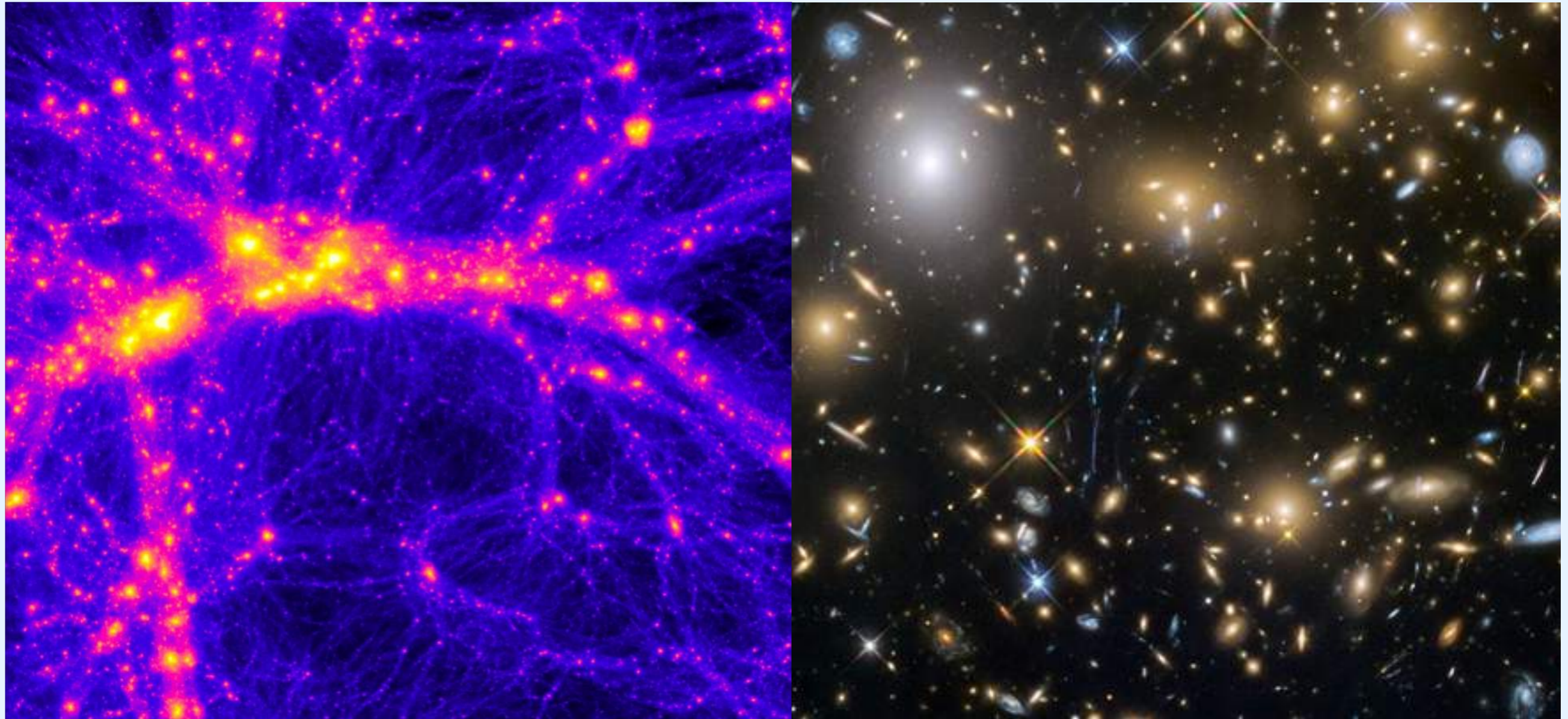
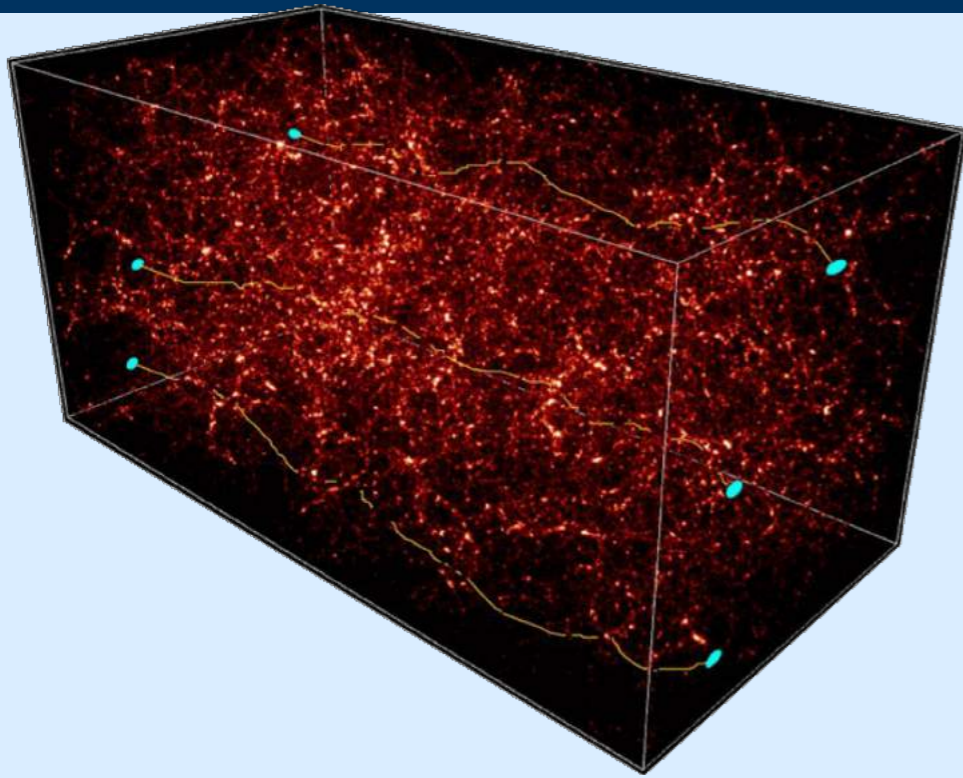


