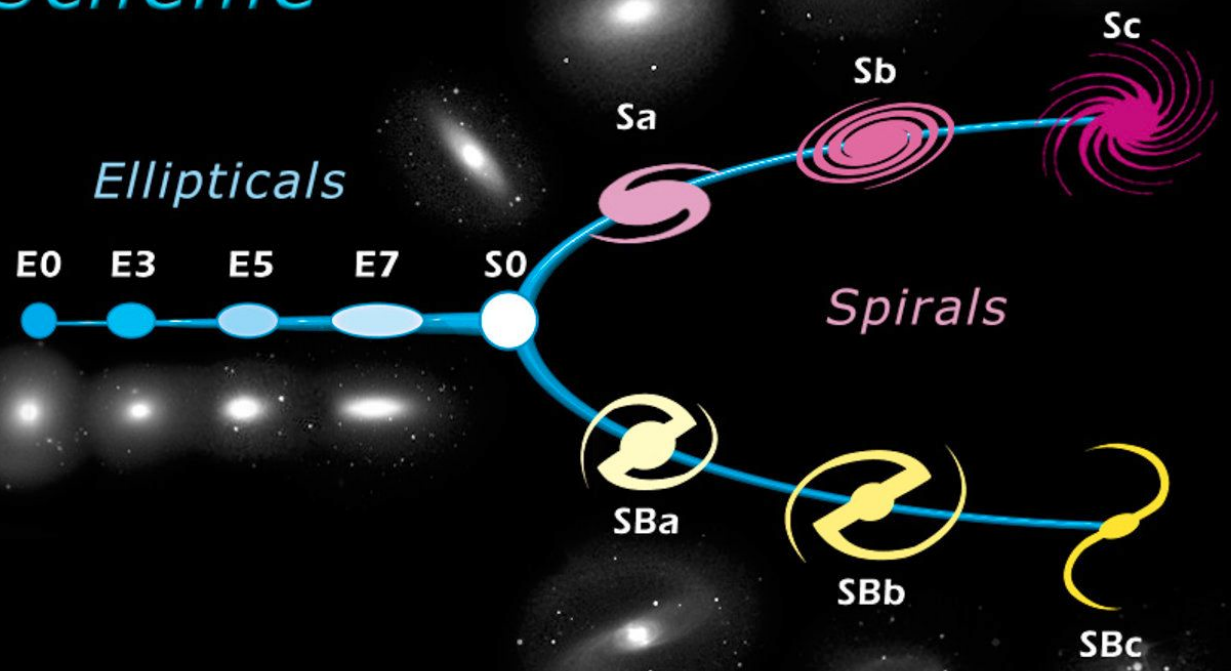
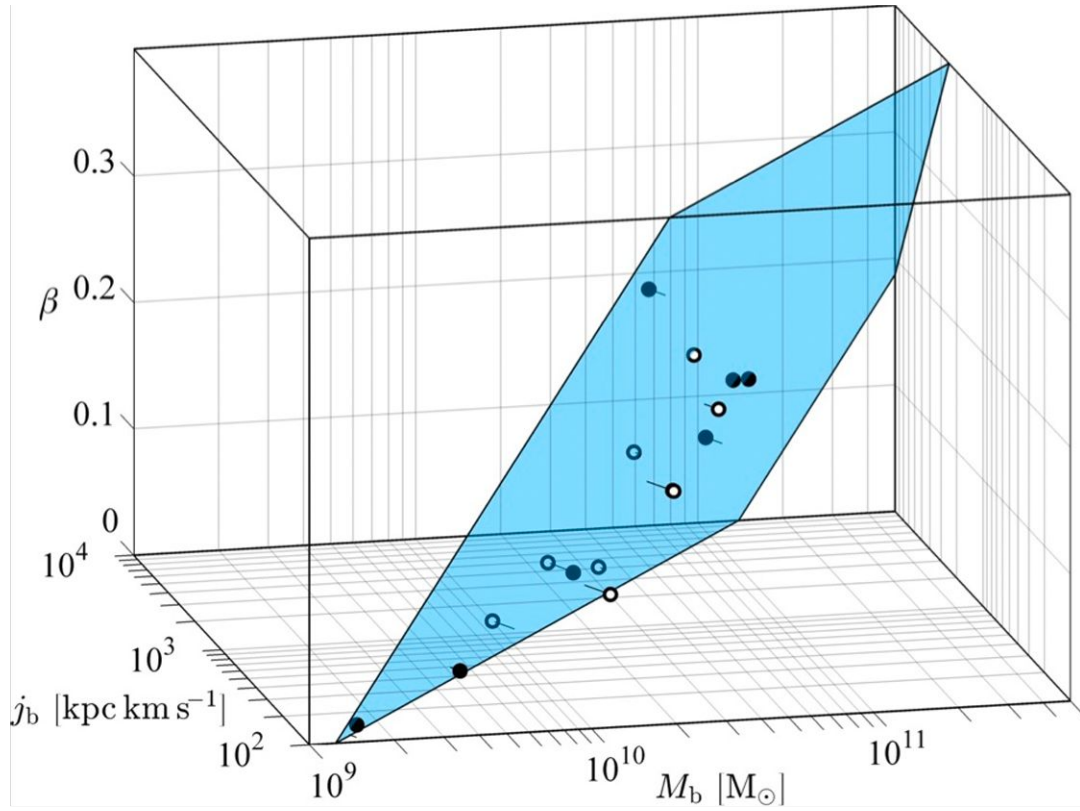


