



THANKS:

Rami, Ray,

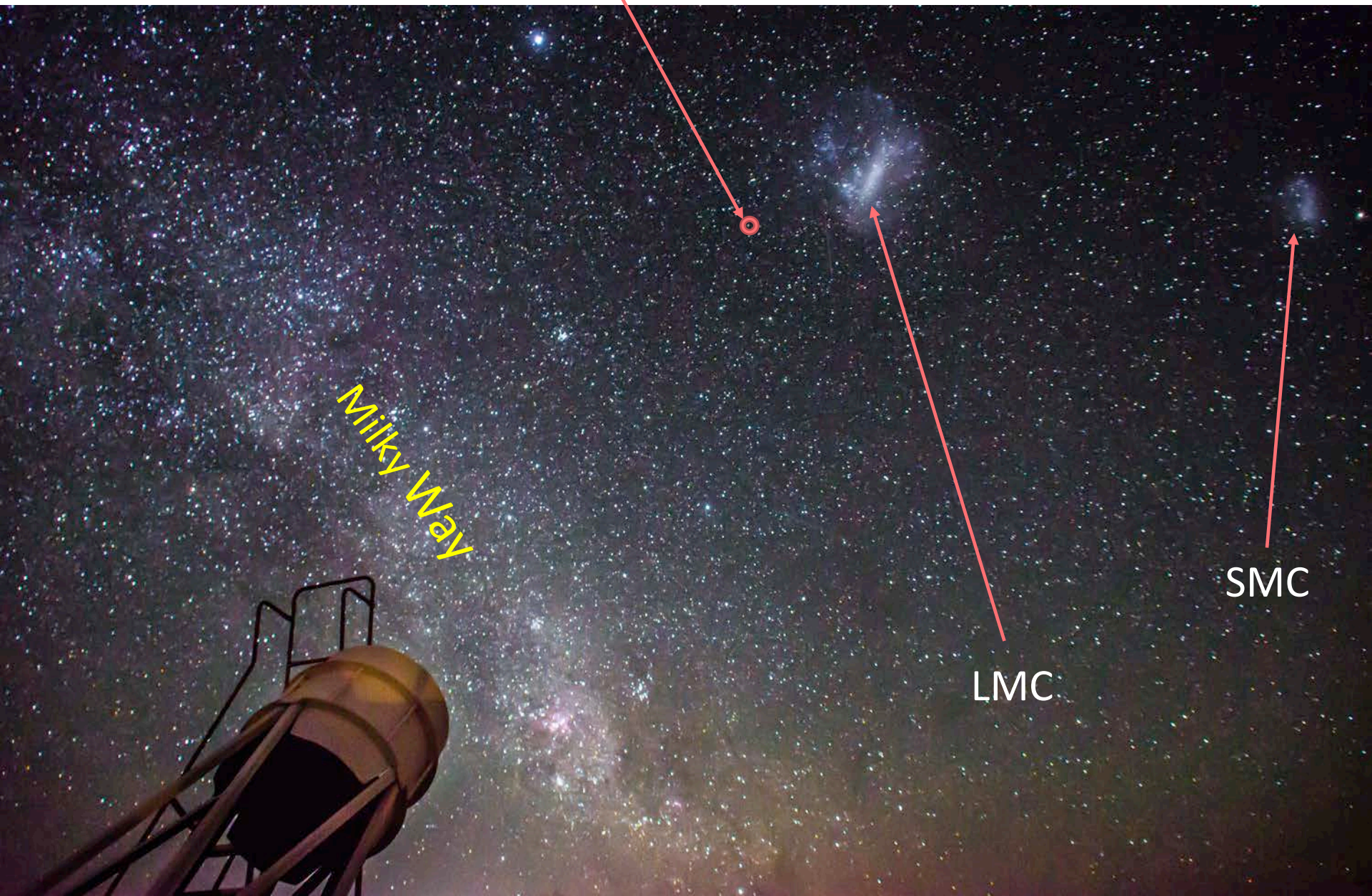
Larry, Natasha, Gavin

Baerbel, Ivan, Tim ...

ORCS
MUST
DIE!

by Miroslav Filipovic

Strange Case of the LMC Odd Radio Circle!



