

A New Giant Radio Galaxy

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LOFAR Science Meeting 2016

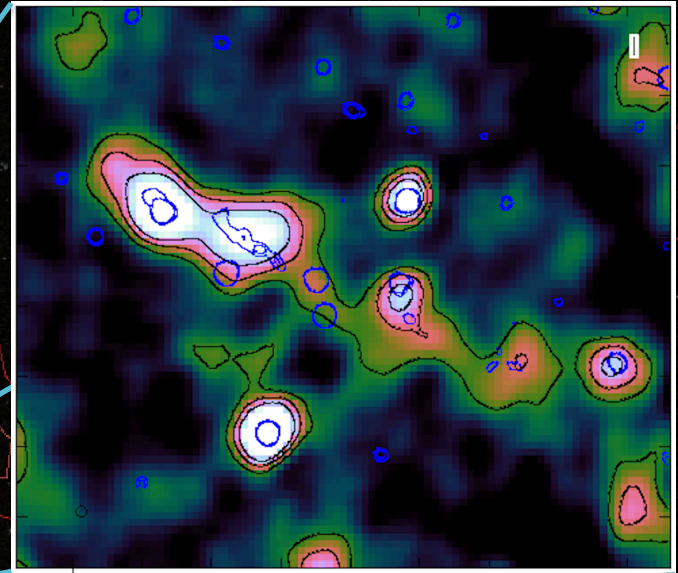
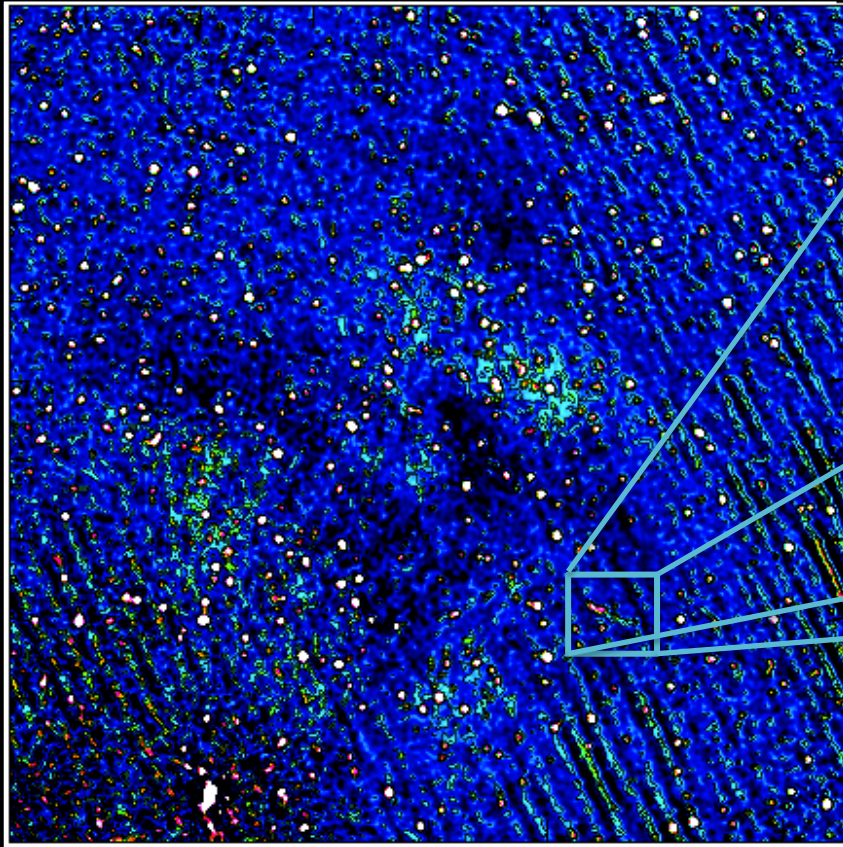
MANCHESTER
1824

