

Where do stars from in post-merger galaxies?

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Goal: To determine where star formation occurs in galaxies after a merger.

Does this differ for star-forming and quenched galaxies?

MERGER



NGC 4676
Credit: ASA Hubble

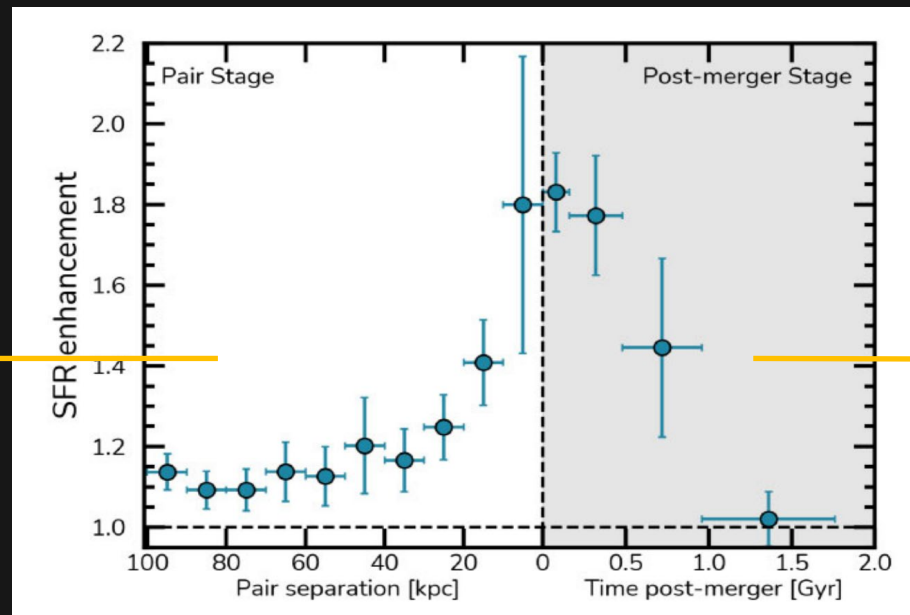
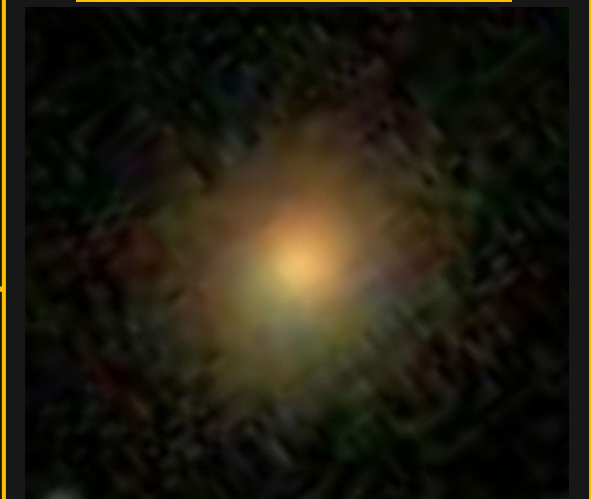


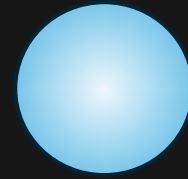
Fig. 2 from Ferreira L., Ellison S., et al,
Regime - I, 2025, MNRAS, 538, L31

POST-MERGER

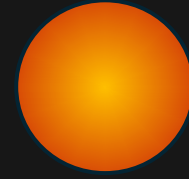


Dr7 objID=587725552810066108
Credit: SDSS

Astar's colour tells us about its age:



