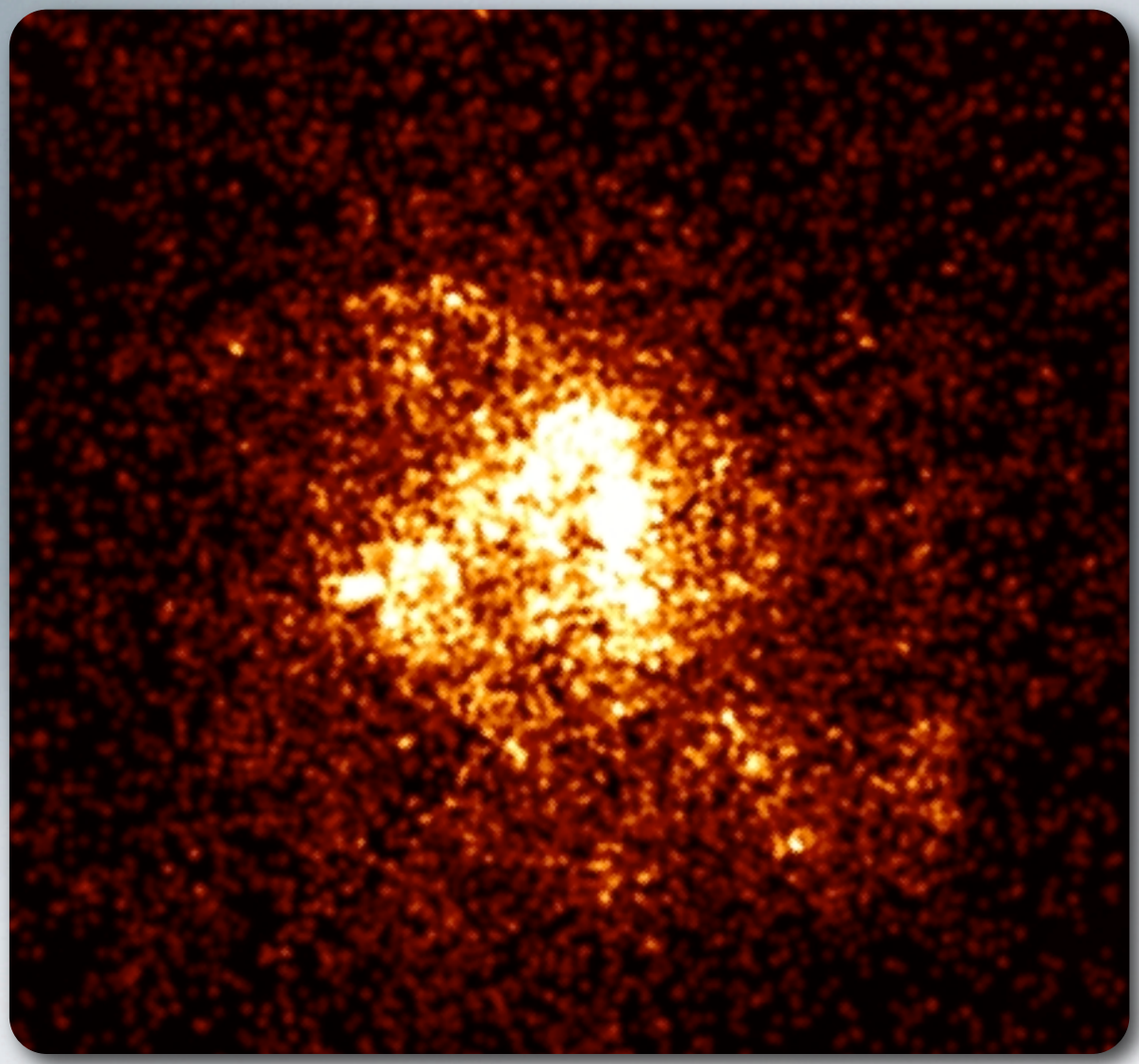
HERSCHEL HST CHANDRA SPITZER

STAR FORMATION AMID THE FEEDBACK-DRIVEN X-RAY CAVITY IN ABELL 2597

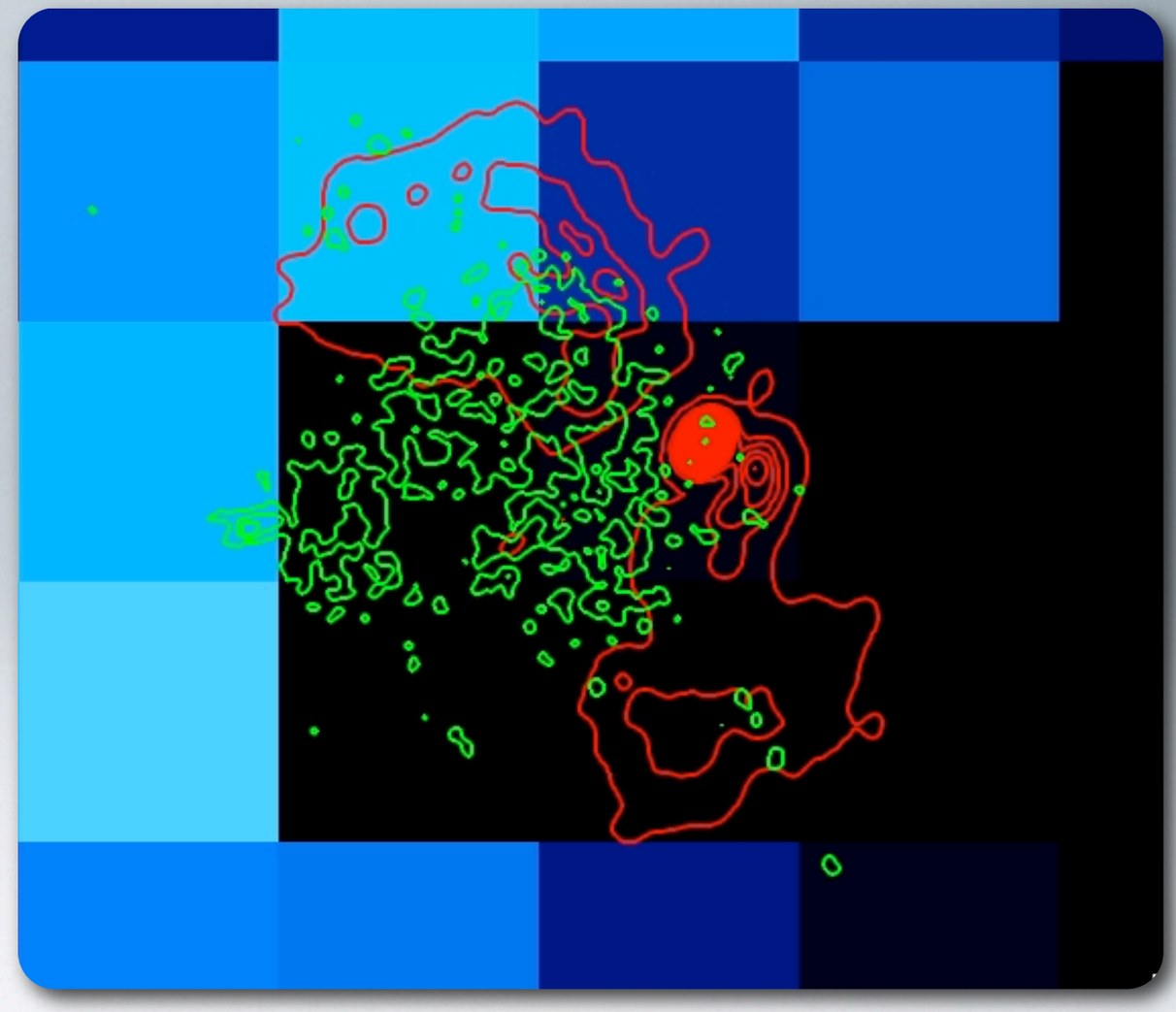
Grant Tremblay Christopher O'Dea Rupal Mittal Stefi Baum Alastair Edge Craig Sarazin
Joel Bregman Megan Donahue Andy Fabian Mark Voit Richard Wilman

HST ACS SBC F150LP



15 kpc

Blue: *Chandra* X-ray, zoom in on the 10 kpc cavity



Green: *HST* FUV Red: VLA 8.4 GHz

The FUV emission anticorrelates with the X-ray cavity, while the radio axis is cospatial with the bright NW ridge in the FUV.

IN OUR POSTER

FUV emission associated with star formation is cospatial with the 10 kpc X-ray cavity in Abell 2597.

The cavity excavation timescale is ~10^7 yr, making it older than the youngest stars associated with the FUV, but not as old as the oldest stars.

Star formation has therefore likely been ongoing throughout cavity excavation.

The shock which cleared the cavity may have coupled more strongly to the hot $10^{7\text{-}8}$ K coronal gas, due to magnetic interactions, than it did with the colder star forming gas. This will have allowed the star forming material to survive passage through the shock and continue forming stars.

The star formation rate measured from the FUV is lower than that for systems in which feedback from the AGN appears to be in a low state (no large scale radio source, no X-ray cavity).

See O'Dea et al. 2010 and Chris O'Dea's talk (Thursday, 14:25) for details.

Our poster also features recent Herschel results on Abell 2597