

# Flat Radial Age Gradients in Massive $z \sim 0.6$ PSBs



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## The SQuIGGLE Survey

OIR telescopes: Keck/Gemini/Subaru

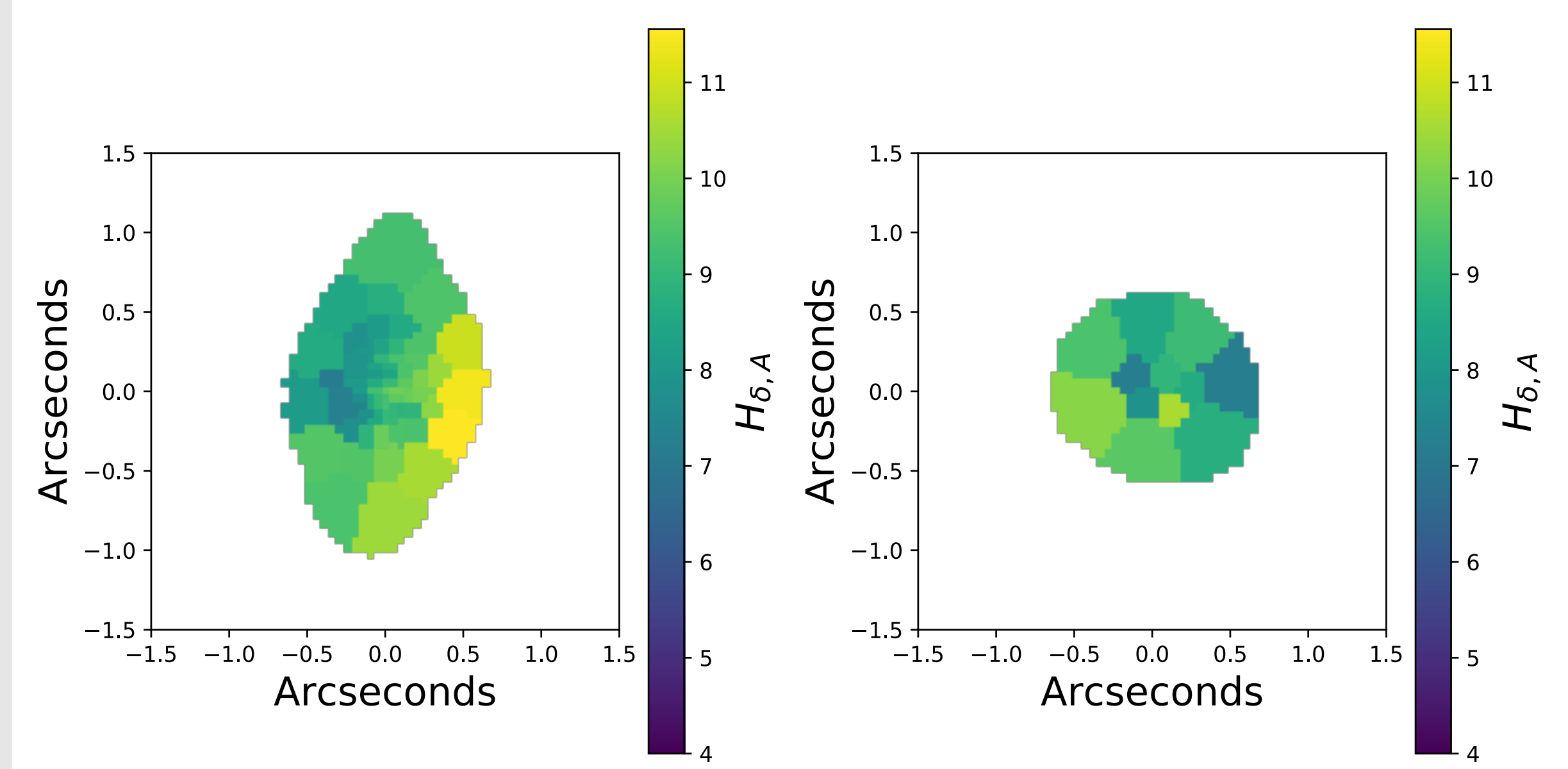


Radio/Sub-mm telescopes: ALMA/VLA

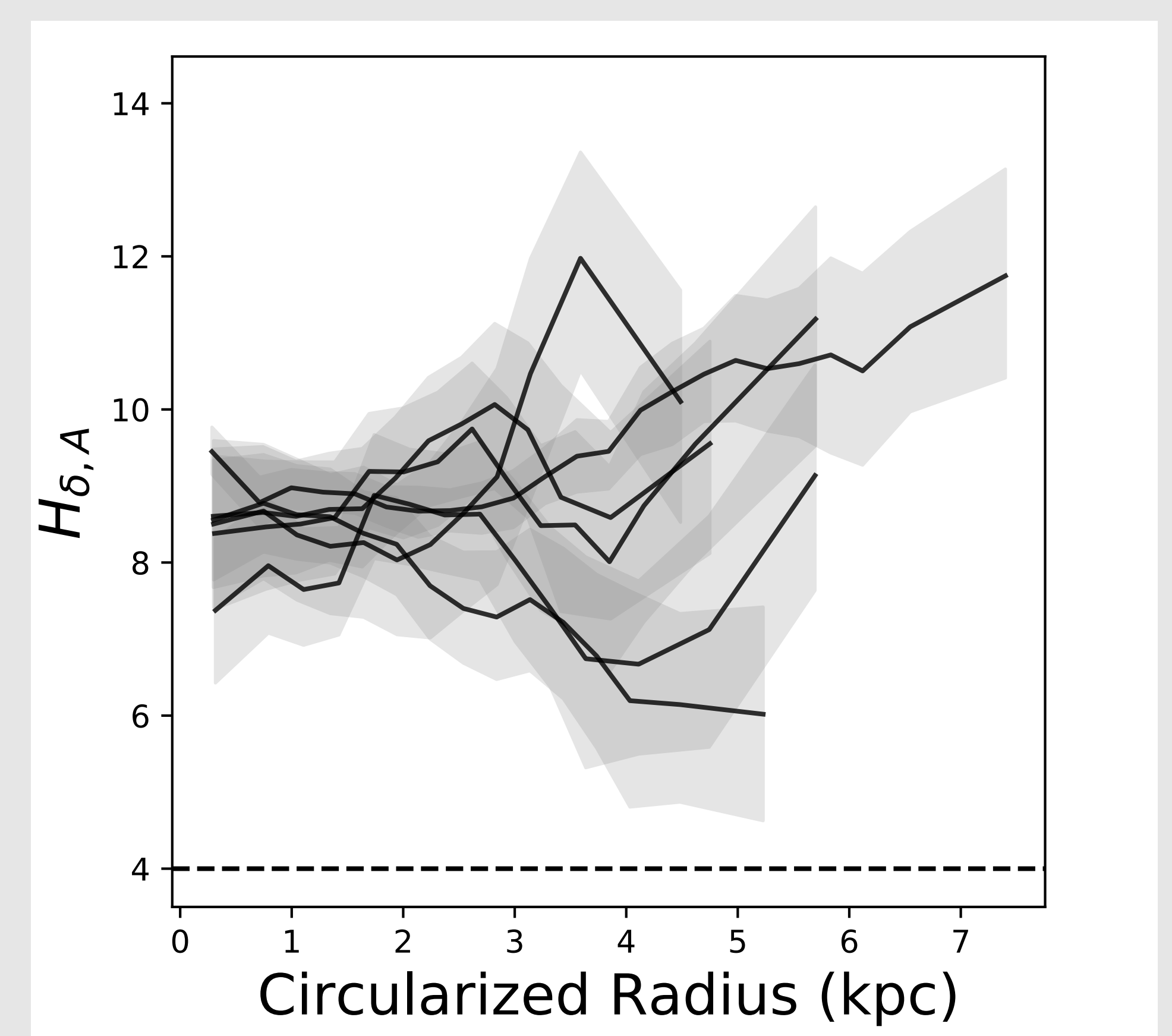


The SQuIGGLE Survey is a multi-wavelength study of post-starburst galaxies (PSBs) at  $z \sim 0.6$ . See talks by Jenny Greene, Justin Spilker, and Wren Suess.

## We Observe Flat $H_\delta$ Profiles



A subsample of our 6 SQuIGGLE galaxies with GMOS IFU follow up in  $H_\delta$ .