= **YOUNG**



= **OLD**



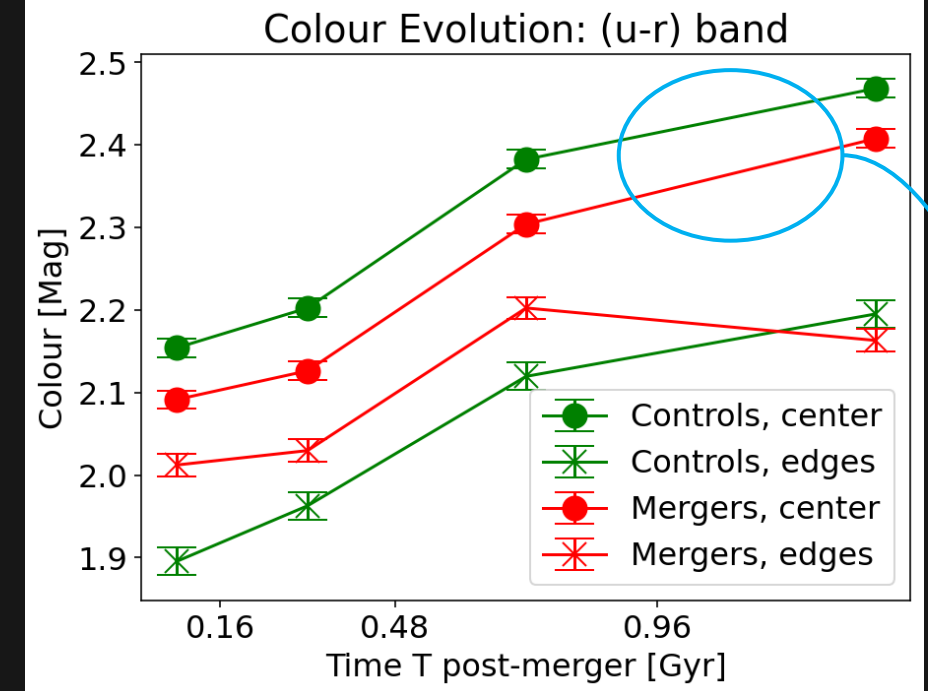
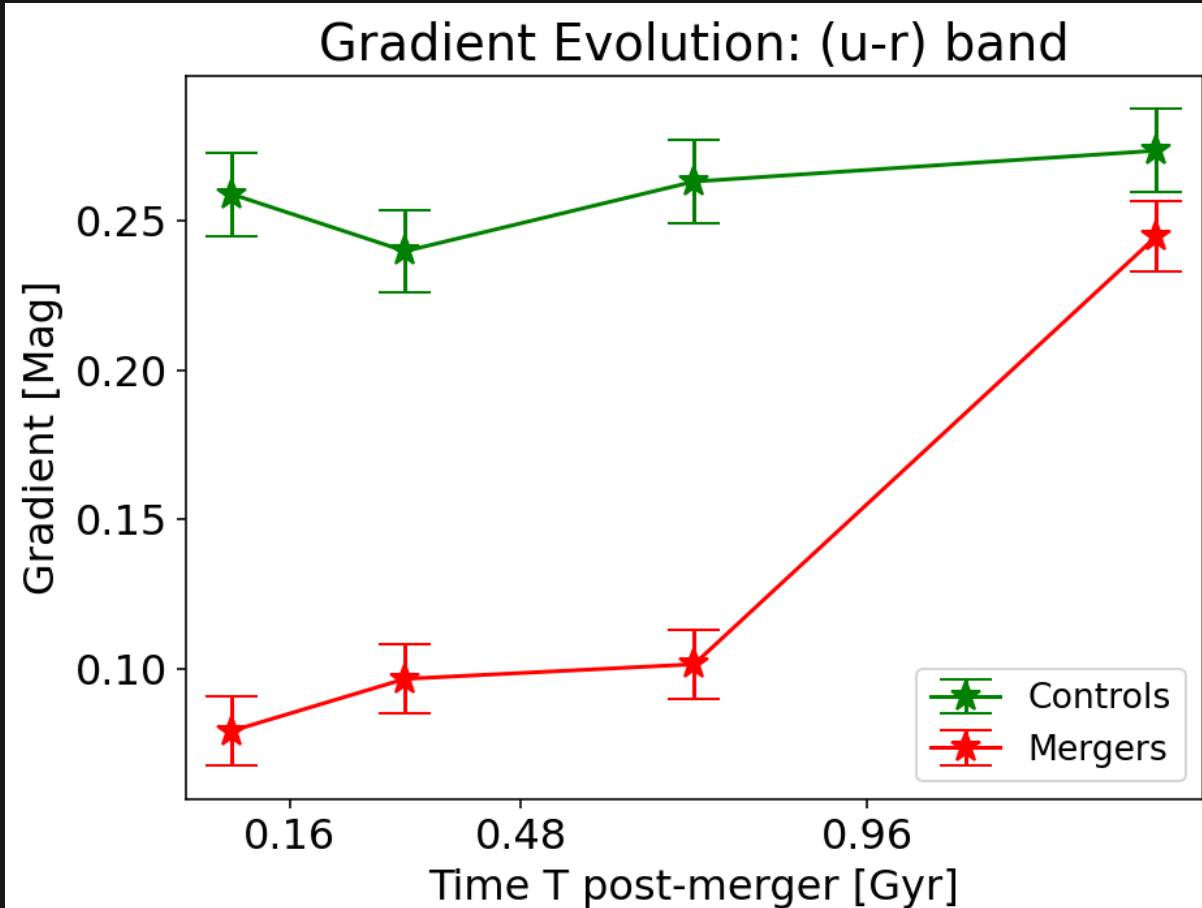
COLOUR GRADIENT:

