University of Hertfordshire UH

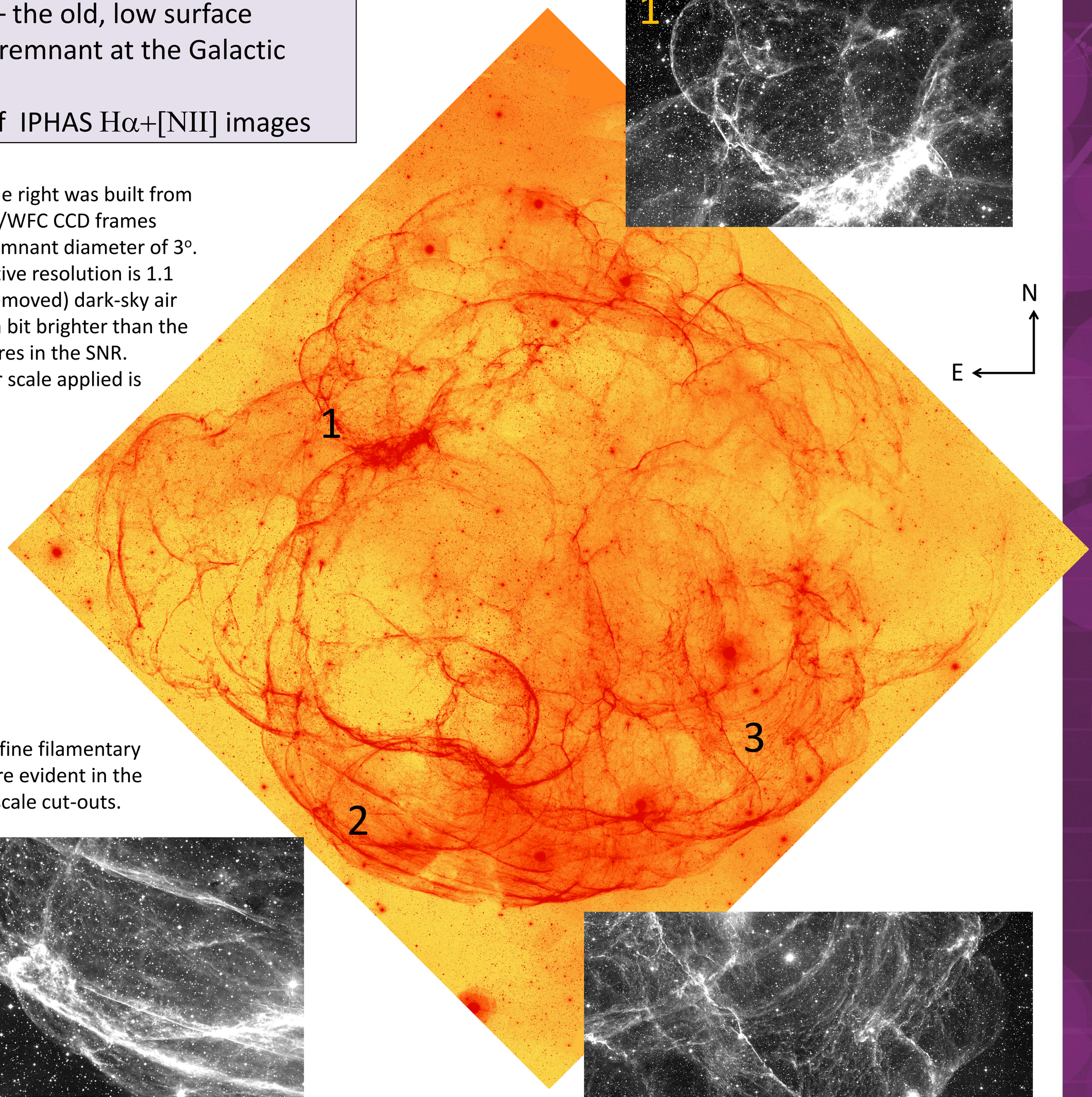
Centre for Astrophysics Research

Exploiting IPHAS Hα imaging of SNR

J. E. Drew, C. Roe, N. J. Wright & the IPHAS consortium

Shajn 147 – the old, low surface brightness remnant at the Galactic Anticentre:
A mosaic of IPHAS Hα+[NII] images

The image to the right was built from around 150 INT/WFC CCD frames spanning the remnant diameter of 3°. The median native resolution is 1.1 arcsec . The (removed) dark-sky air glow, alone, is a bit brighter than the brightest features in the SNR. The false colour scale applied is logarithmic.



The extremely fine filamentary structure is more evident in the expanded greyscale cut-outs.

From 2018, as part of the WEAVE survey, northern Galactic Plane SNR will be sparse-sampled spectroscopically at positions selected directly from the same world-released Hα+[NII] imagery as the mosaic above is drawn from. WEAVE is a wide-field ~1000-fibre spectrograph being built for the Isaac Newton Group's William Herschel Telescope. In its R=5000 mode, this instrument will deliver pan-optical spectra (from 370 nm up to 950 nm). IPHAS – the INT/WFC Photometric Hα survey of the Northern Galactic Plane – awaits only a few repeat images to completely fill in the Galactic latitude band |b| < 5° to 20th magnitude in *r*, *i* and narrowband *Hα*. See www.iphas.org for details of the imaging survey, its data and publications. Talk to JED at this meeting if interested in IPHAS and/or WEAVE use and SNR.

The new mosaic shown here was produced by C. Roe, for his MSc(Res) project, in collaboration with Wright and Drew. A tailored removal of airglow and scattered moonlight removal was carried out at the individual CCD-frame level, using filtered background templates from contemporaneous r-band frames. An earlier version, prepared by A Zijlstra, appeared in Drew et al 2005, MNRAS, 362, 753.