Angular momentum evolution of bulge stars

Liang Wang
Danail Obreschkow
Claudia Lagos

Edwin Hubble's Classification Scheme

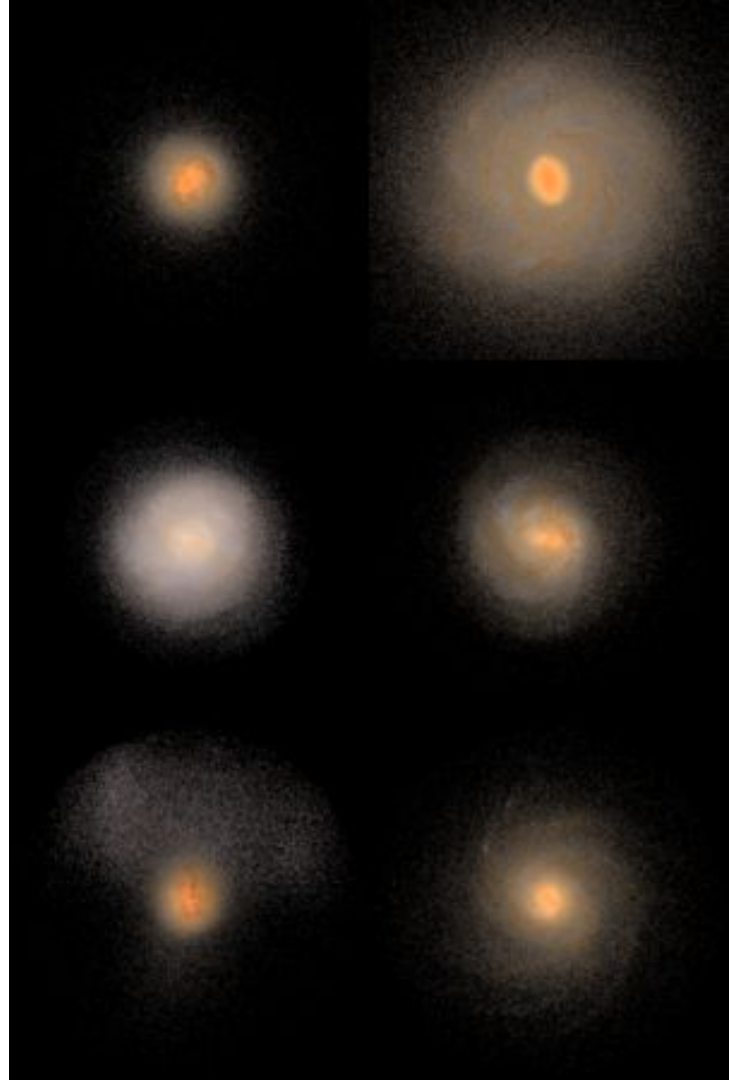


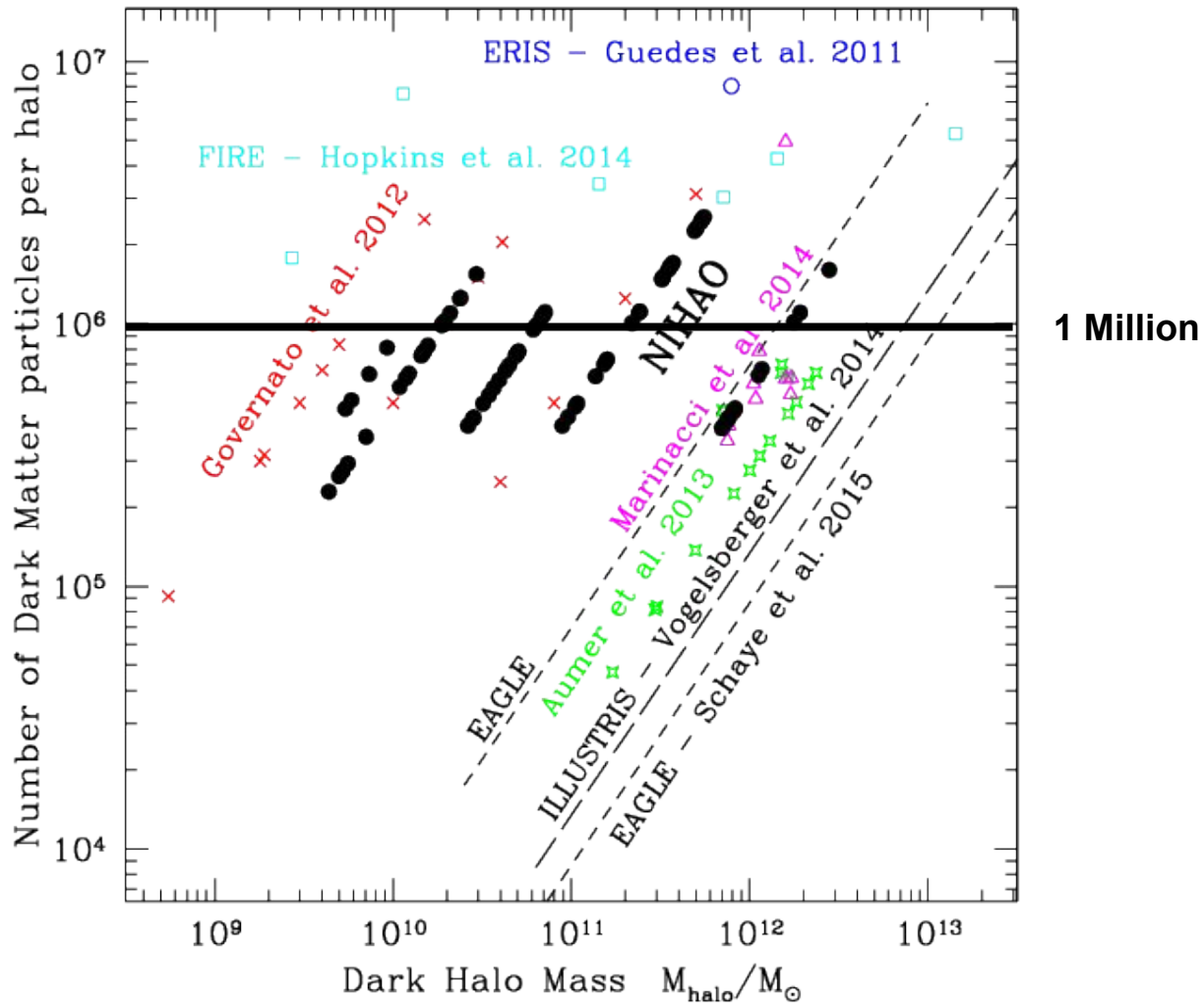


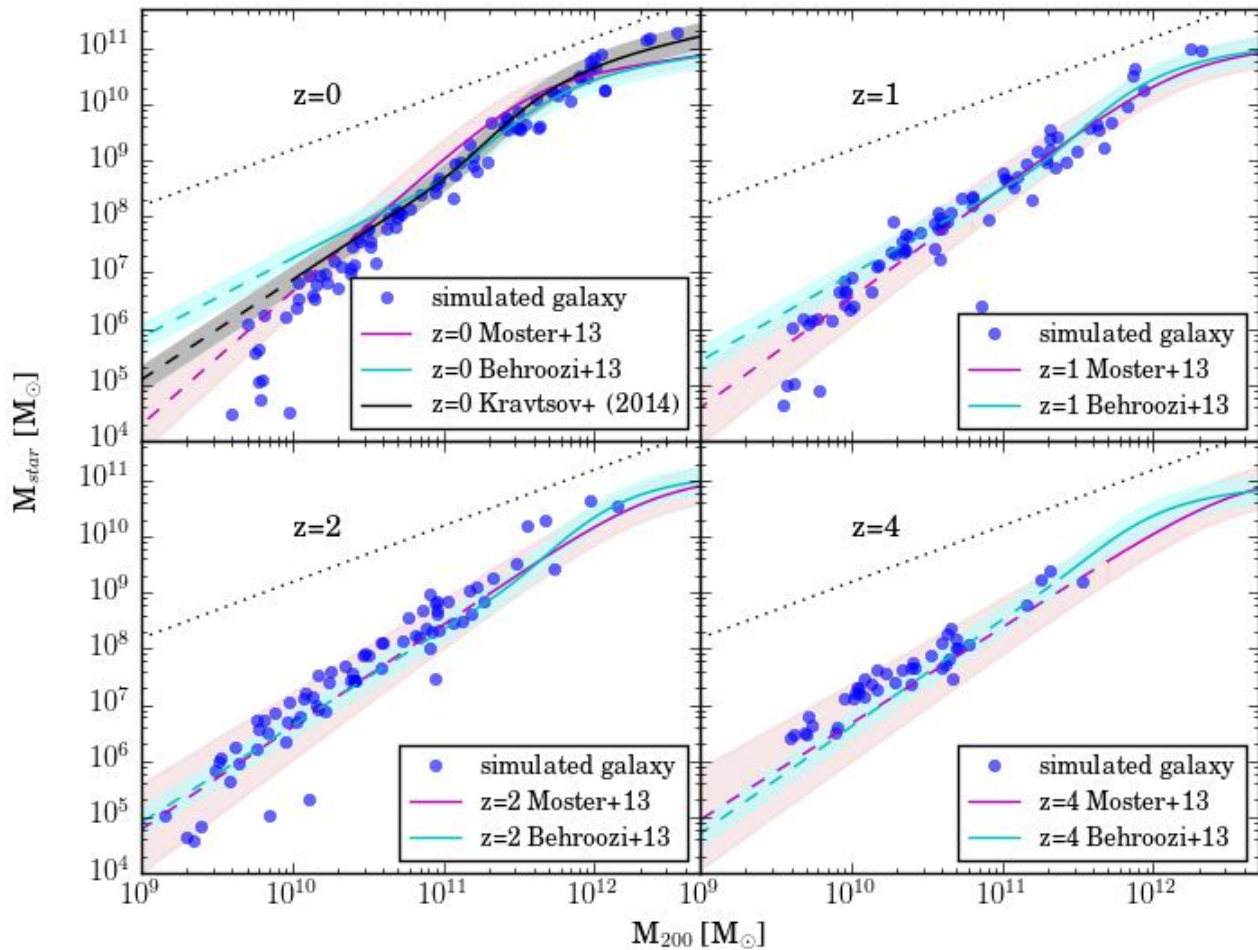