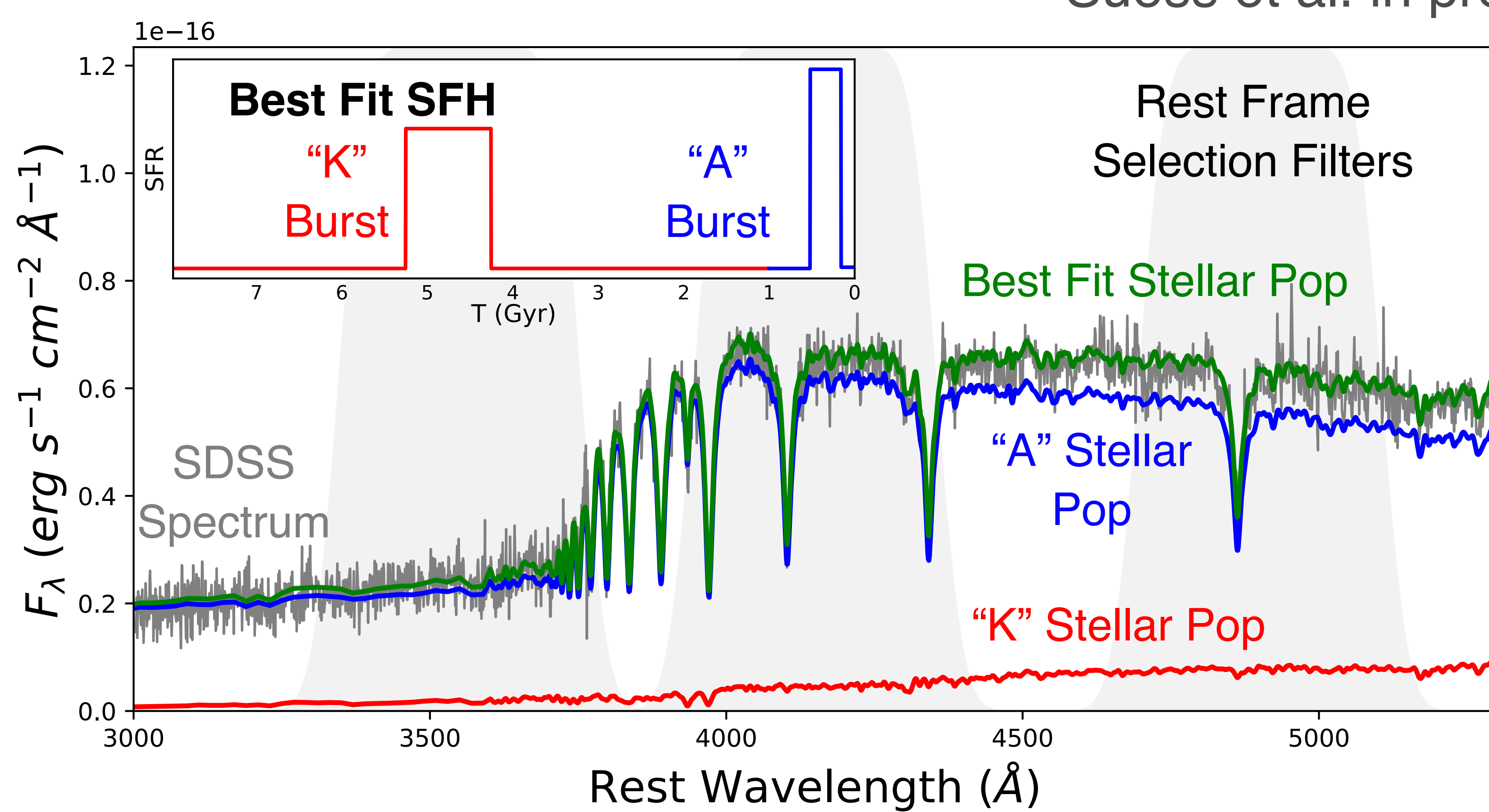


Annular profiles in the EW  $H_\delta$  for our full sample

**All our galaxies have EW  $H_\delta > 4 \text{ \AA}$  at all radii, signifying dominant A-star populations.**

## SQuIGGLE Target Selection and SFH Modeling

Suess et al. in prep



A sample galaxy SQuIGGLE galaxy with rest frame selection filters and the best fit two component star formation history (SFH)

PSBs can be modeled with a composite K+A population.