# Shapes and Intrinsic Alignments of Radio Continuum Galaxies in EAGLE



Alex Hill  
with Rob Crain and Ian McCarthy

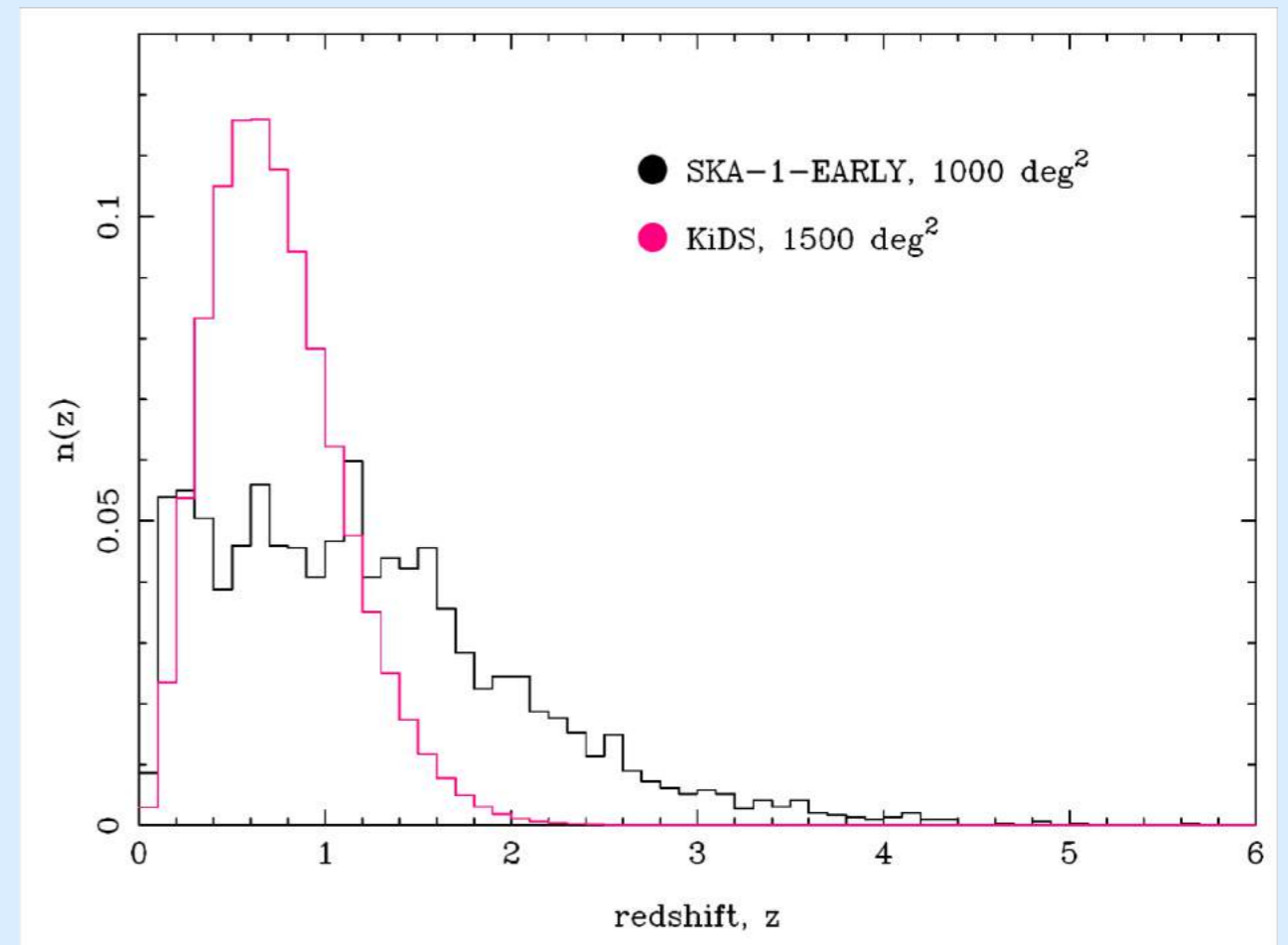
# Weak Gravitational Lensing in the Radio Continuum