Milky Way

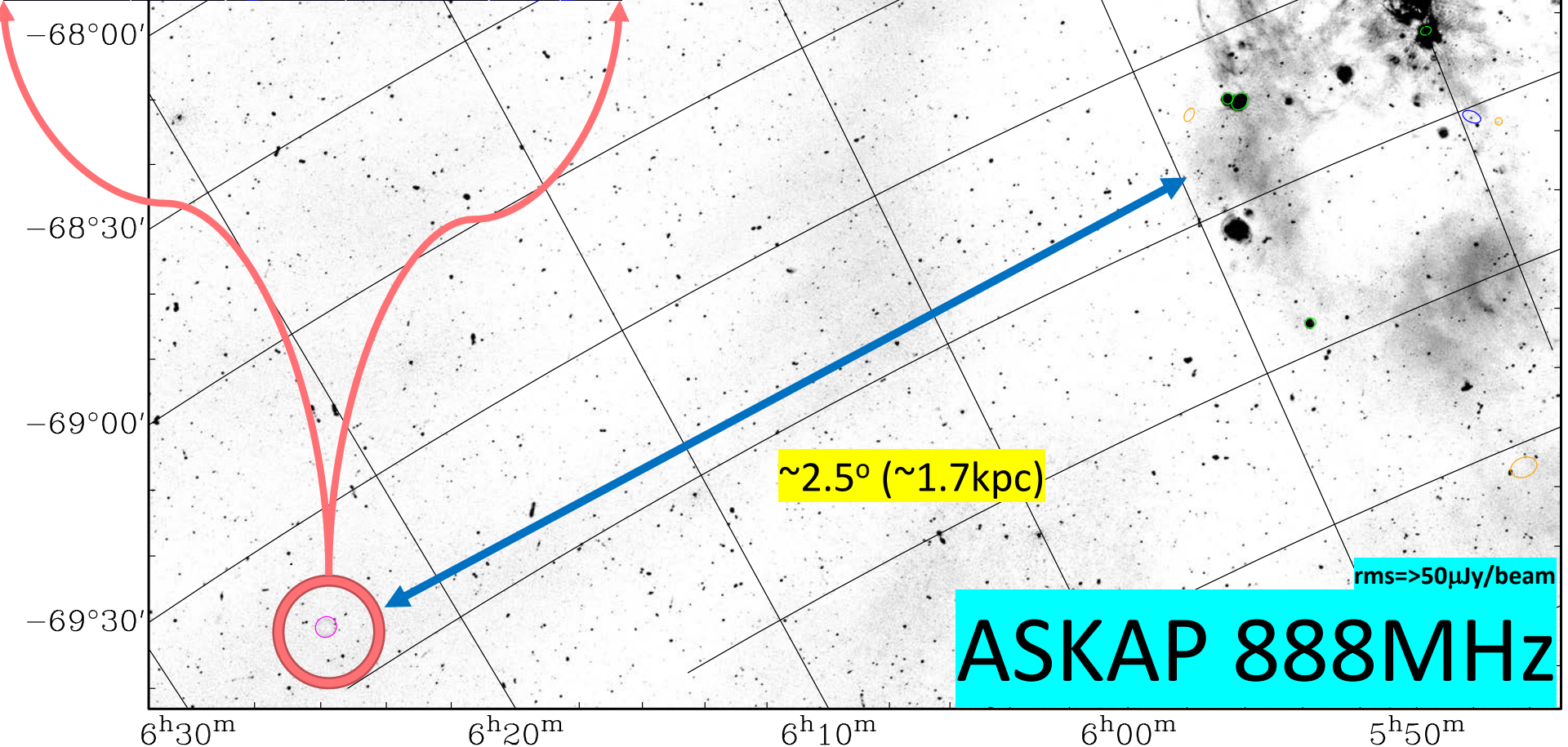
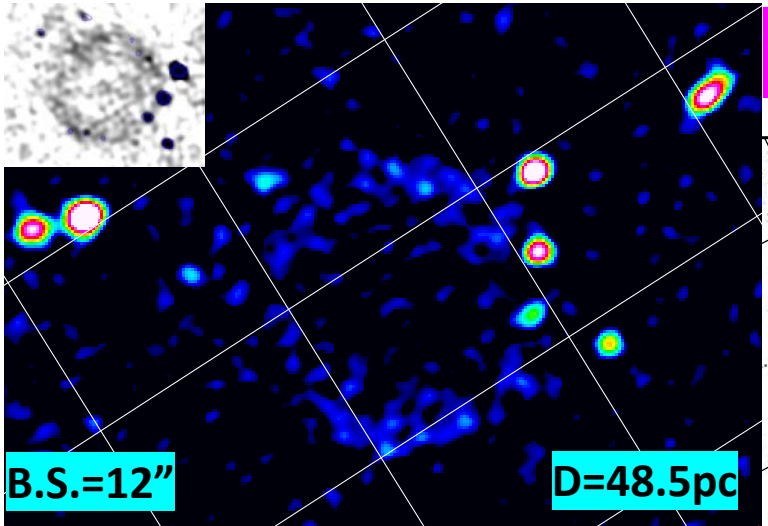
LMC

SMC

Lost LMC SNR or ... ???

