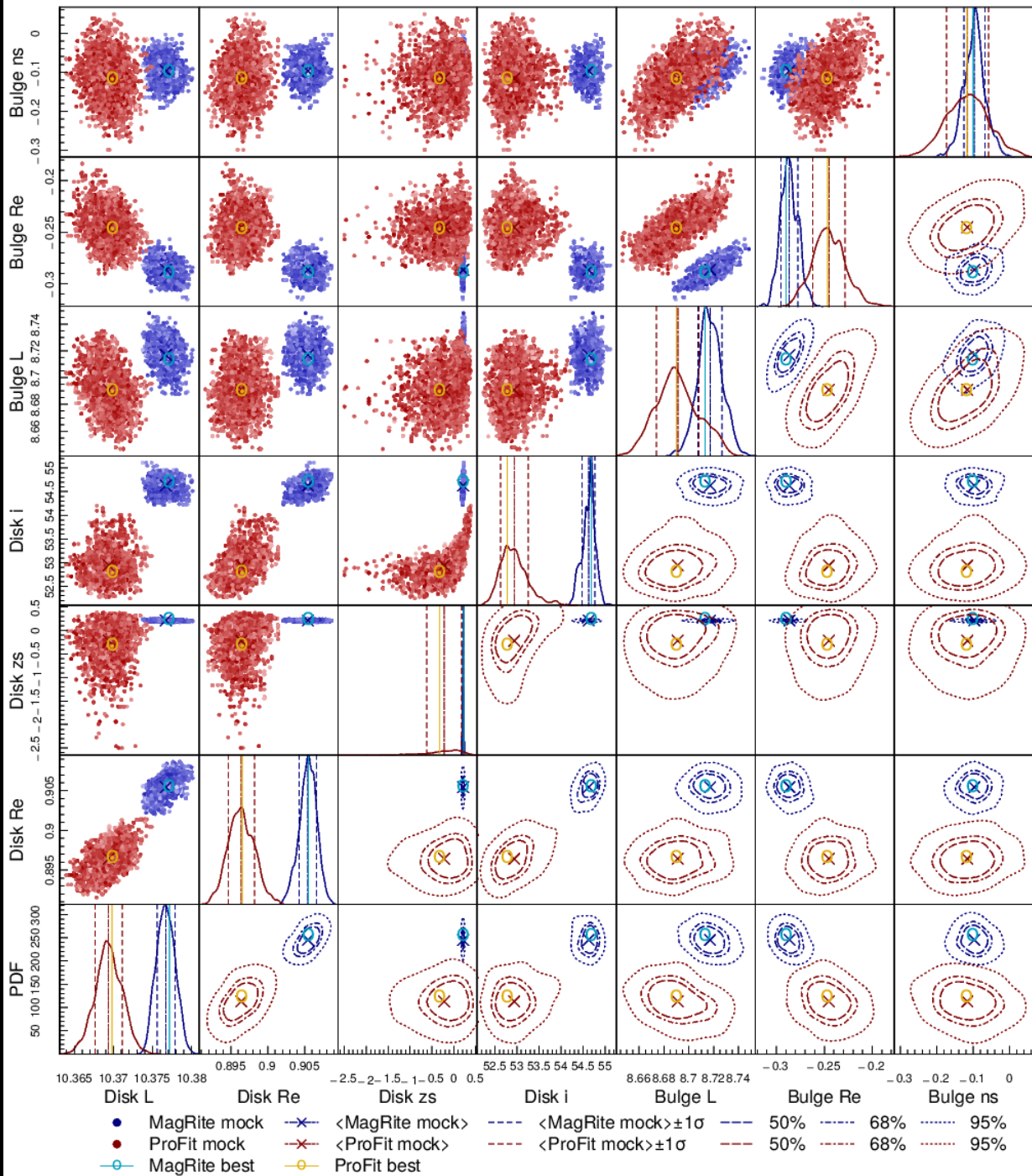
MagRite (Taranu+17)