NIHAO project

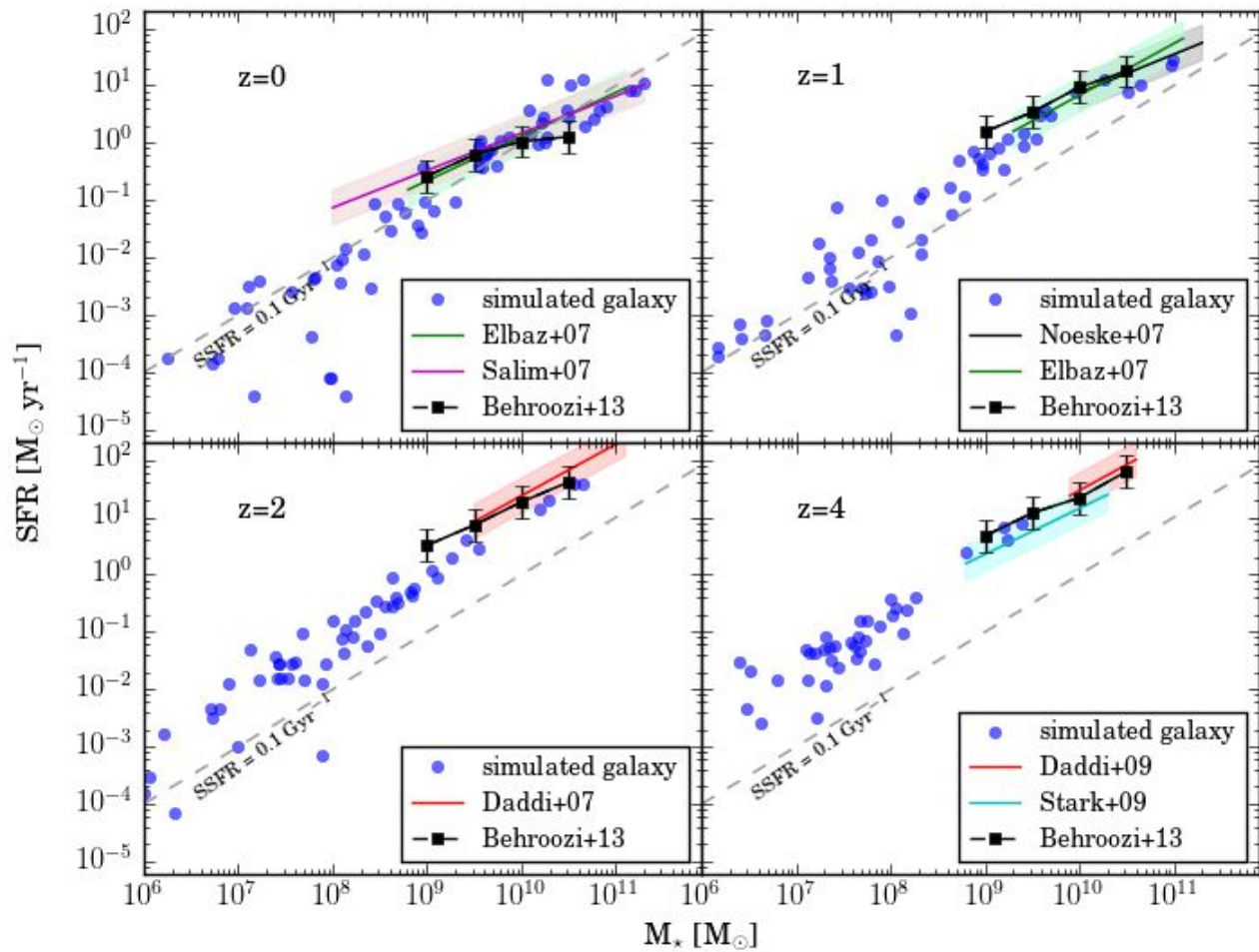
91 cosmological zoom-in hydro simulations

- Gasoline 2.0
- LCDM Planck cosmology
- UV/Gas cooling/Star formation
- SN feedback
- Early stellar feedback/Pre-SN feedback