LOFAR
MAGNETISM
Key Science Project



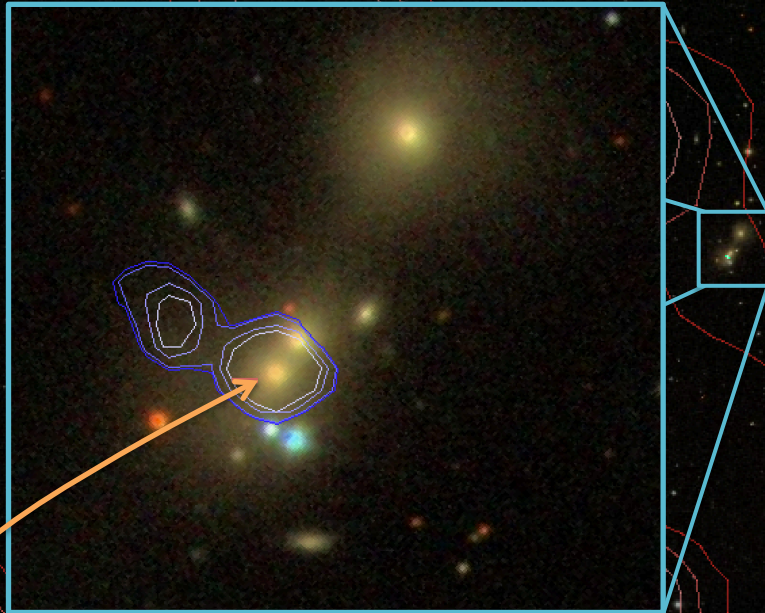
LOFAR

MSSS Discovery

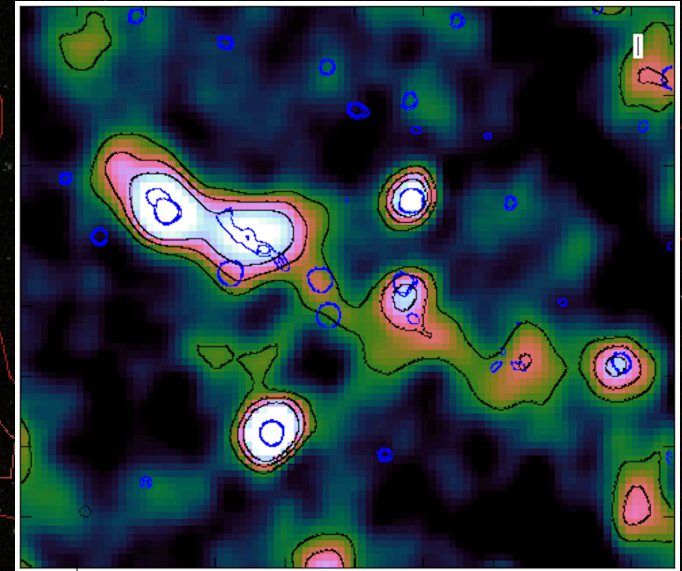


MSSS contours at 2,4,6 times the noise (30mJy). NVSS contours (blue) at 3 and 5 times the noise (5.5mJy).

MSSS Discovery



SDSS image with FIRST 1.4 GHz contours



MSSS contours at 2,4,6 times the noise (30mJy). NVSS contours (blue) at 3 and 5 times the noise (5.5mJy).

SDSS classification is a broad line galaxy, with a spectroscopic redshift of 0.0545