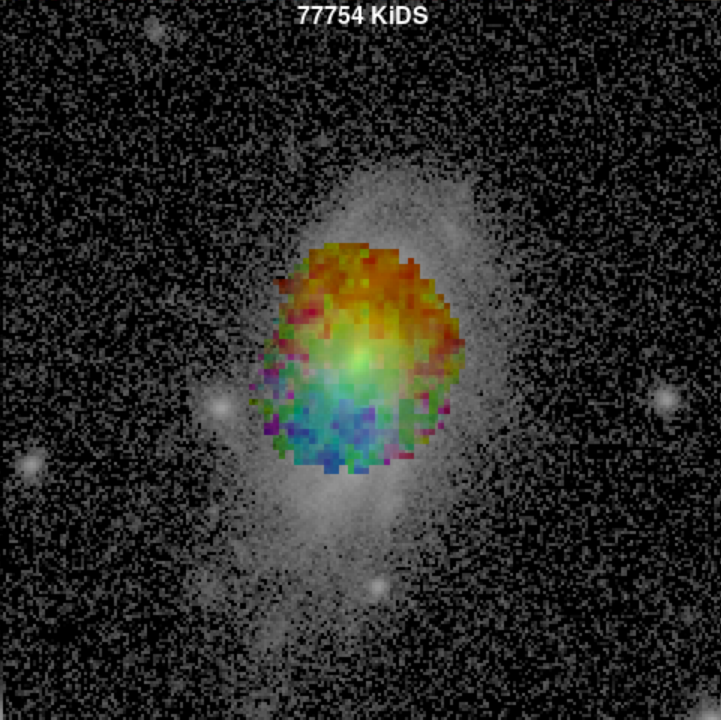
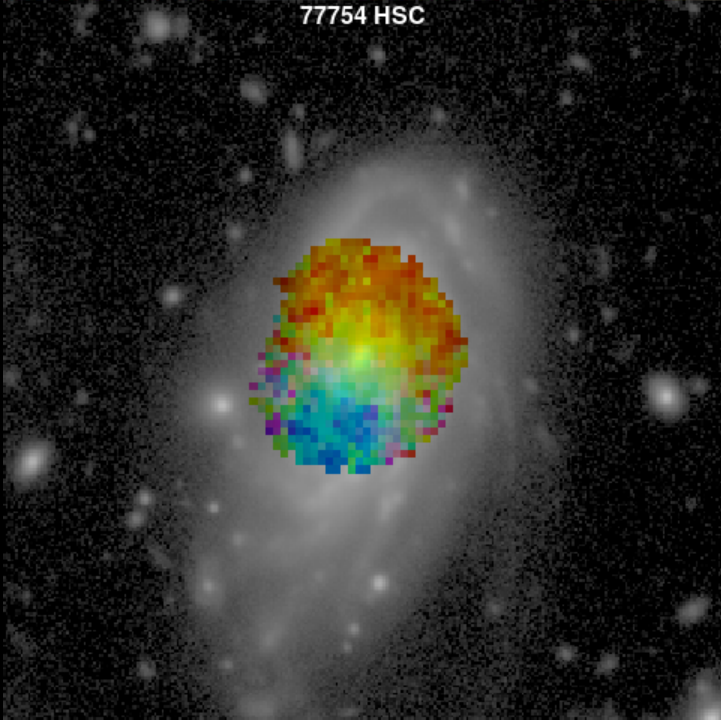
Best fit