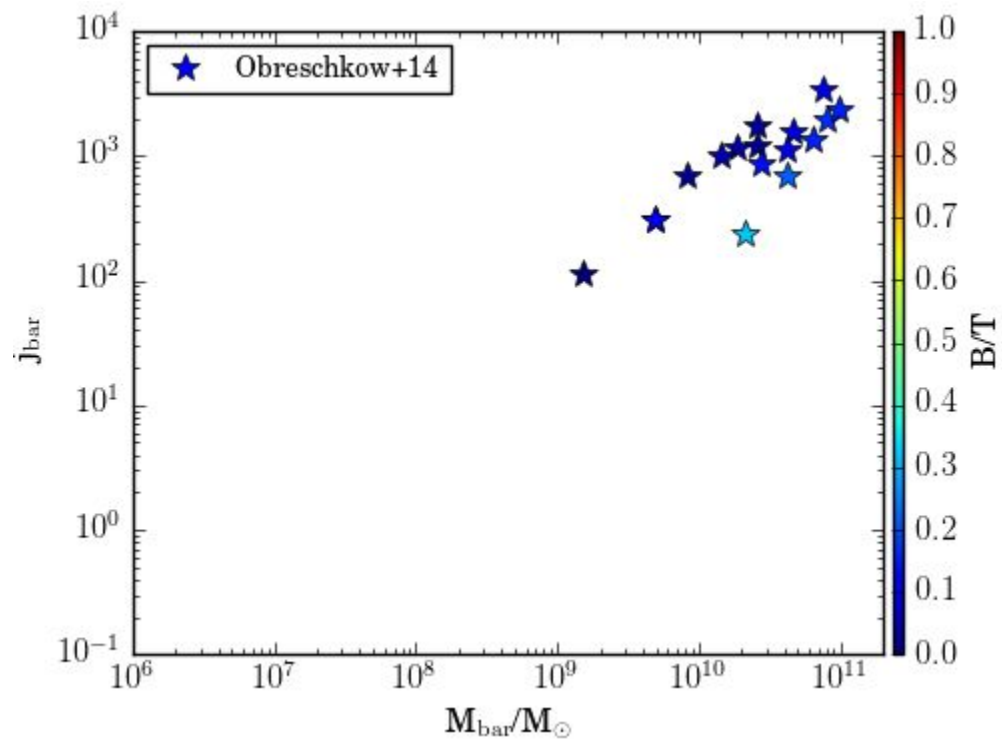


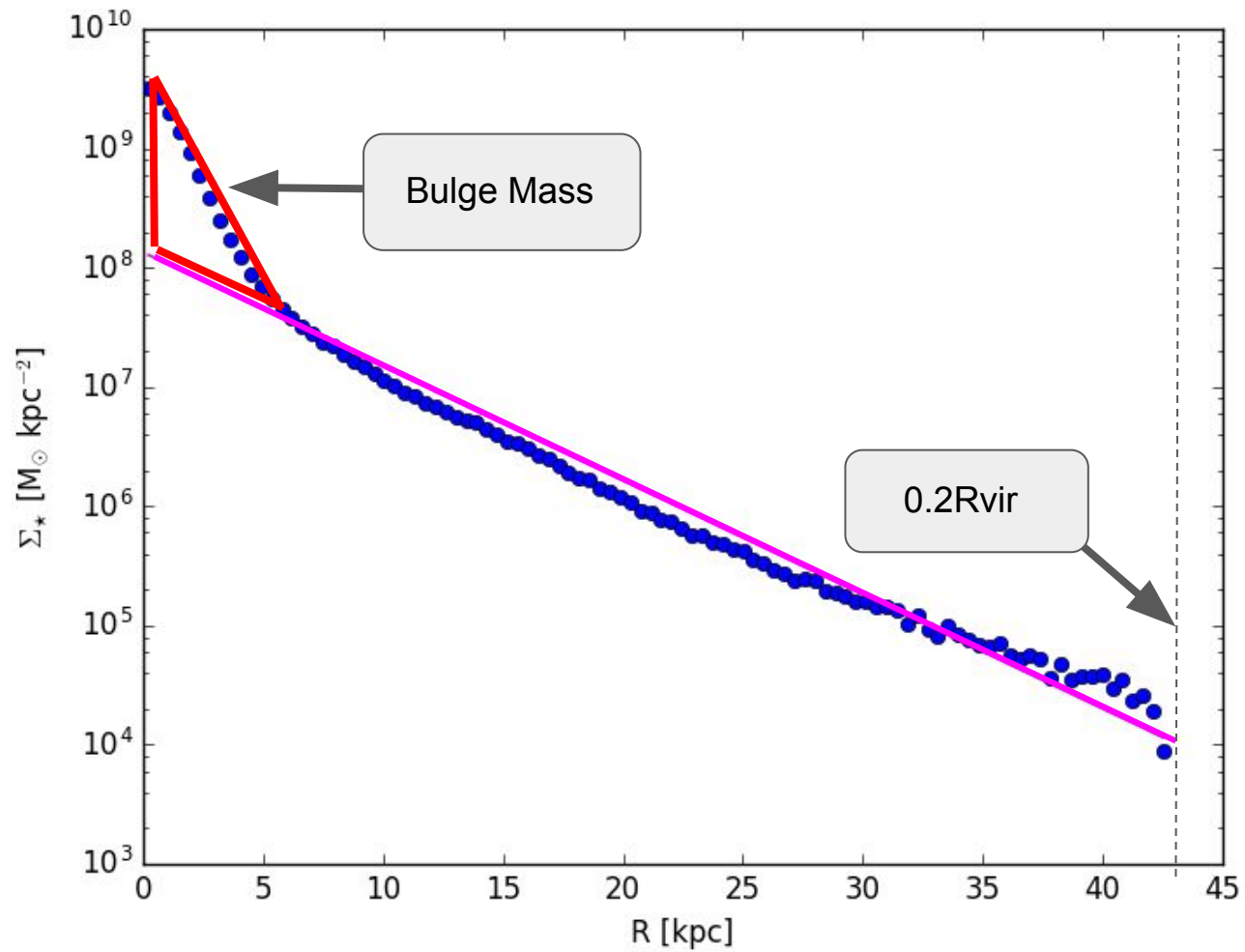


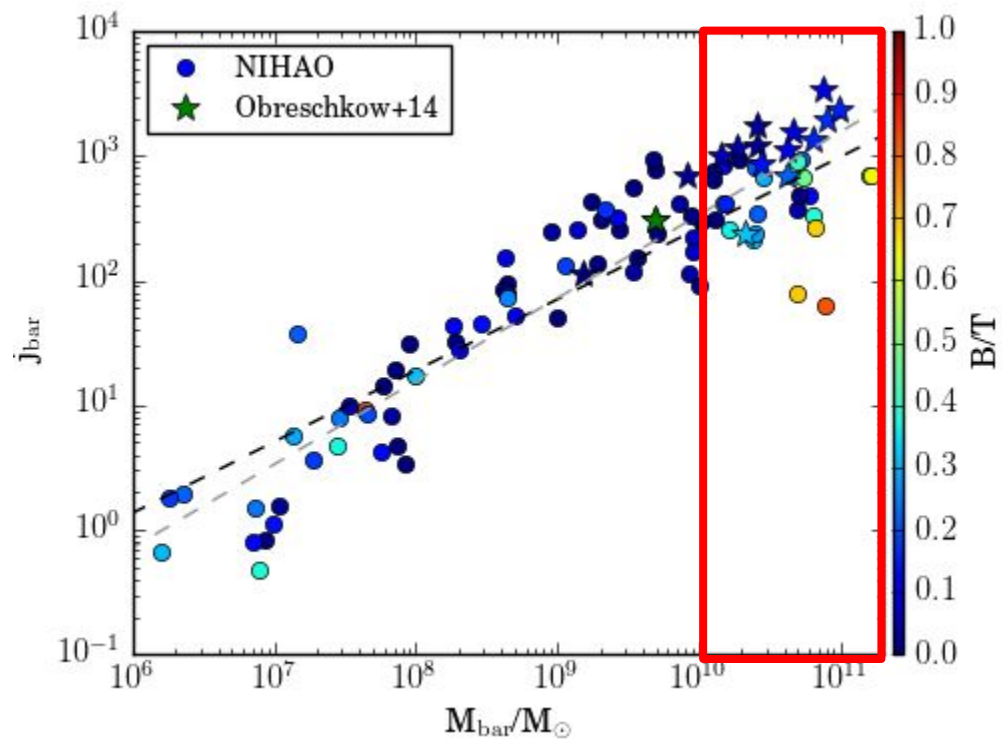
How does the angular momentum evolve? / How are the different components of galaxies established?