MSSS Discovery

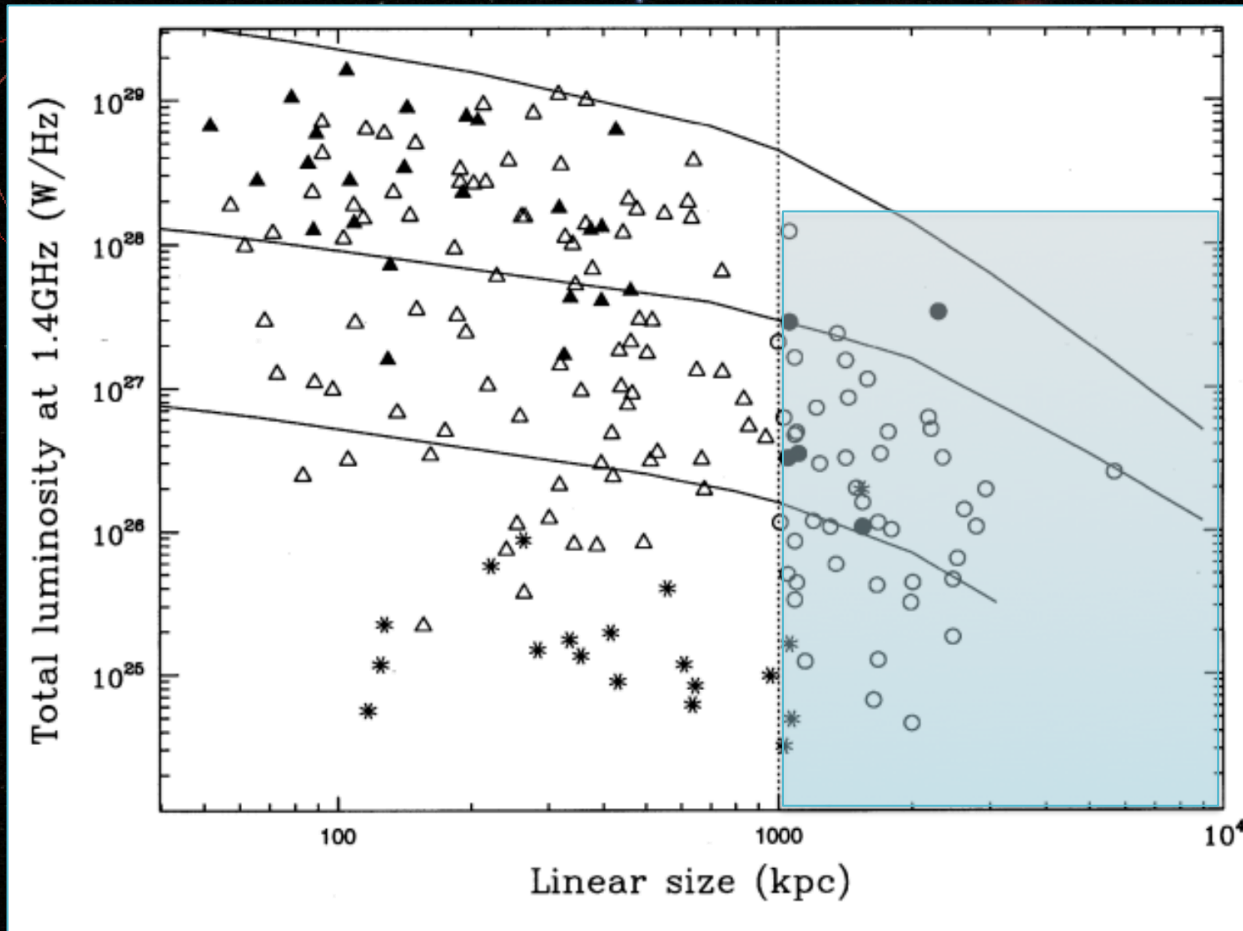


40 arc minutes = 2.66 Mpc

The image displays a field of galaxies with red and blue contours overlaid on a starry background. A prominent blue double-peaked emission line is visible in the lower right. A cyan double-headed arrow spans a distance of 40 arc minutes, which is equivalent to 2.66 Mpc. The contours represent the discovery of new galaxies, with some showing clear double-peaked emission lines.

SDSS classification is a broad line galaxy, with a spectroscopic redshift of 0.0545