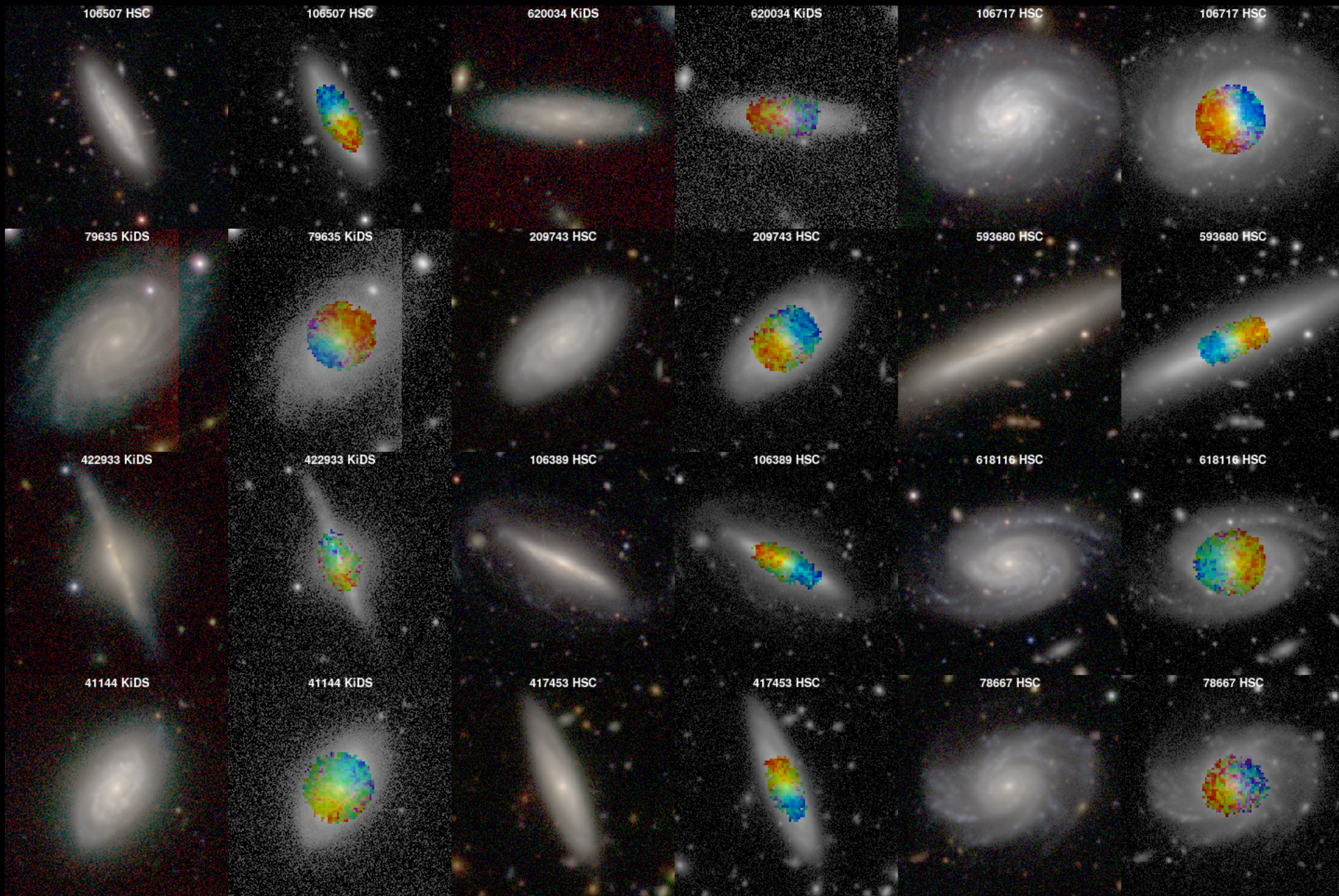
2D (red) + 3D (blue) PDFs



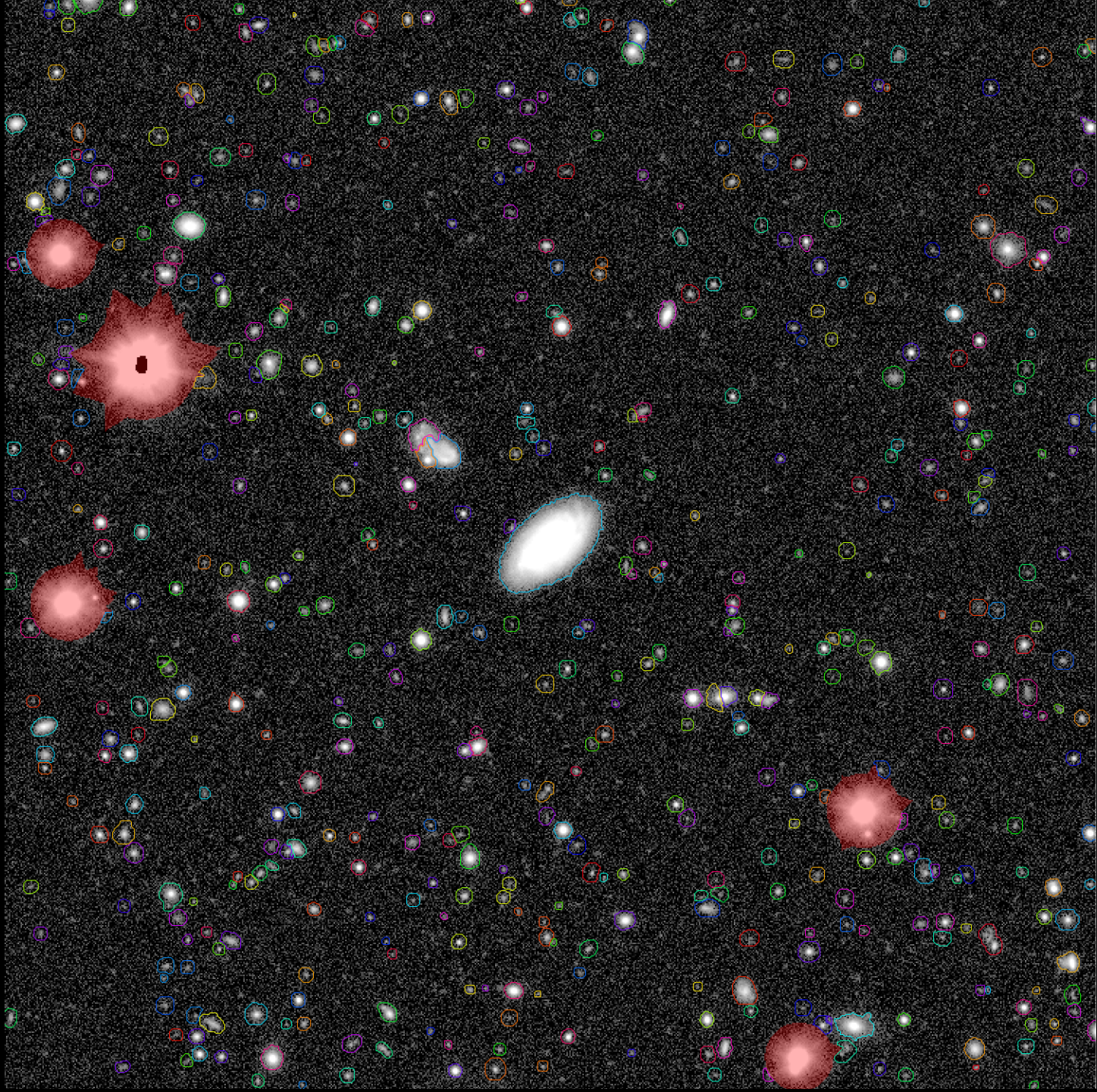
The images are too deep!