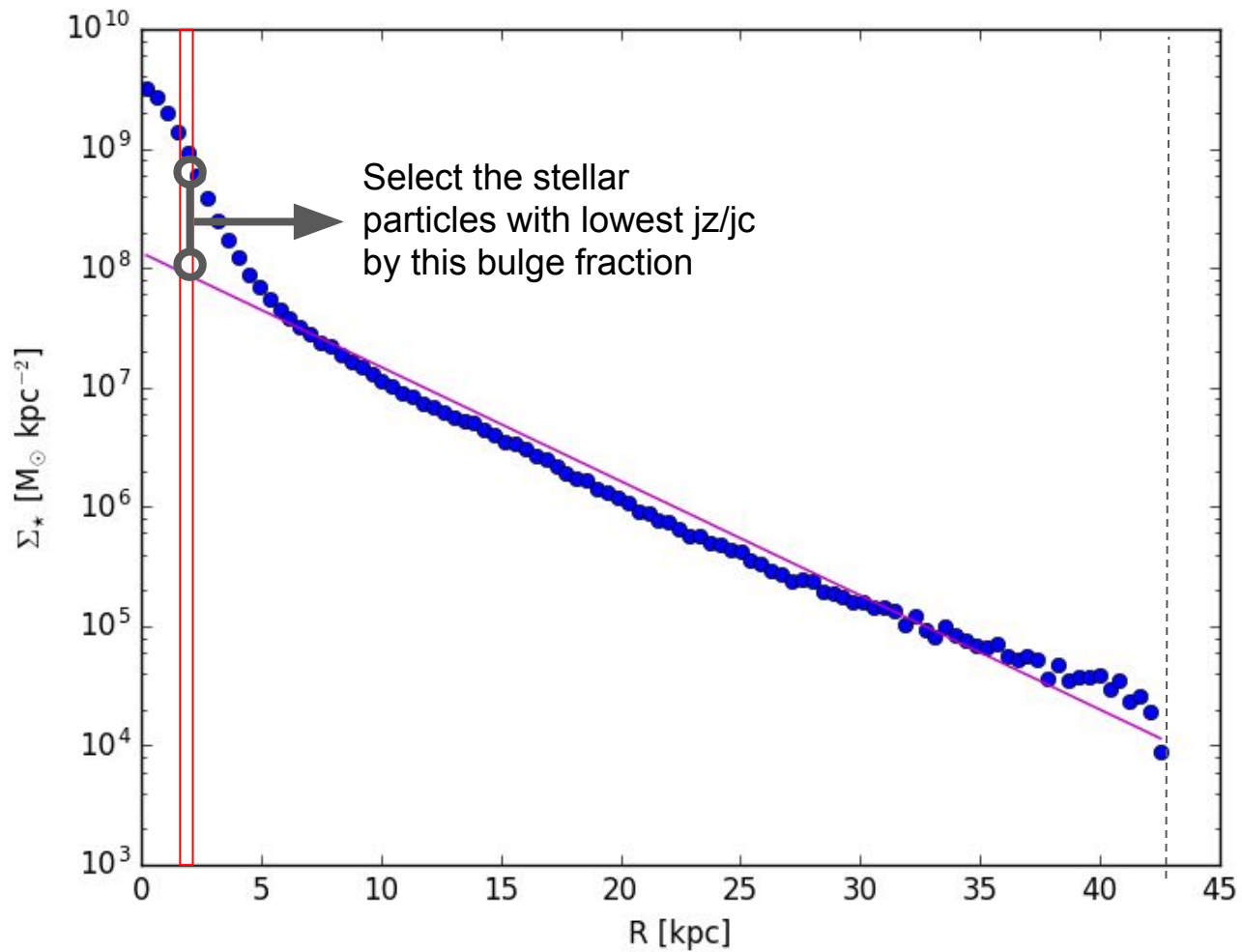
Origin of bulge stars

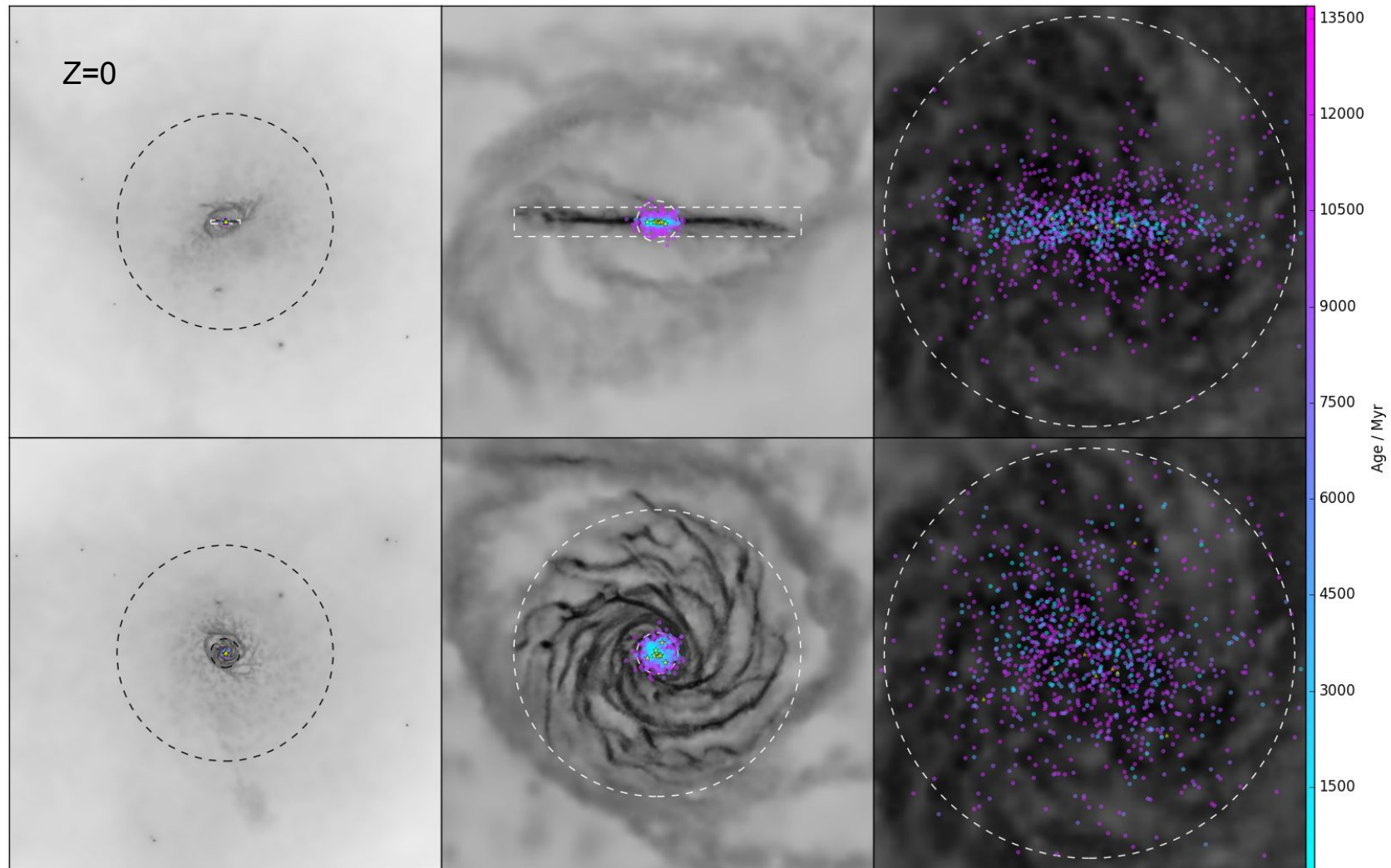
How do feedback models regulate the angular momentum of galaxies?