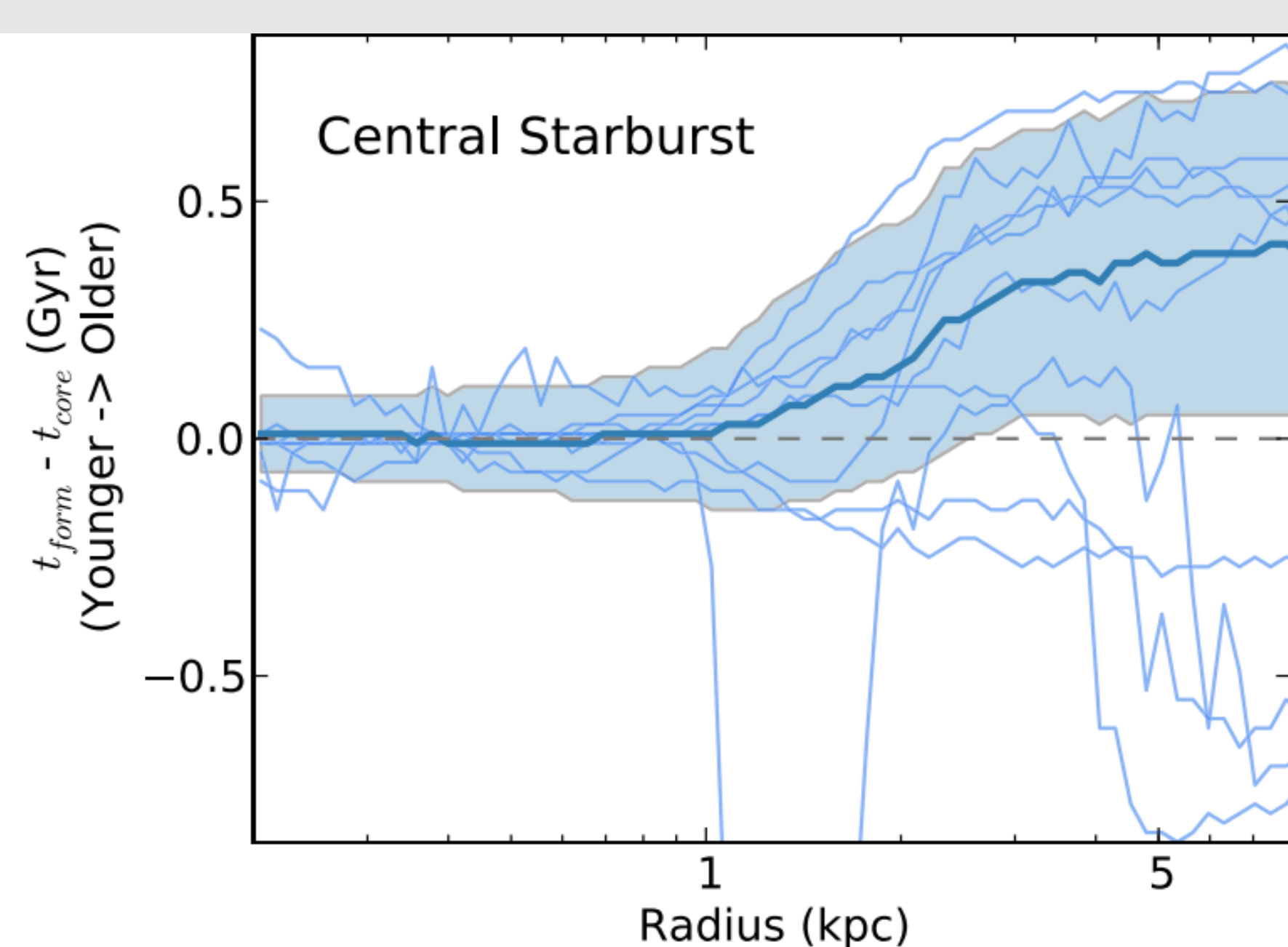
The K/A ratio and the time since quenching influence the strength of age sensitive features like  $H_\delta$ .

## Massive PSBs Quench at All Radii Simultaneously

Setton et al. in prep

Different methods of quenching (e.g. compaction, central starburst) will result in negative, positive, or flat age gradients.