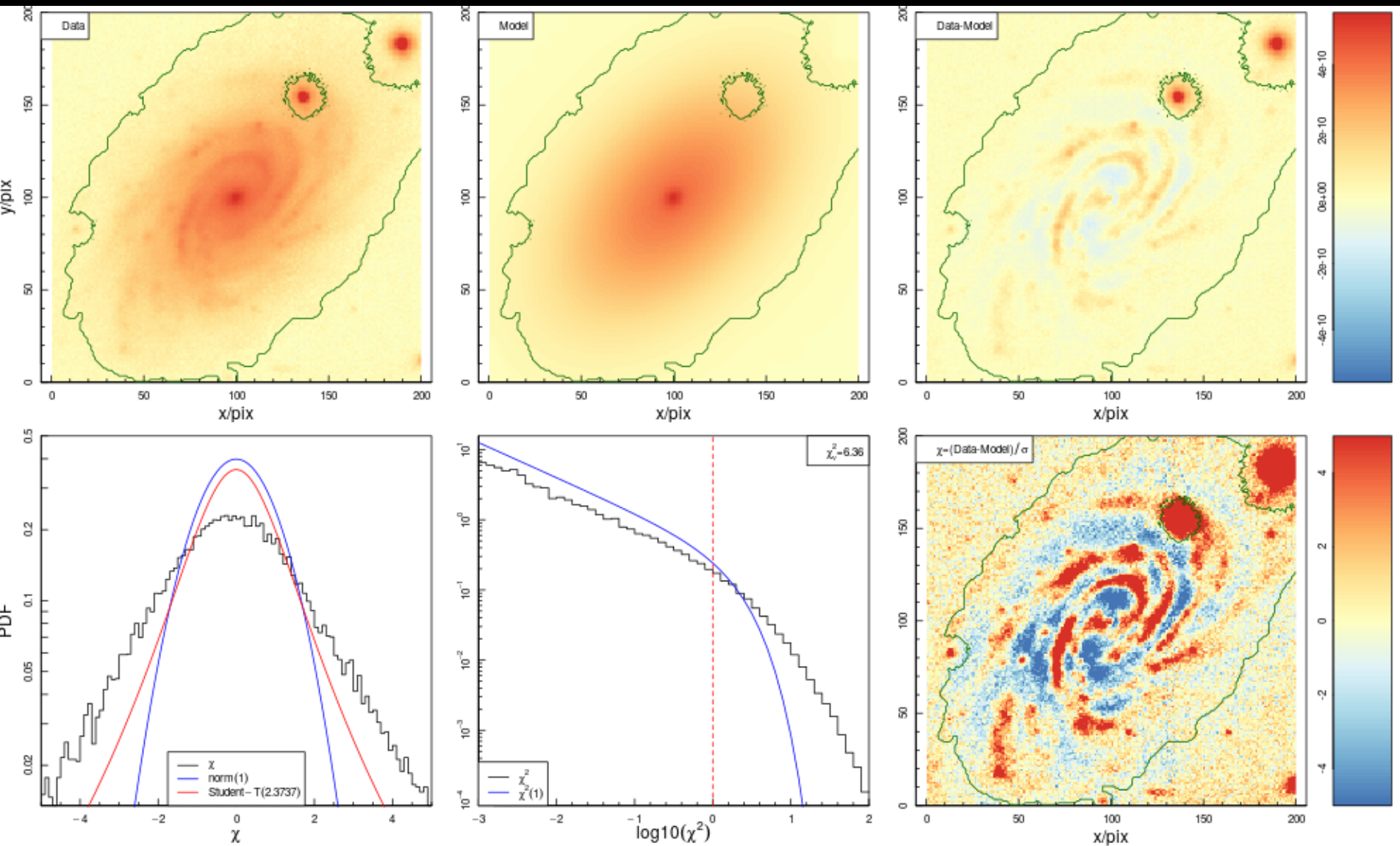
Fit Candidates