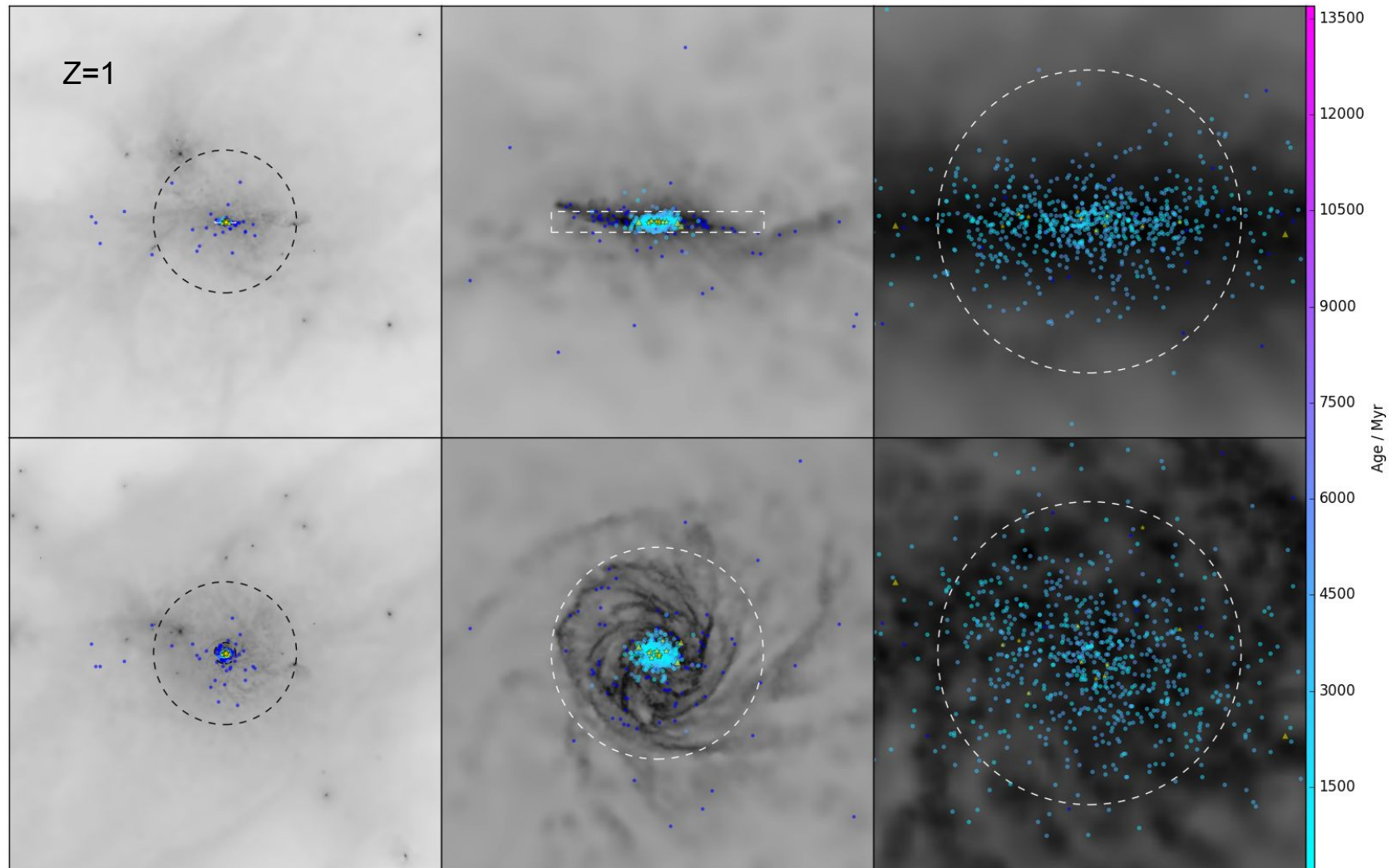


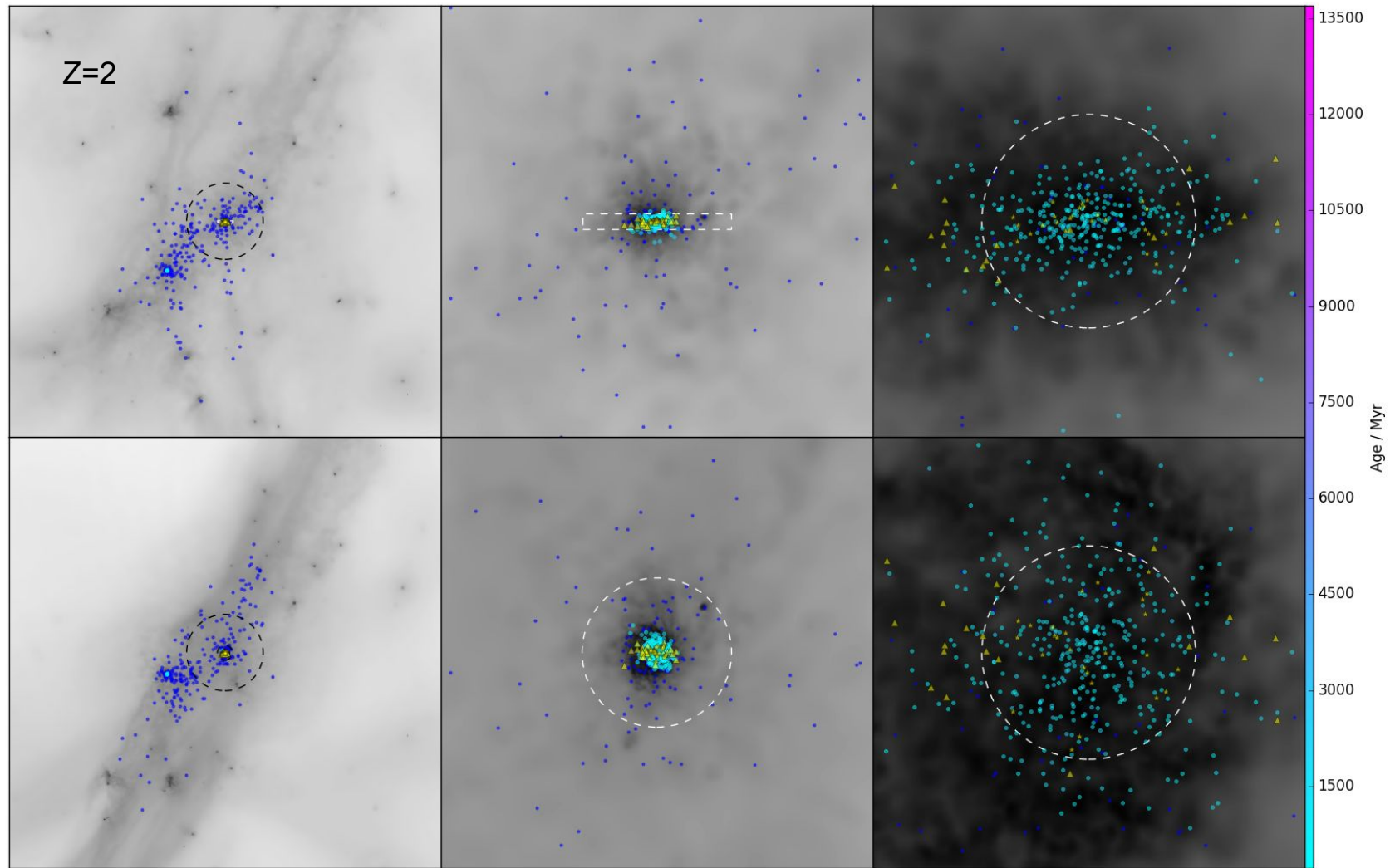


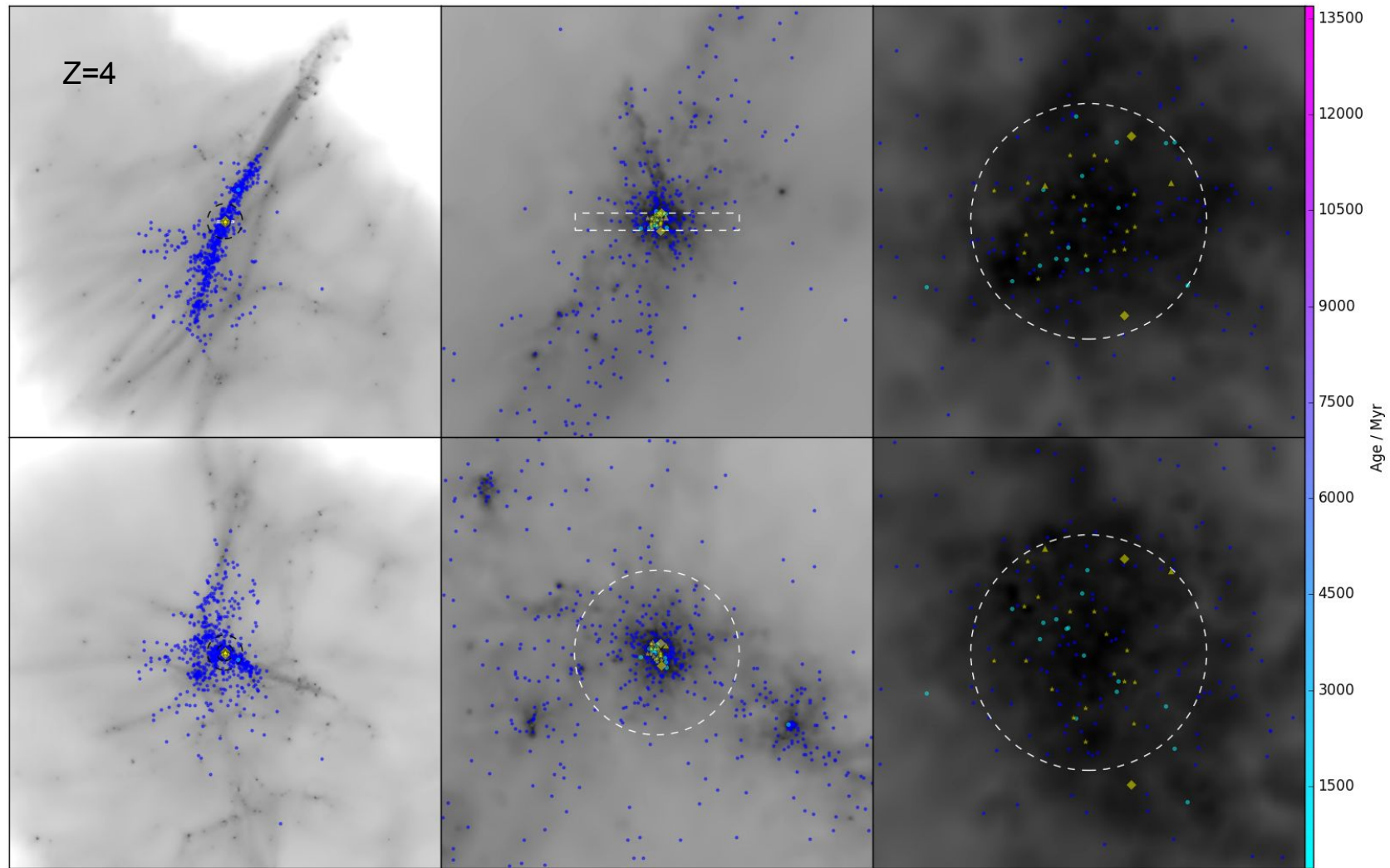


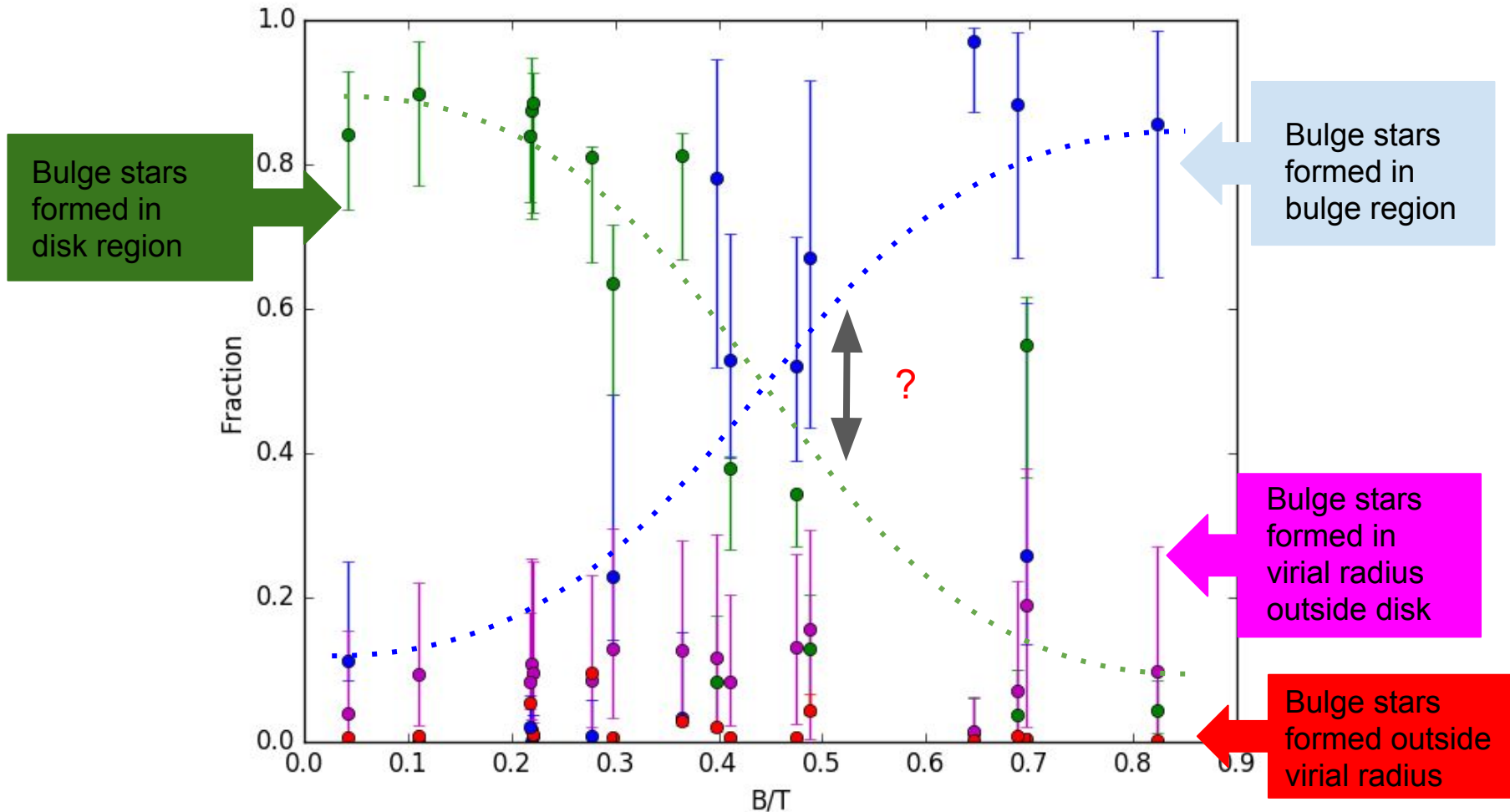