*Weak lensing as a probe of large scale structure*



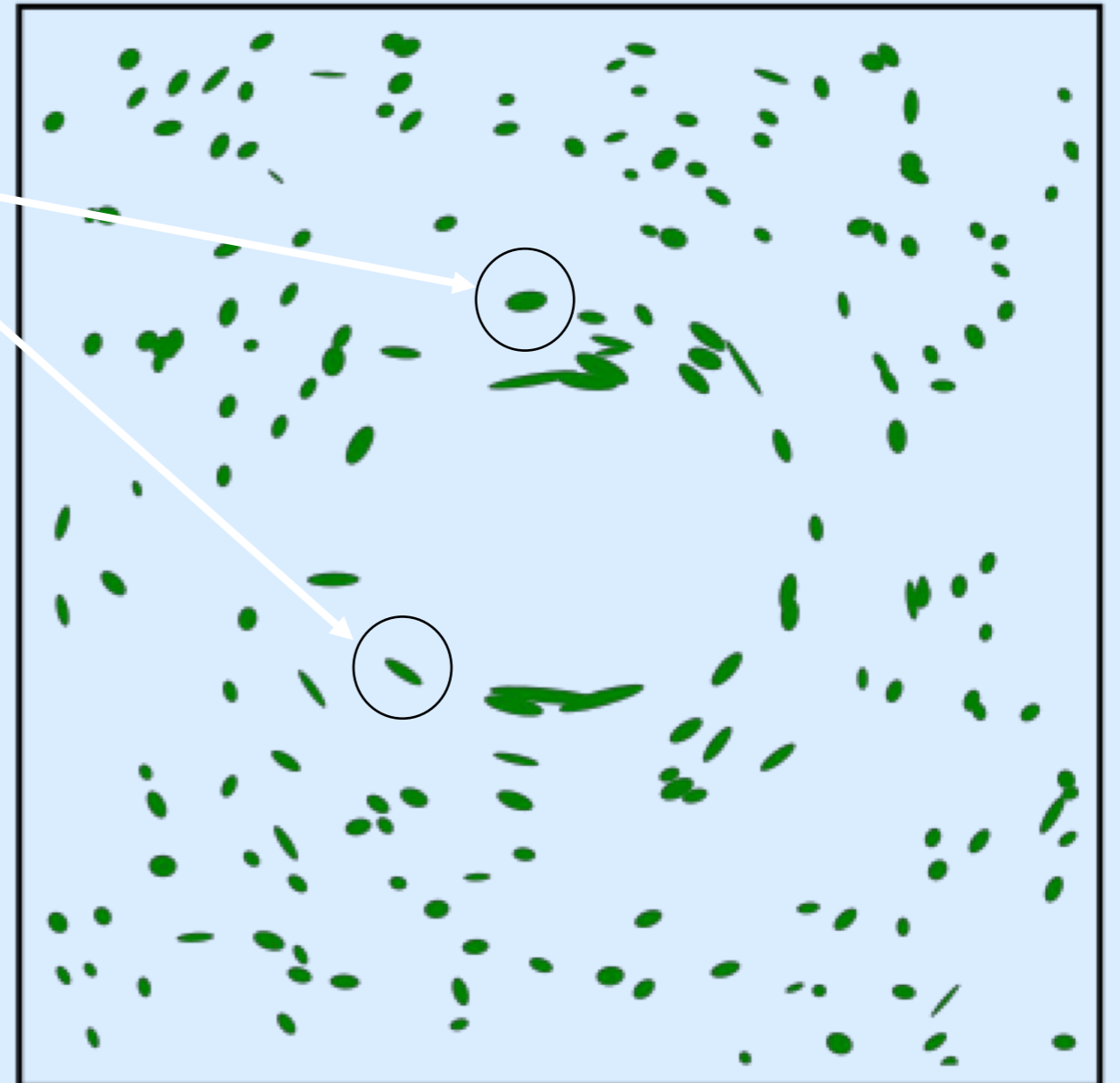