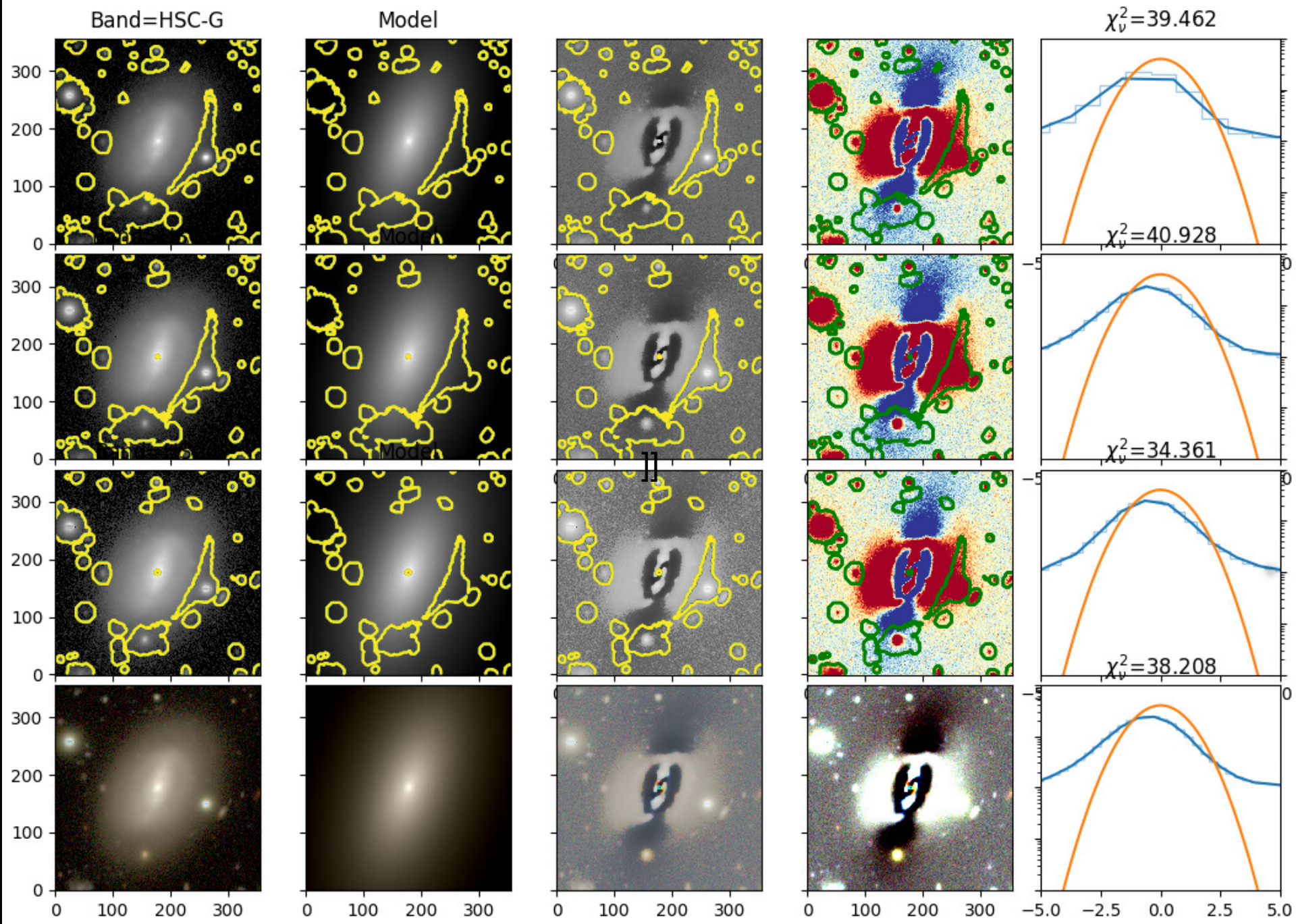
ProFound (Robotham+18)



