RADIO IMAGING SCHOOL

A Spring School on Processing Radio Astronomy Data

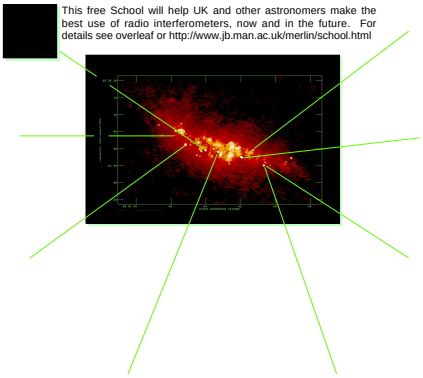
Jodrell Bank Observatory 25 - 28 April 2000

"You too could make a map like this"

Radio interferometers form part of the new generation of high resolution, high sensitivity instruments. MERLIN and EVN observations which compliment the HST, XMM and other deep fields are revealing hitherto unseen populations of sources. The star formation history of the Universe, the details of protostellar and protoplanetary discs, the processes in an AGN or an X-Ray binary are just some of the outstanding questions in astronomy which radio observations help to answer.

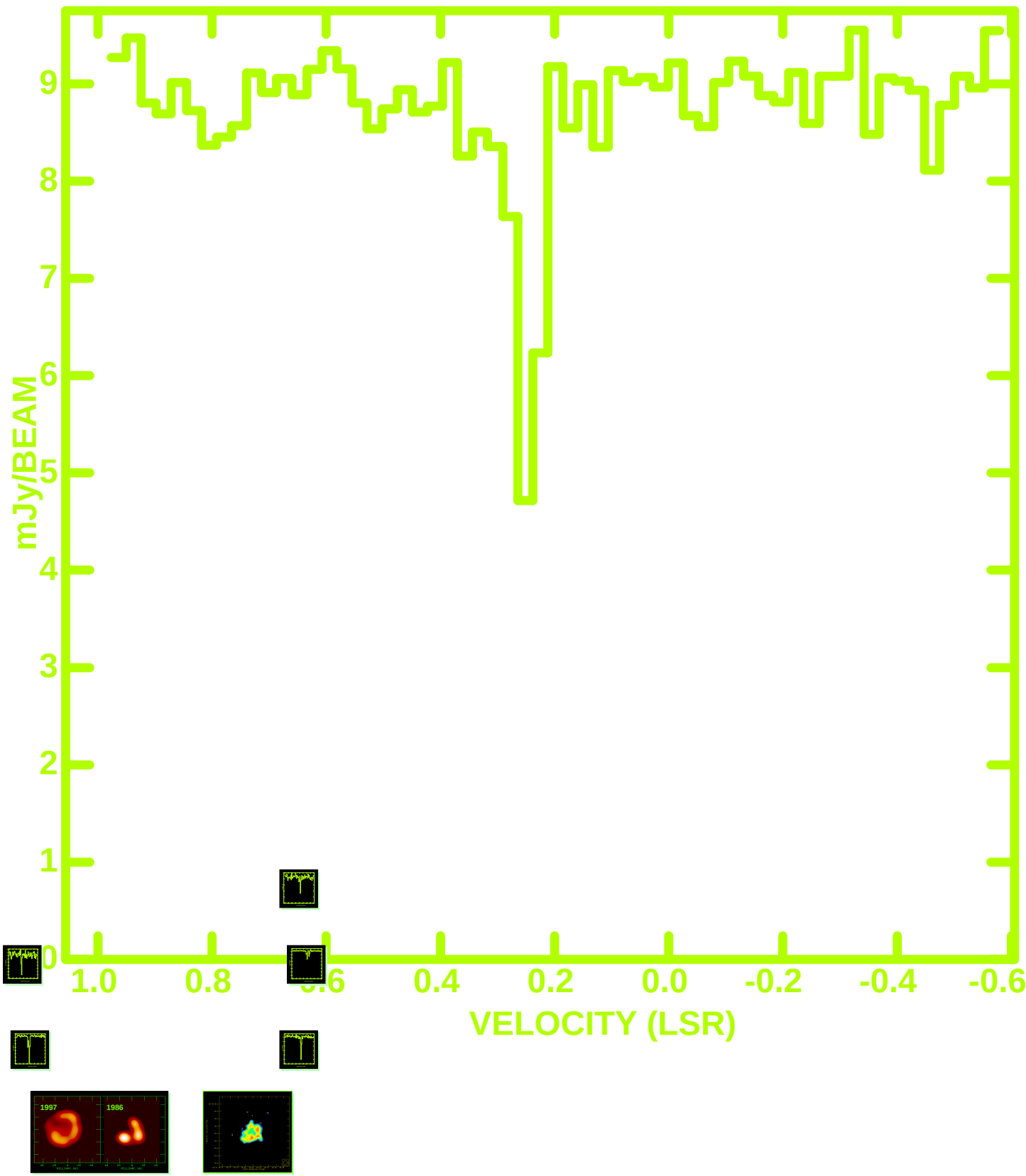
Present instruments have milli-arcsec or even μarcsec resolution and spectral lines can be observed with a fractional resolution of one part in 10^6 or 10^7. Demands for observing time are becoming ever more competitive and new techniques are being developed for analysing the increasing volumes of data. Within the next decade, major upgrades and new instruments will become available.

This free School will help UK and other astronomers make the best use of radio interferometers, now and in the future. For details see overleaf or http://www.jb.man.ac.uk/merlin/school.html



The combination of the European VLBI network (EVN) and MERLIN ensures that even the most compact of the remnants are resolved. The above image clearly demonstrates expansion of one of the most compact remnants between the epochs of 1986 and 1997. An expansion velocity of 10,000 km/s has directly been calculated equivalent to a supernova explosion in the early 1960s (assuming free expansion).

MERLIN alone has the resolution to resolve the majority of the supernova remnants to reveal their shell-like structure. The above image shows a MERLIN 5 GHz image of one of the more extended remnants.


mJy/BEAM
9
8
7
6
5
4
3
2
1
0
1.0
0.8
0.6
0.4
0.2
0.0
-0.2
-0.4
-0.6
VELOCITY (LSR)

1997
1986