WESTERN SYDNEY UNIVERSITY

30 Doradus



-68°00'
-68°30'
-69°00'
-69°30'

6^h30^m 6^h20^m 6^h10^m 6^h00^m 5^h50^m

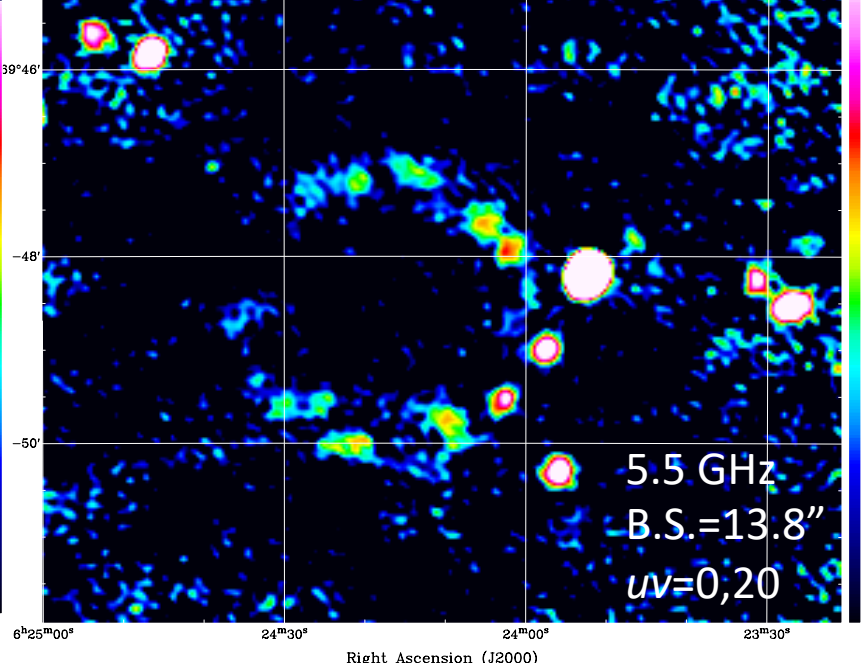
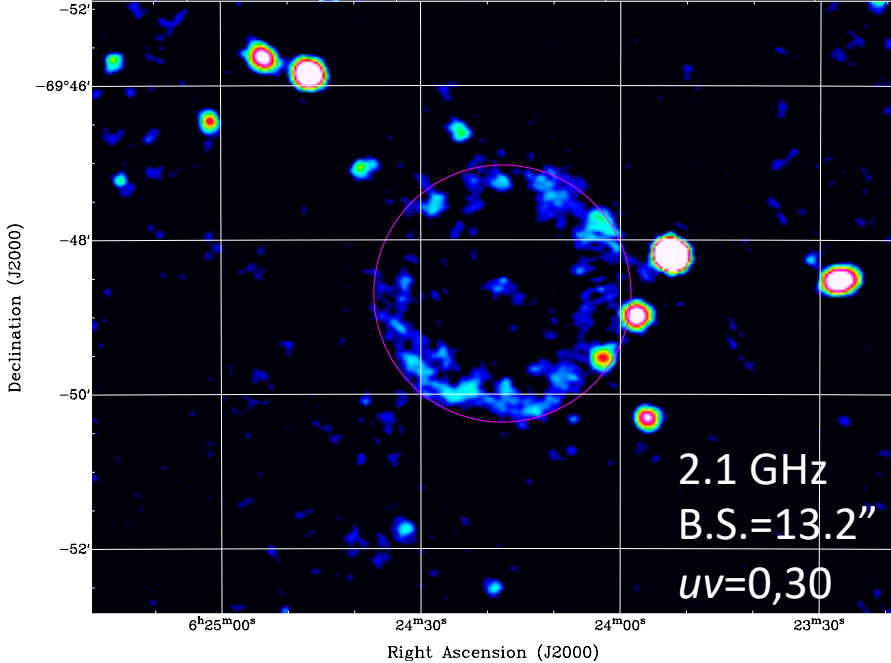
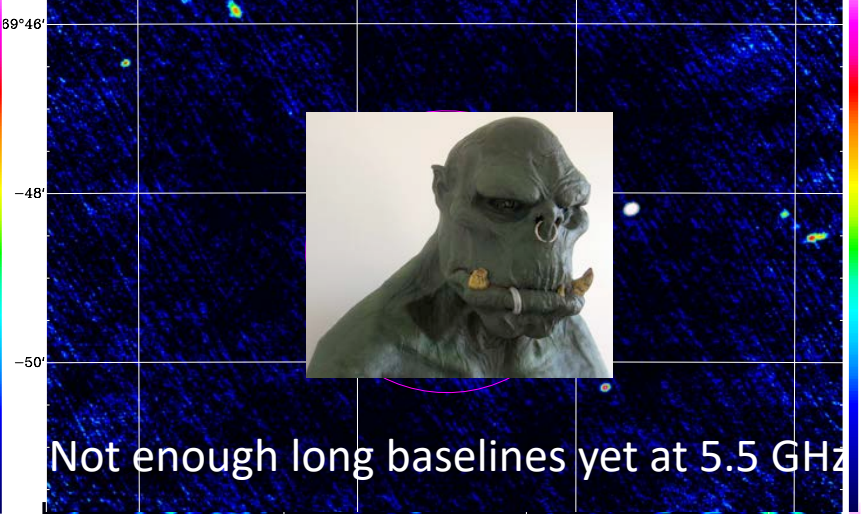
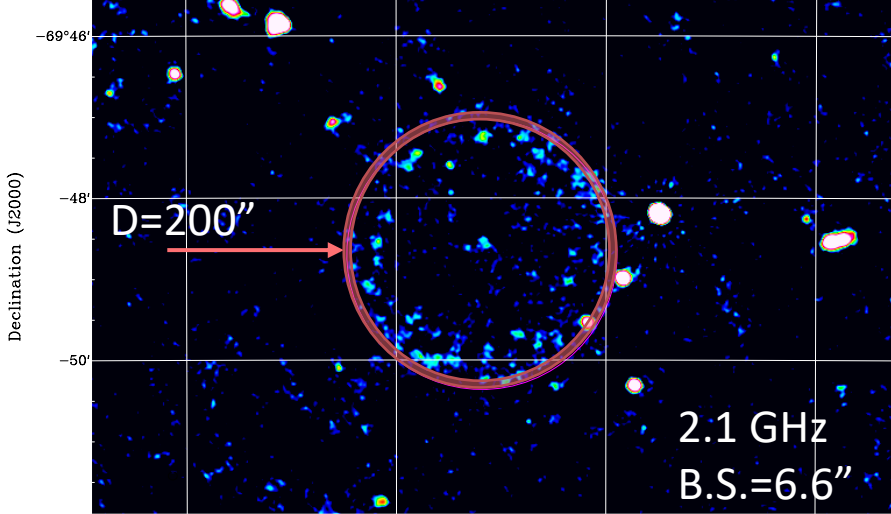
NEW ATCA Observations (6A, 6D, 1.5C, 367 & H168)