*SKA Telescope*



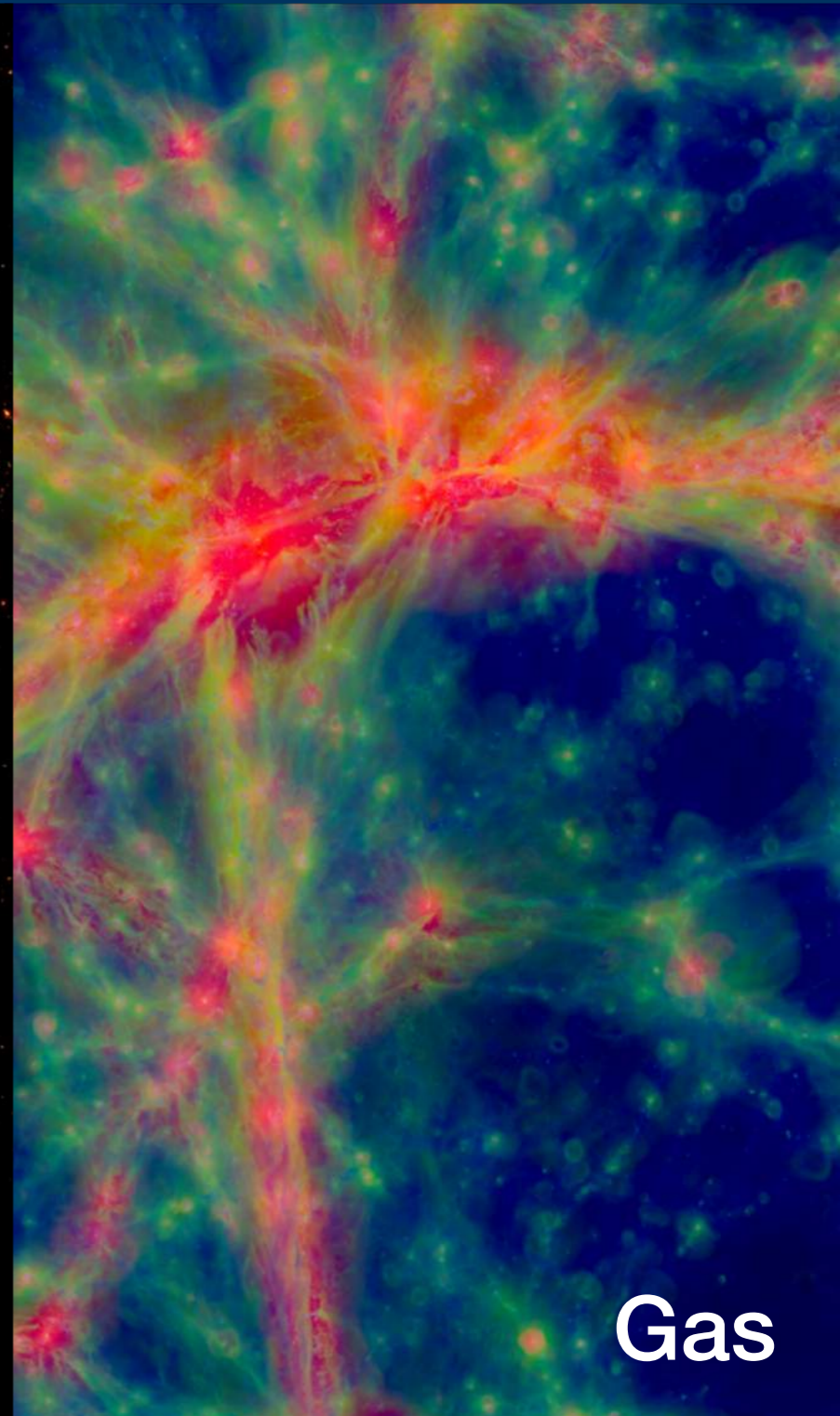