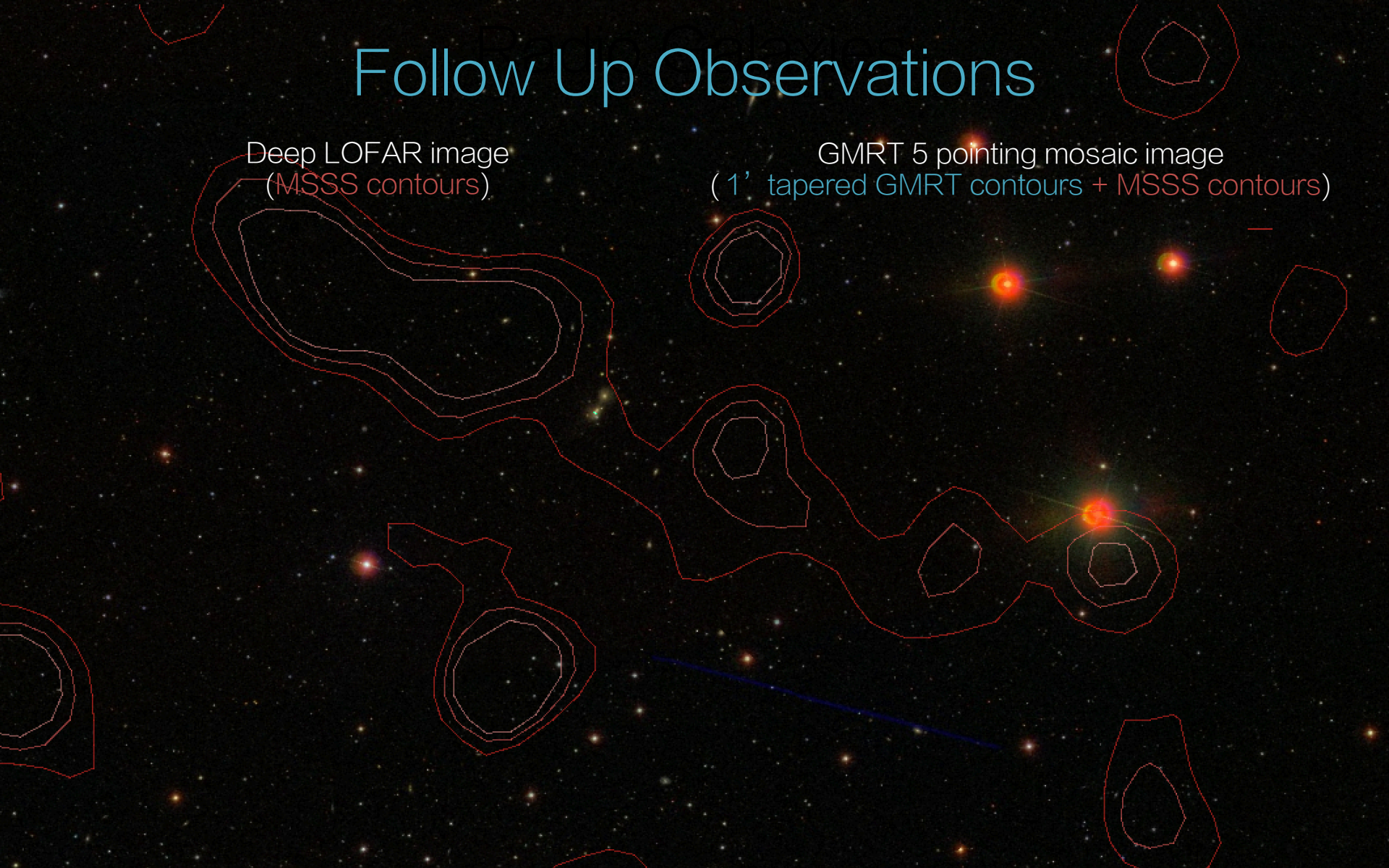
Giants



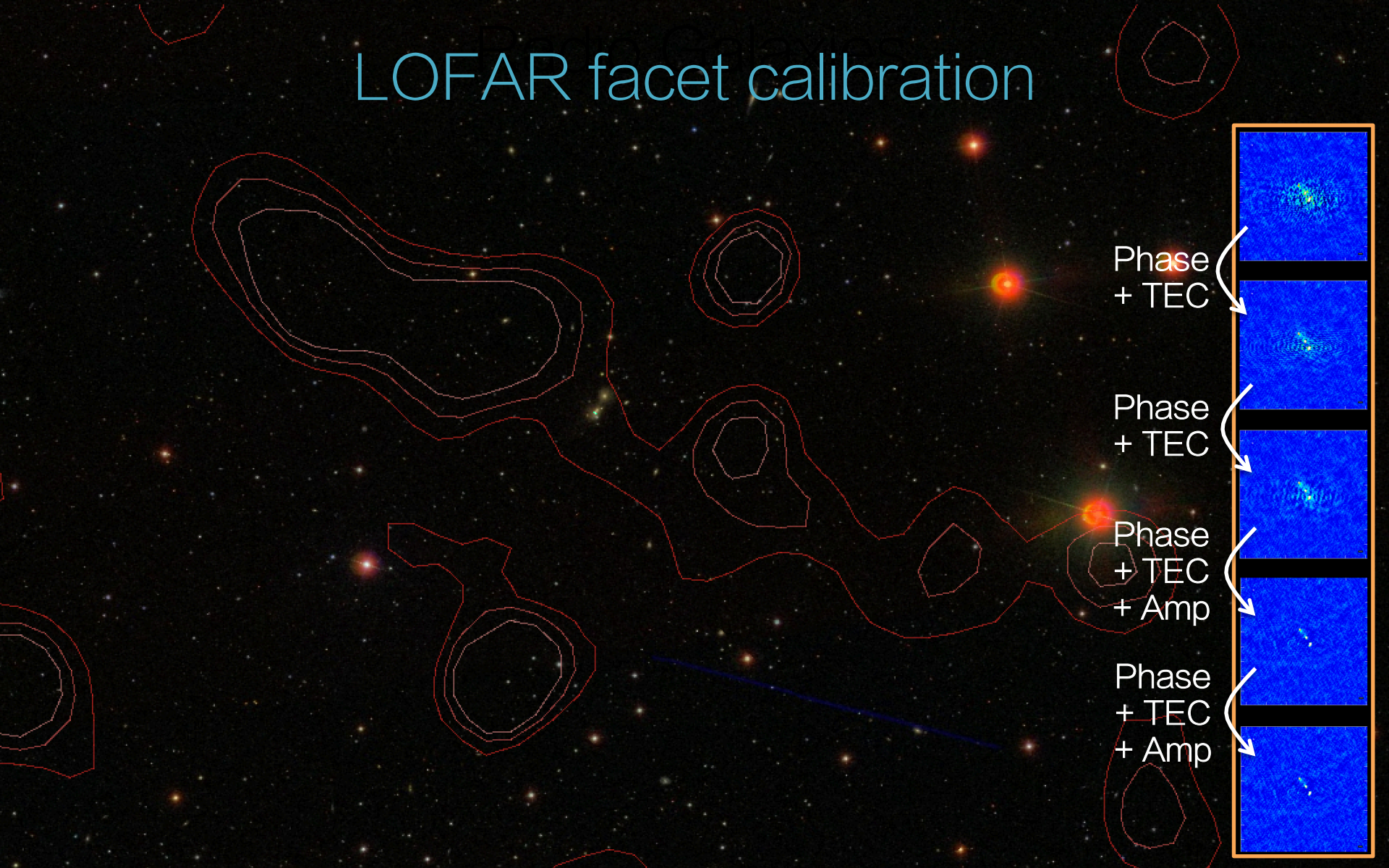
Follow Up Observations

Deep LOFAR image
(MSSS contours)

GMRT 5 pointing mosaic image
(1' tapered GMRT contours + MSSS contours)