ProFit (Robotham, DT+17)



github.com/ICRAR/ProFit



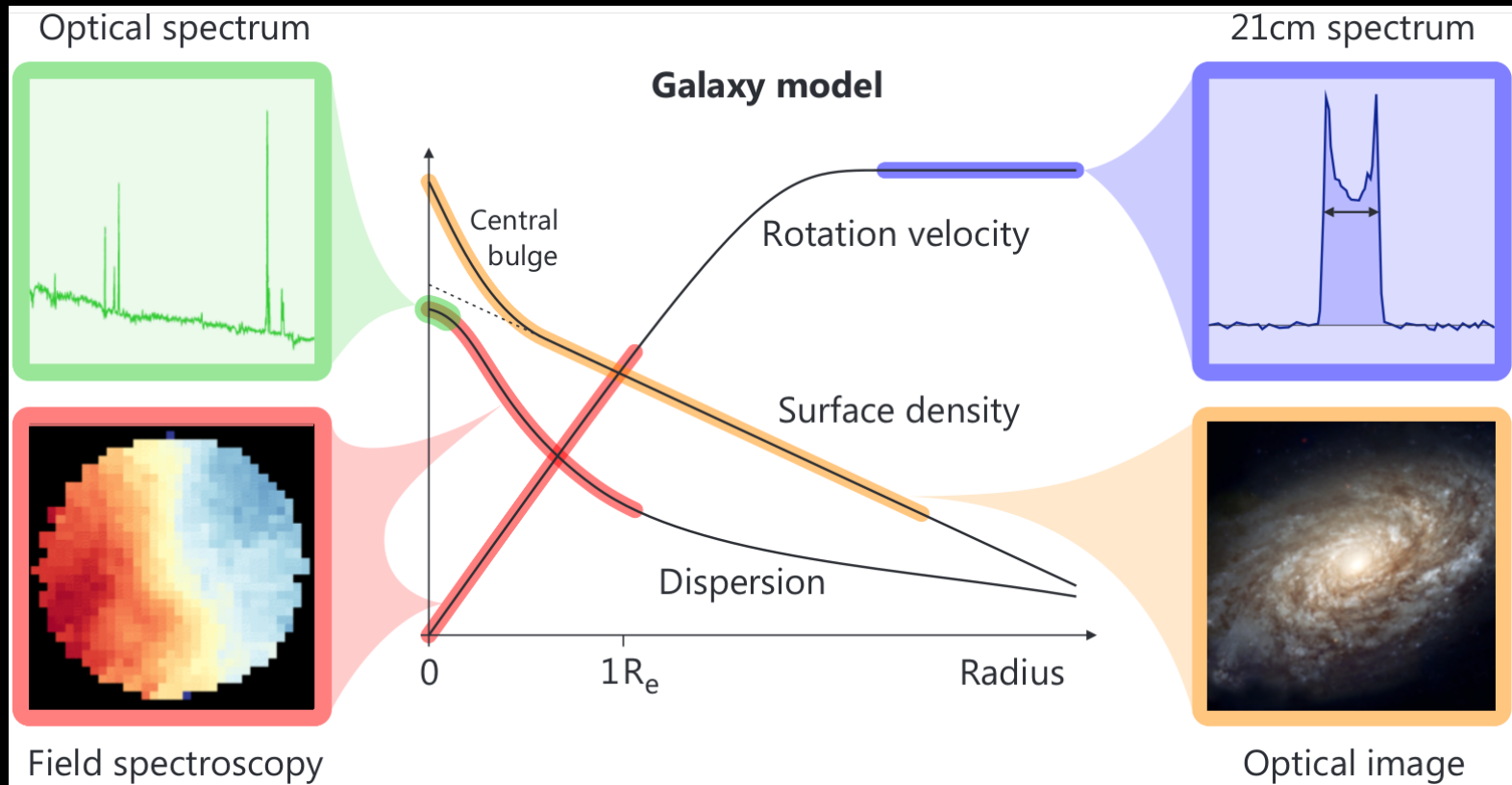
What Will We Learn?