### Ex: Illustris Simulation

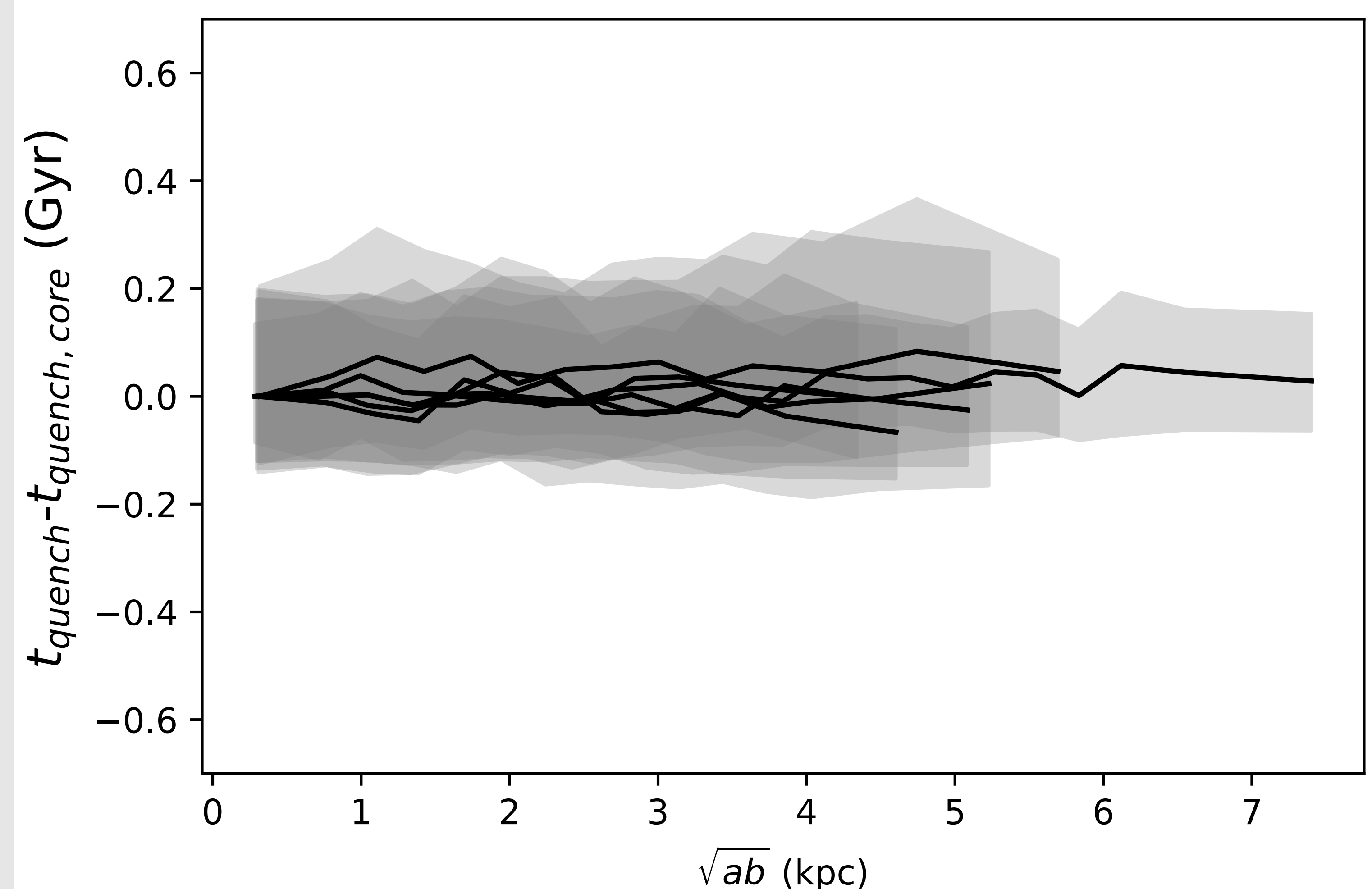


Wellons et al (2015) radial age profiles from Illustris Simulations

In contrast to simulations of central starbursts, **our galaxies do not show gradients in their radial age.**

If these galaxies are resolved, this indicates that **whatever mechanism they quenched by must shut down star formation simultaneously at all radii.**

## Our Model Age Profiles



Time since quenching (normalized to the central measurement) fit to our  $H_\delta$  measurements by varying K/A and time since quenching