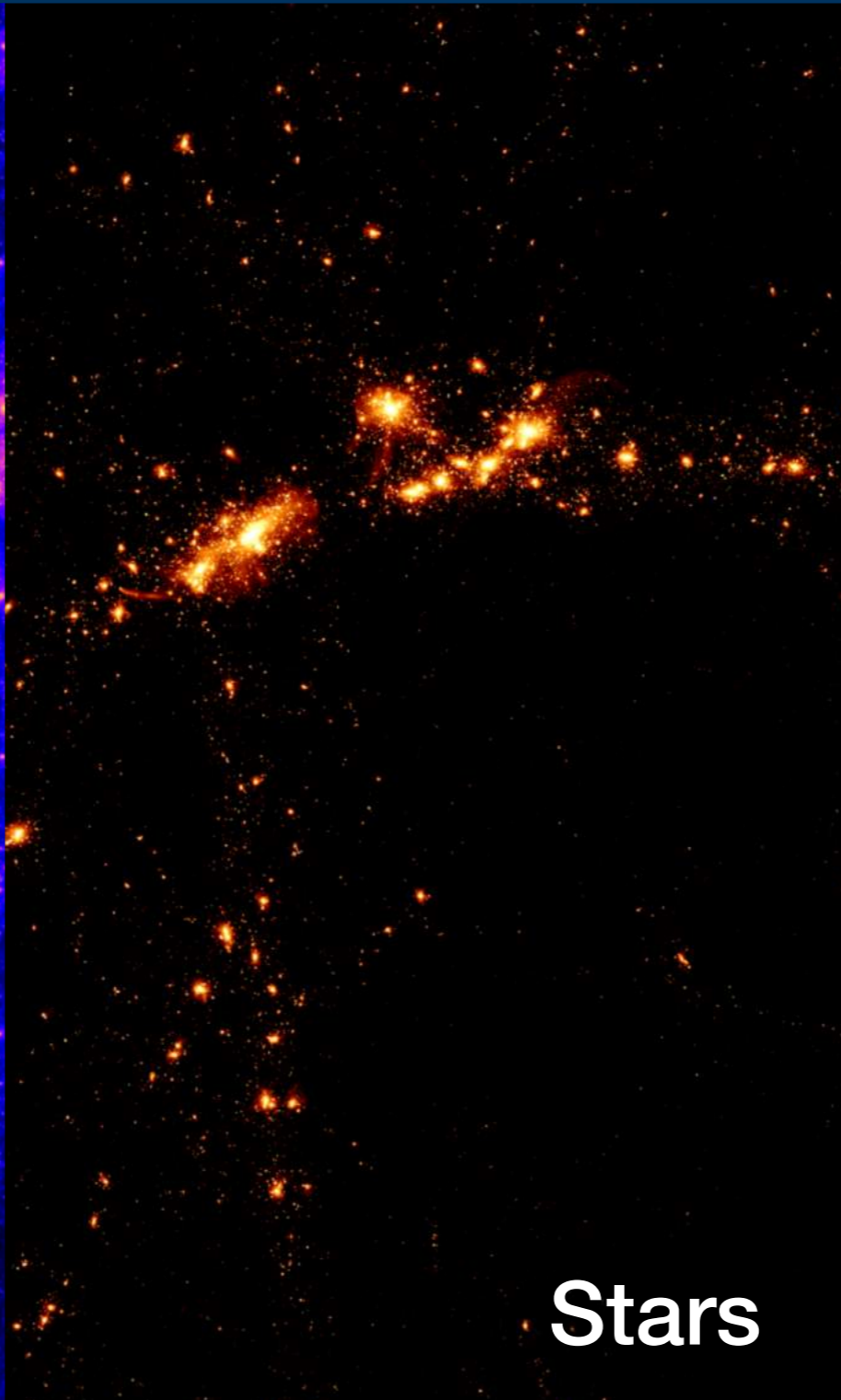
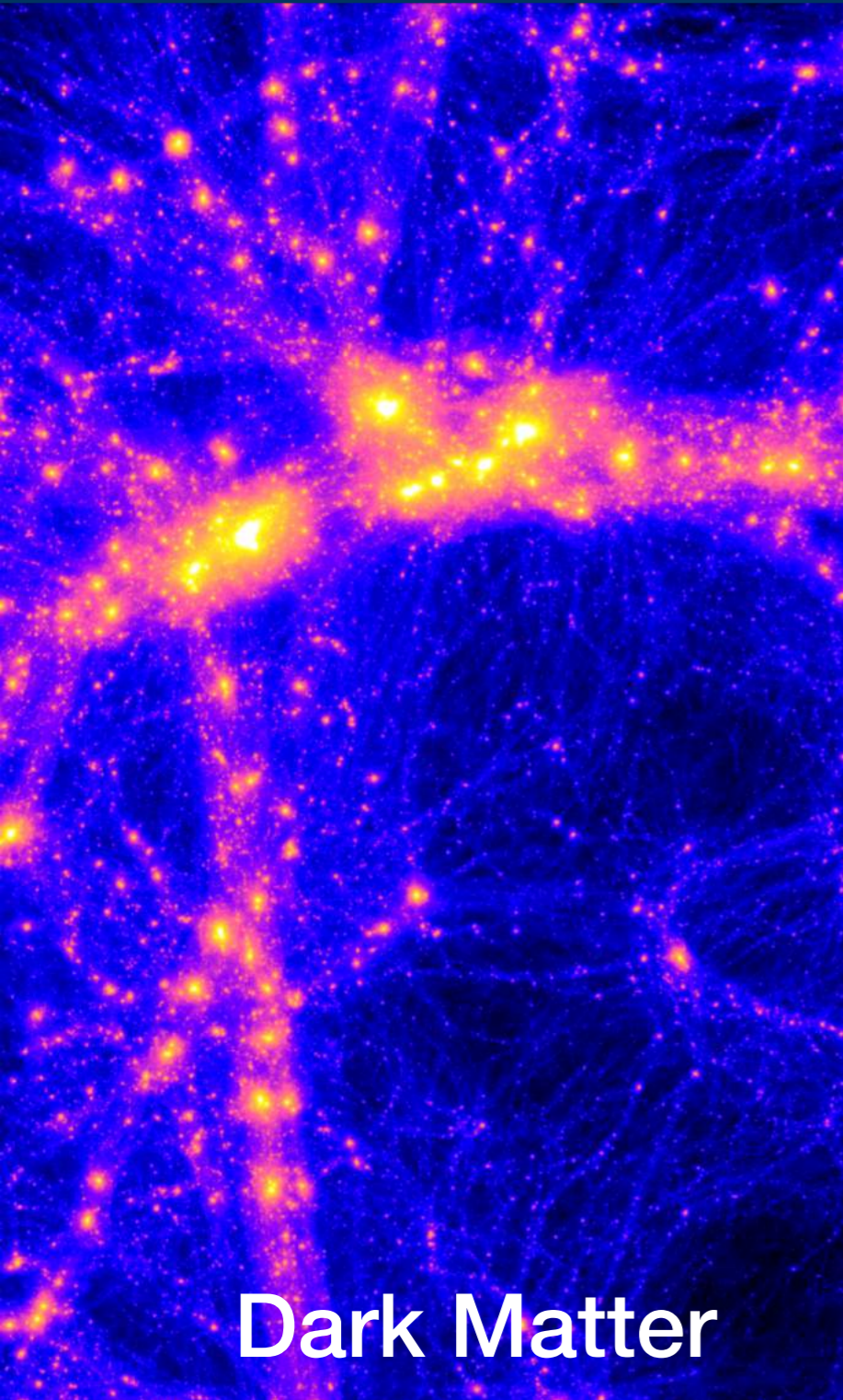
M. Brown+ 2015