$$(U-R)_{r<1} - (U-R)_{1<r<2}$$

CENTER - EDGES

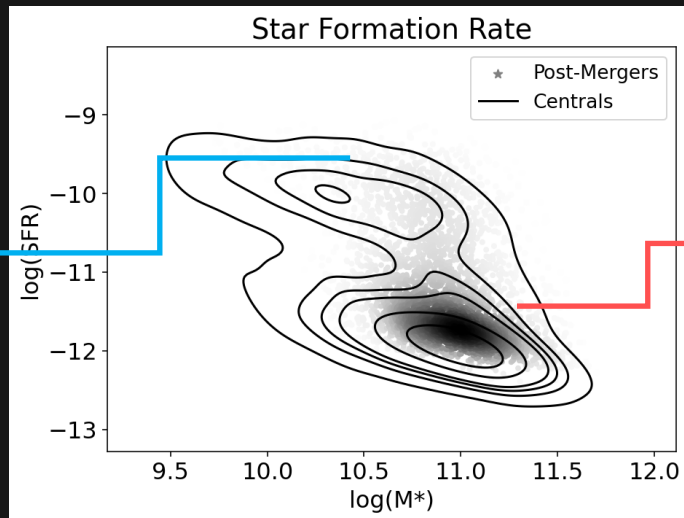
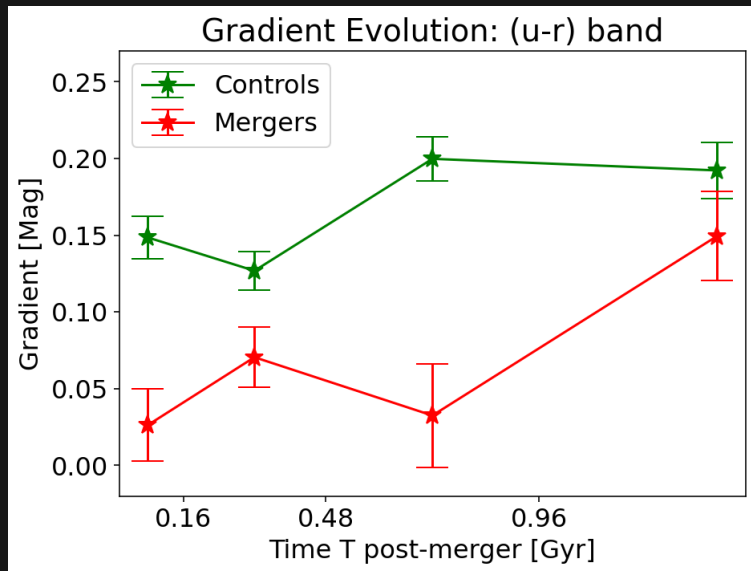
If positive $\Rightarrow$ “red-centered”,
younger stars on edges

If negative $\Rightarrow$ “blue-centered”,
younger stars in center



1. Both post-merger galaxies (PMs) and their controls are red-centered → young stars *mostly* on edges
2. PMs are bluer-centered than controls ← previous starburst (SB) activity at their centers
3. PMs become more red-centered over time, due to the SB stars dying off

Star Forming



Quenched