LOFAR facet calibration



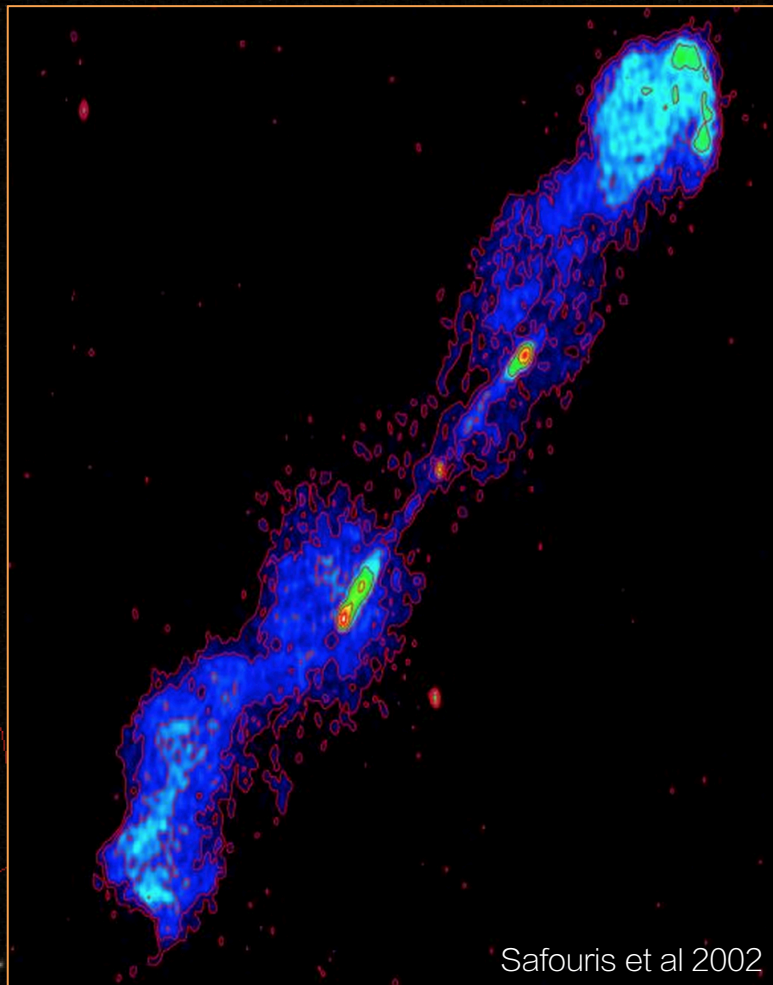
LOFAR facet calibration



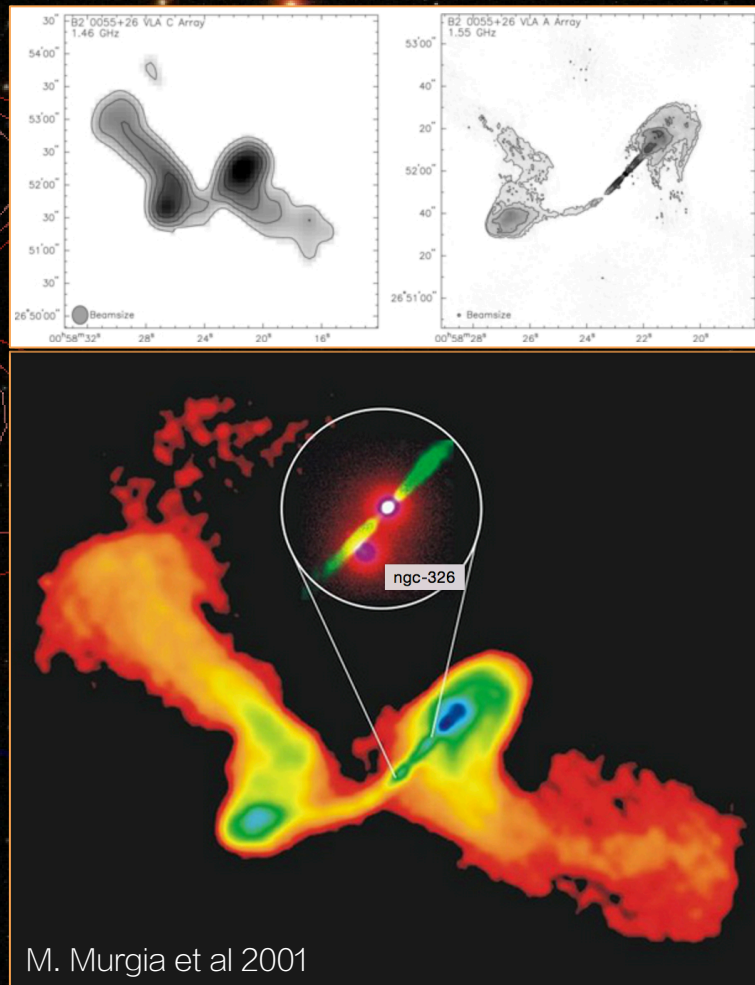
25 arc second resolution
(Direction independent self calibration)
1 mJy noise