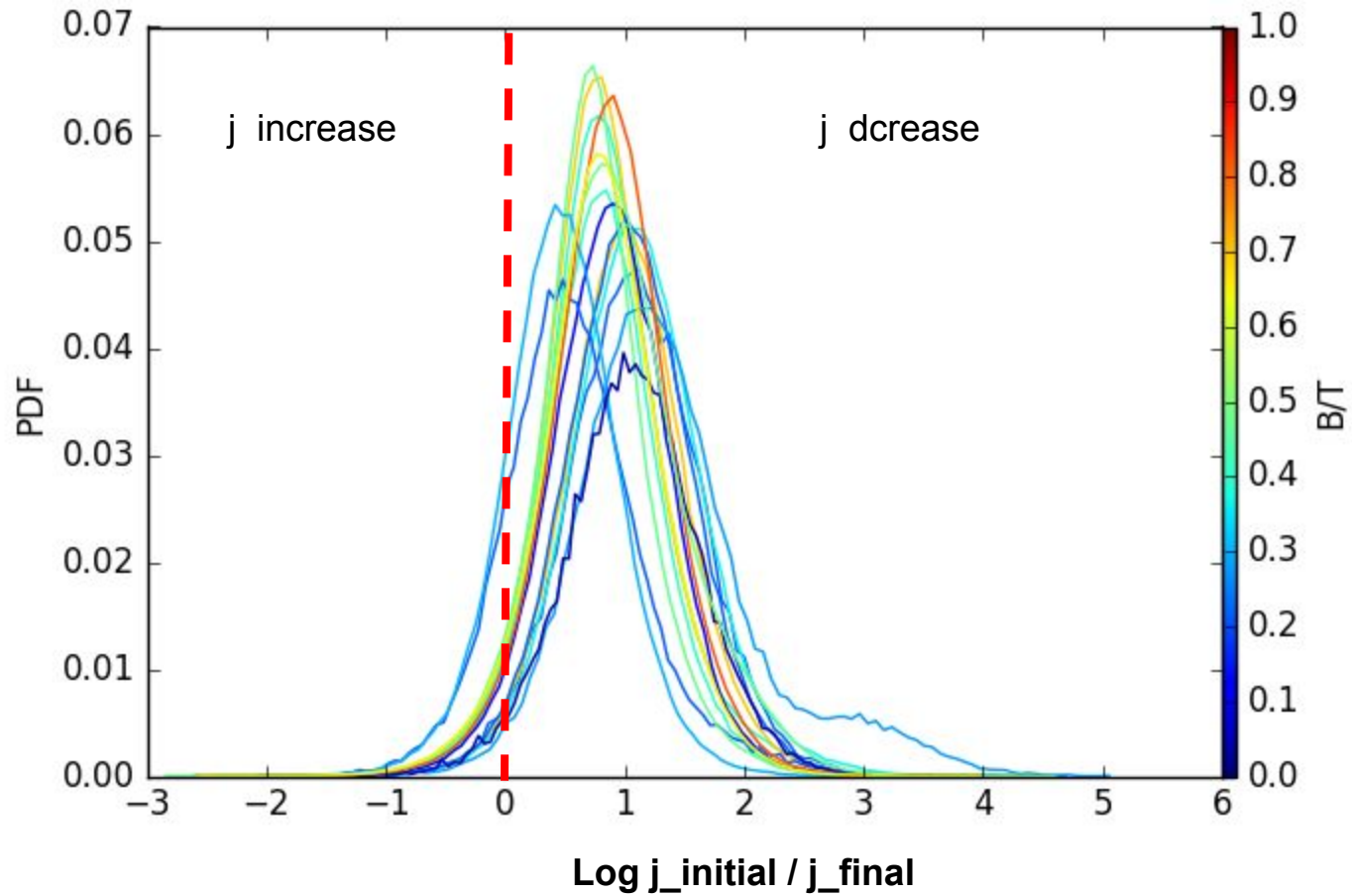












Summary

NIHAO galaxies can nicely reproduce the observational $j_b - M_b$ relation.

Most of bulge stars form in the galactic scale system.

Bulge stars in higher B/T galaxies lose less angular momentum than bulge stars in lower B/T galaxies.