# Weak Gravitational Lensing

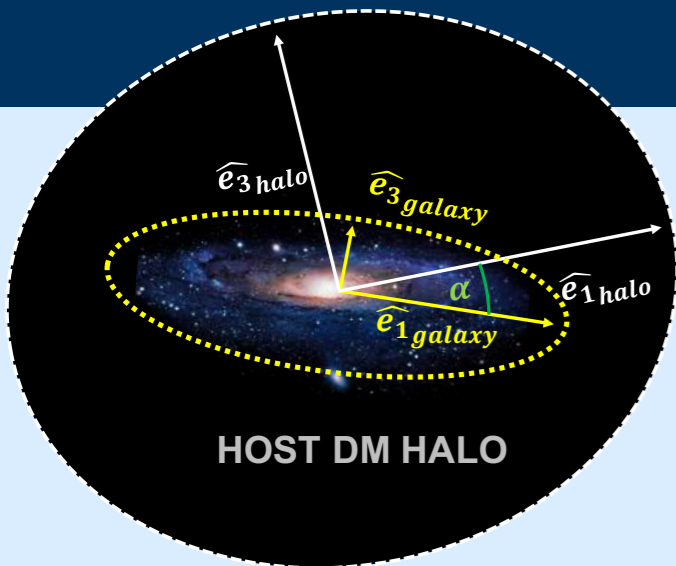
- If average correlation is non-zero, suggestive of mutual weak lensing
- Intrinsic alignment of galaxies is a systematic error of such measurements