Robust scaling relations for disk galaxies:

- Total angular momentum, dark matter frac., etc.
- Credible structural decompositions (bulge, disk, halo)

PFS, 4MOST

SKA

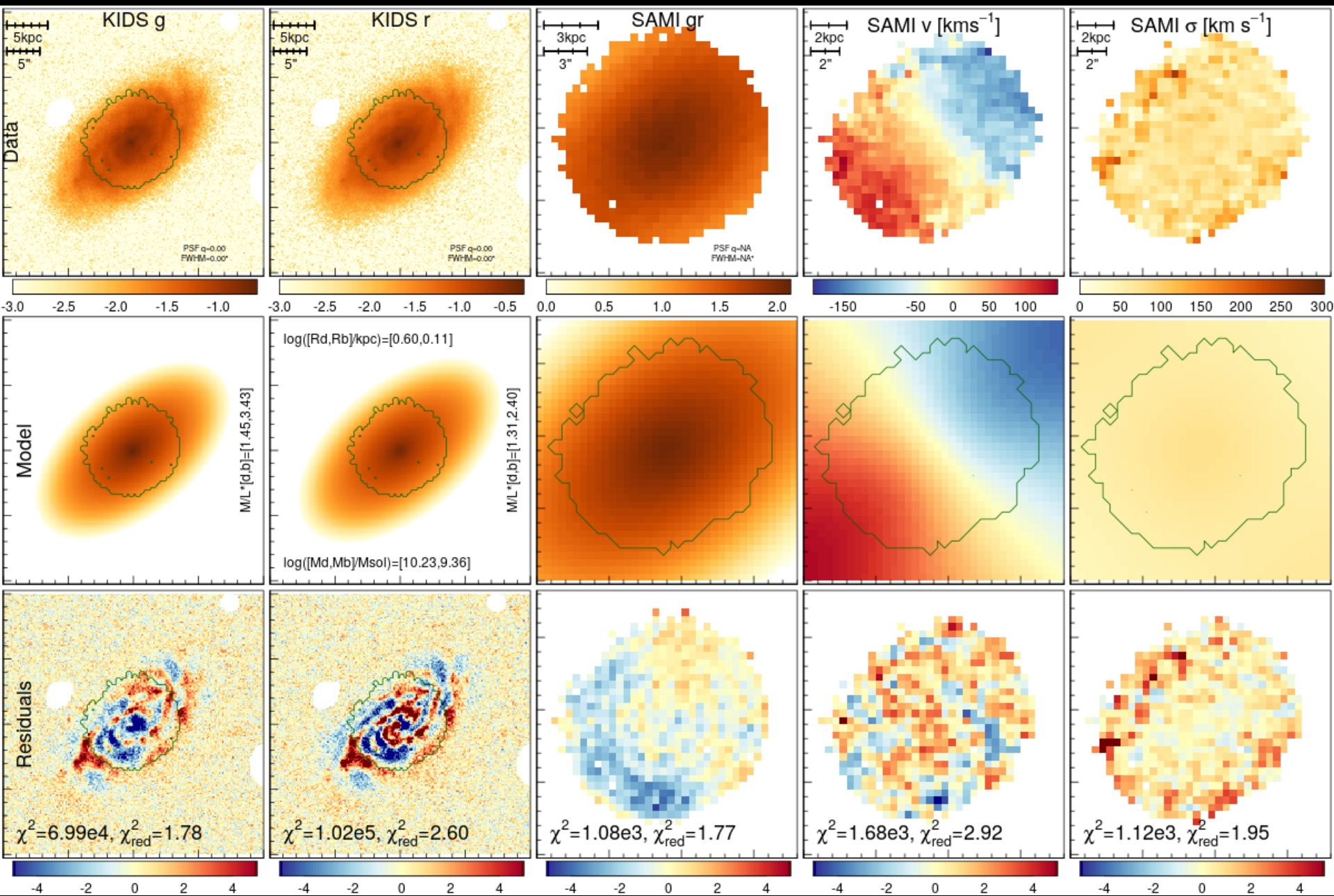


MaNGa, Hector

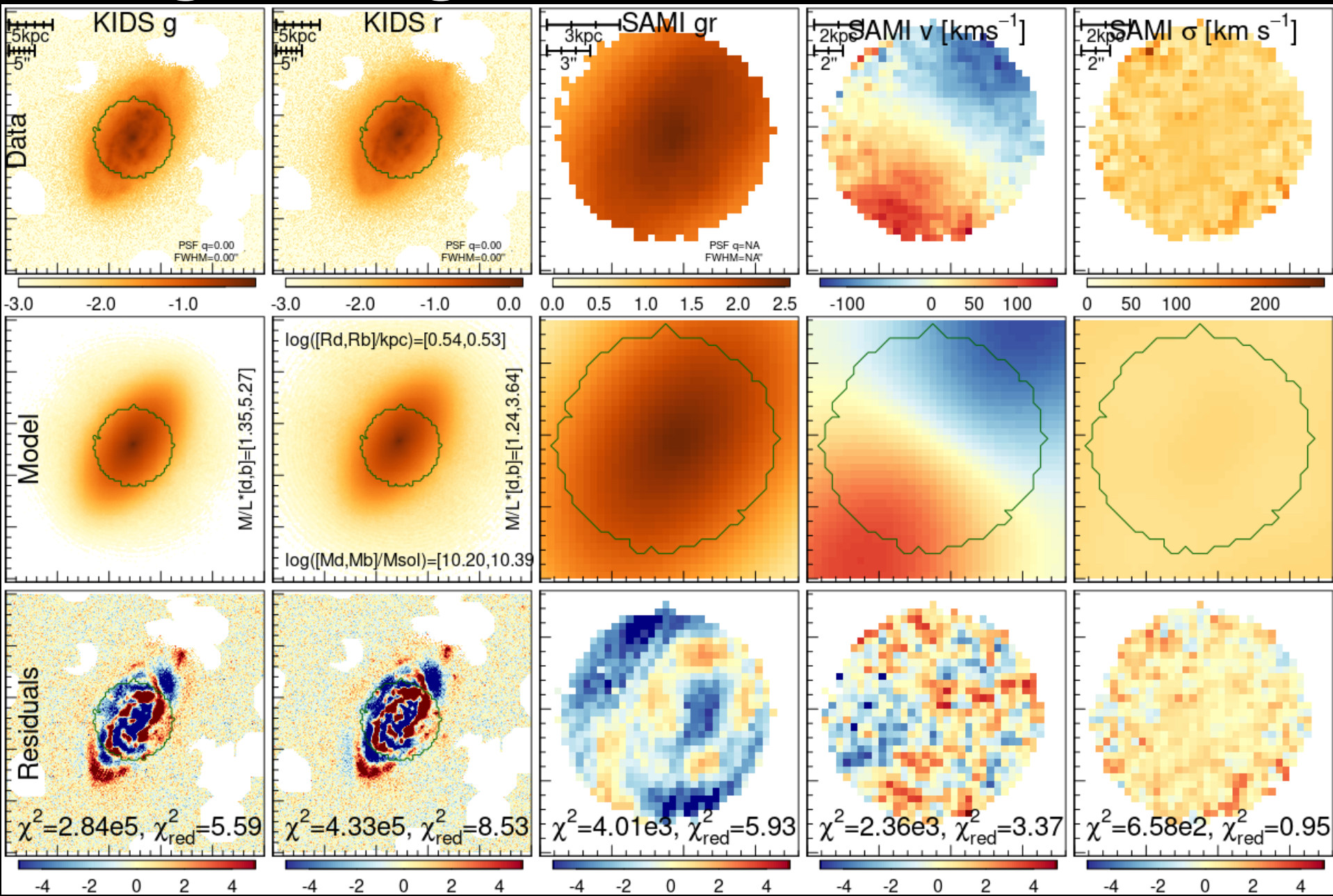
LSST, Euclid/WFIRST

~Fin~

MagRite Again



MagRite Again



Fitting the best fit mock (MC errors)