6 arc second resolution
(facet calibration)
500 μ Jy noise

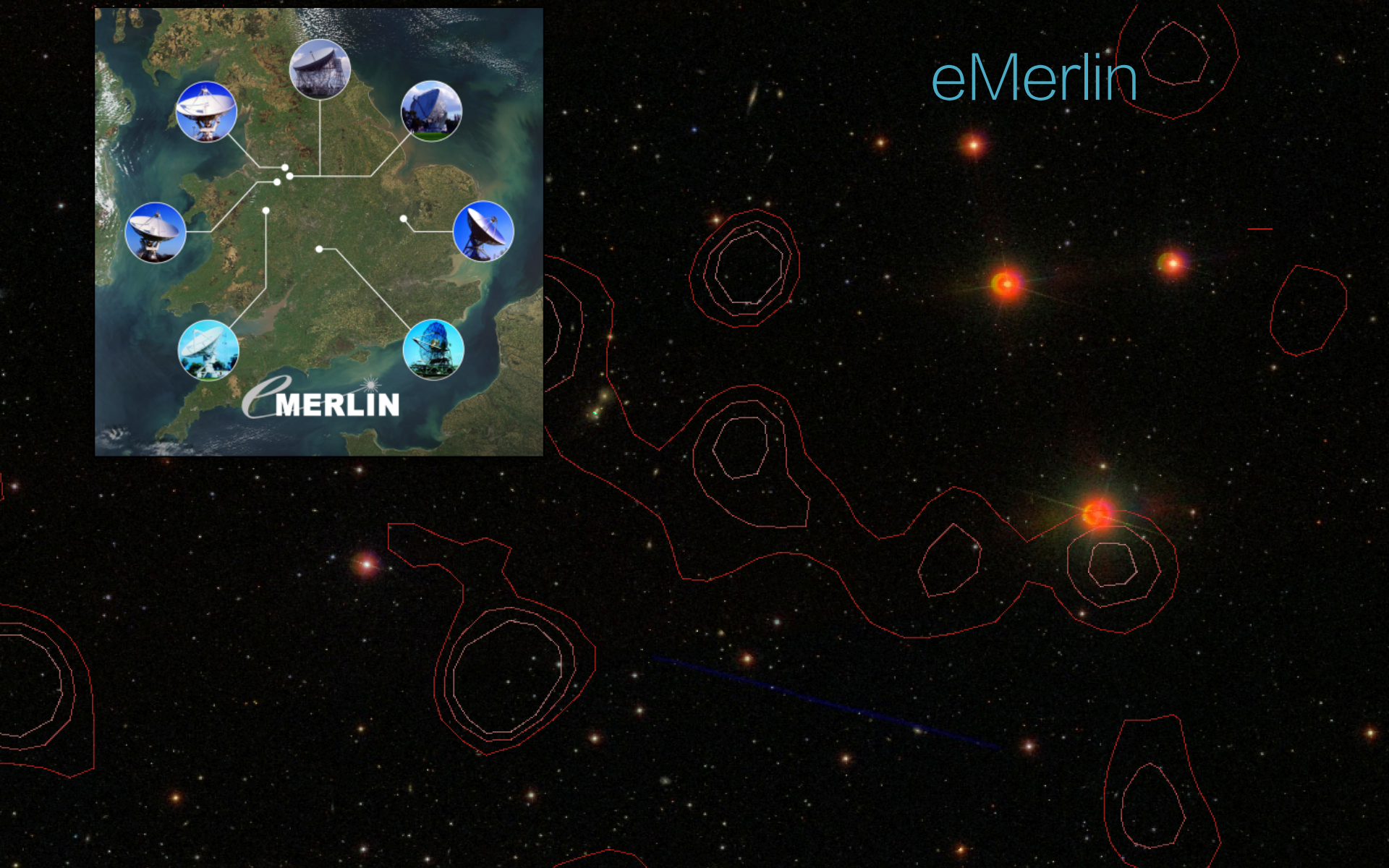
restarted



reorientated



eMerlin



Conclusions

LOFAR reveals multiscale structure
(making use of facet calibration scheme)

Interesting environment

Restarted / reorientated via AGN-
AGN interaction?

Leading into a multi-wavelength
study