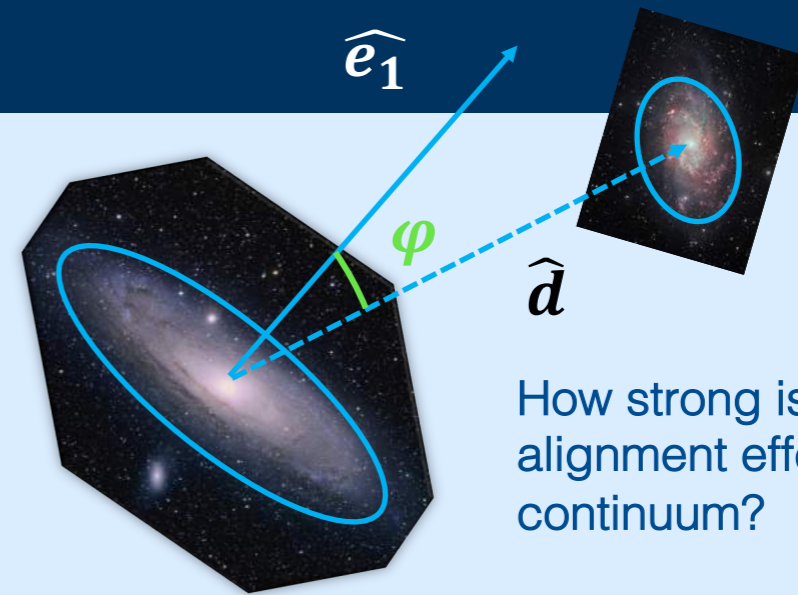
# The EAGLE Project



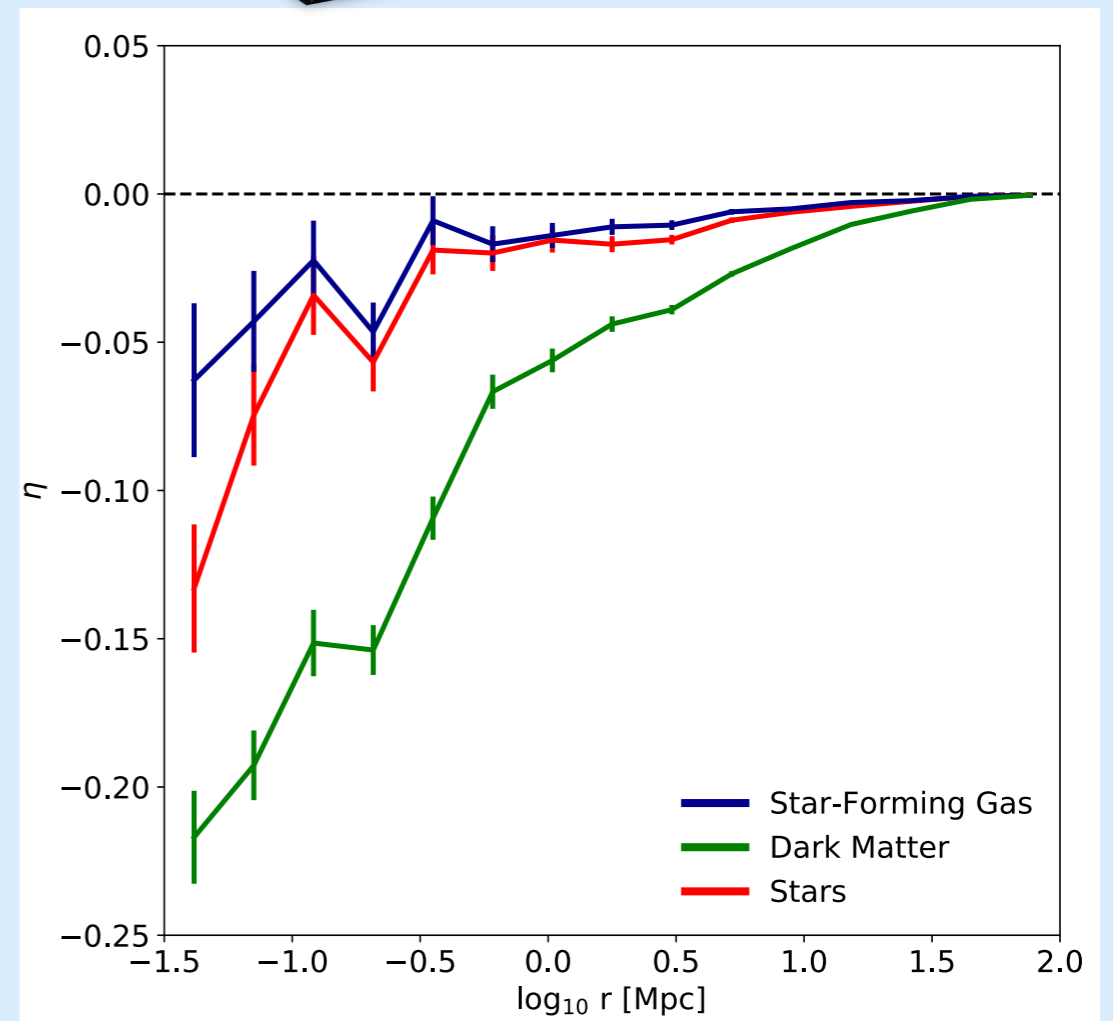
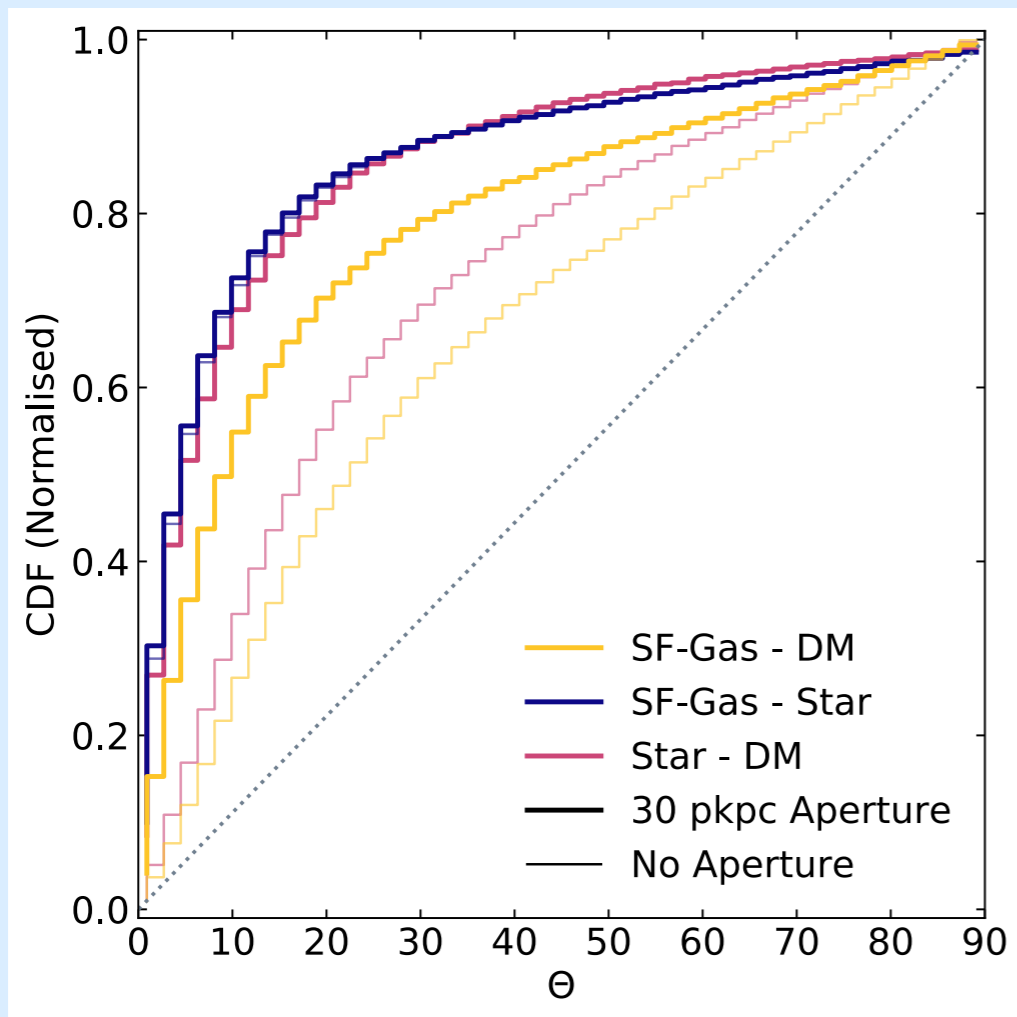
# Internal and External Alignments



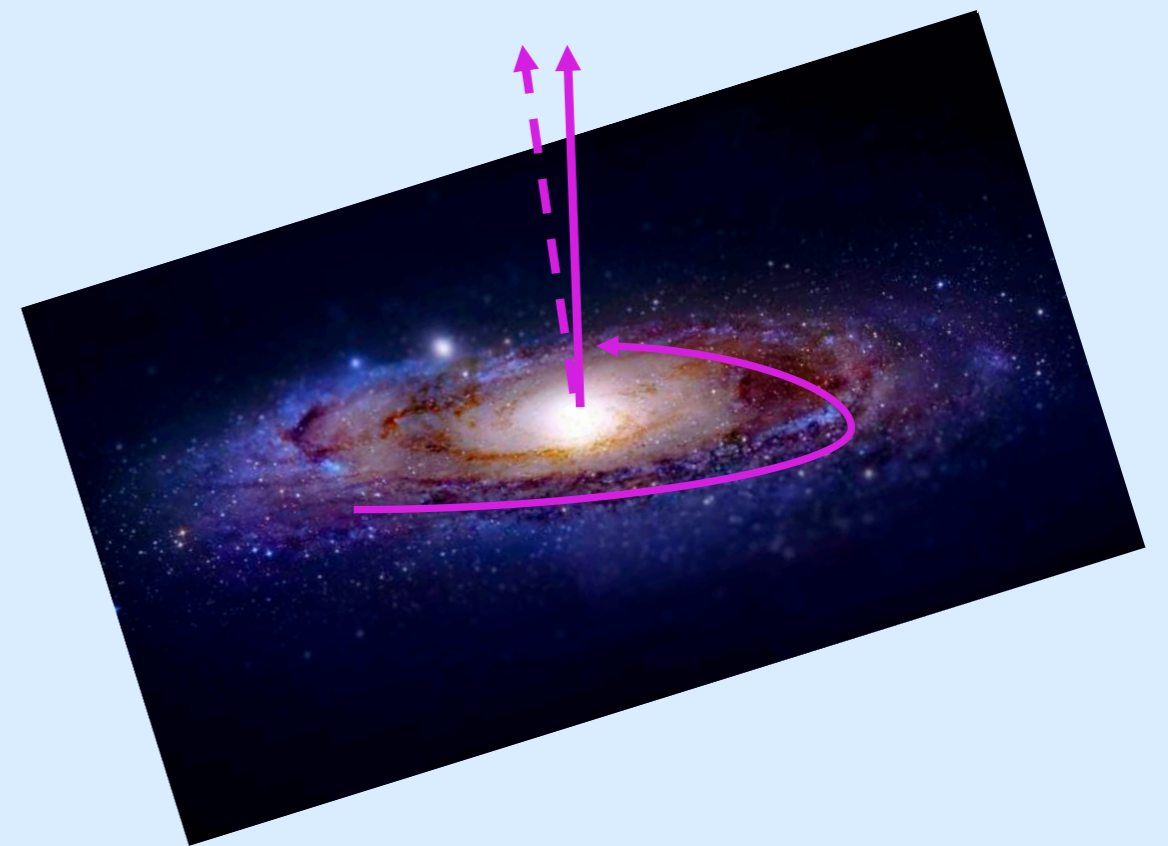
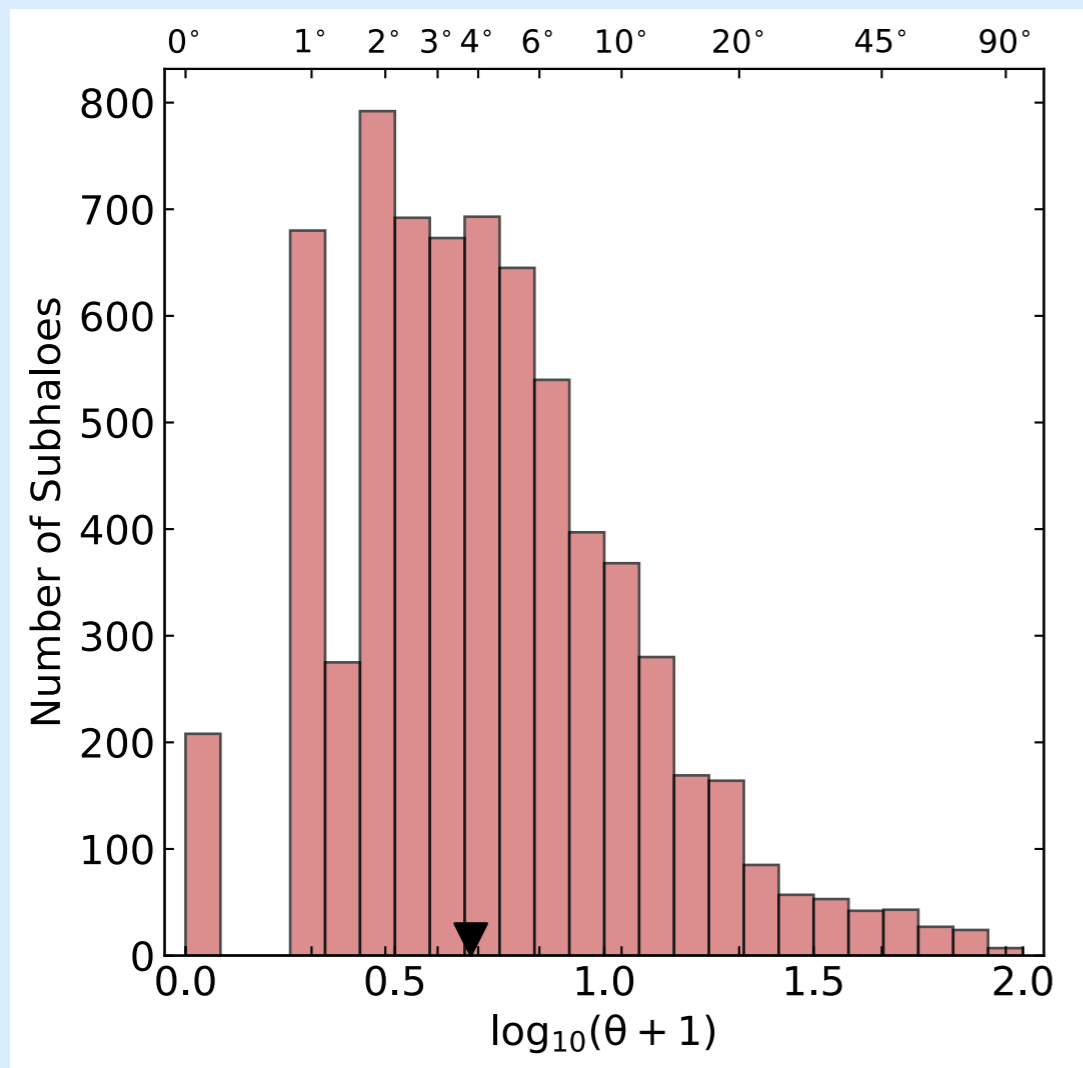
How well do galaxies (stars) and radio continuum emission (star-forming gas) trace the underlying dark matter distribution?



How strong is the intrinsic alignment effect in the radio continuum?



# Kinematic/Morphological Alignment



# Conclusions

- Weak lensing in the radio continuum could probe large scale structure at a novel epoch
- We need to understand the intrinsic alignment of the star forming gas in galaxies
- Indications from EAGLE are that the IA is lower than in star forming gas than for the stars