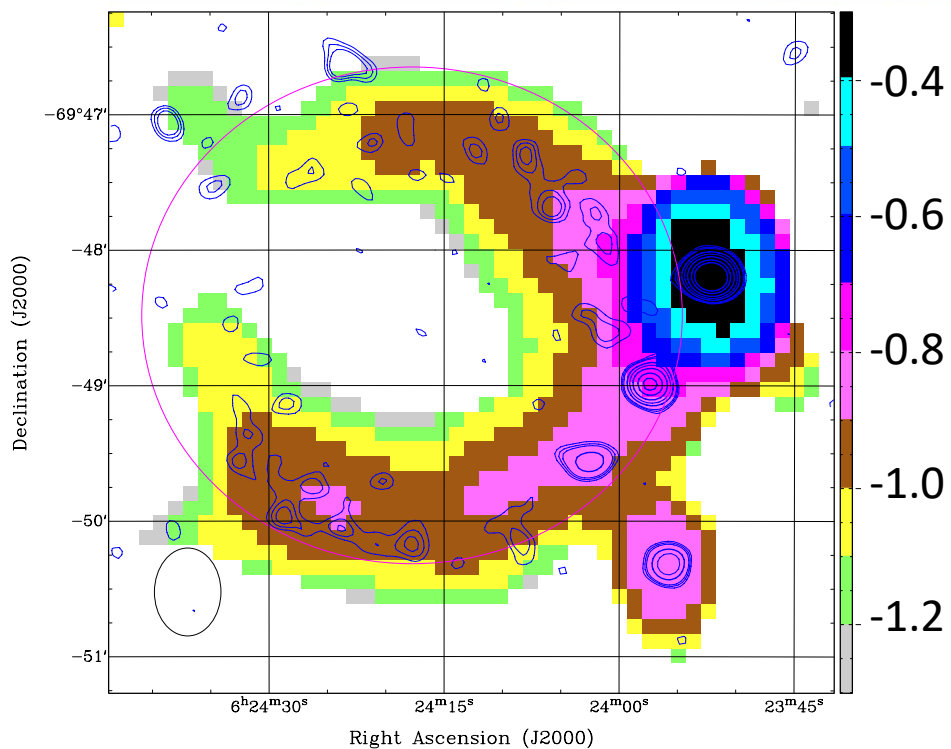
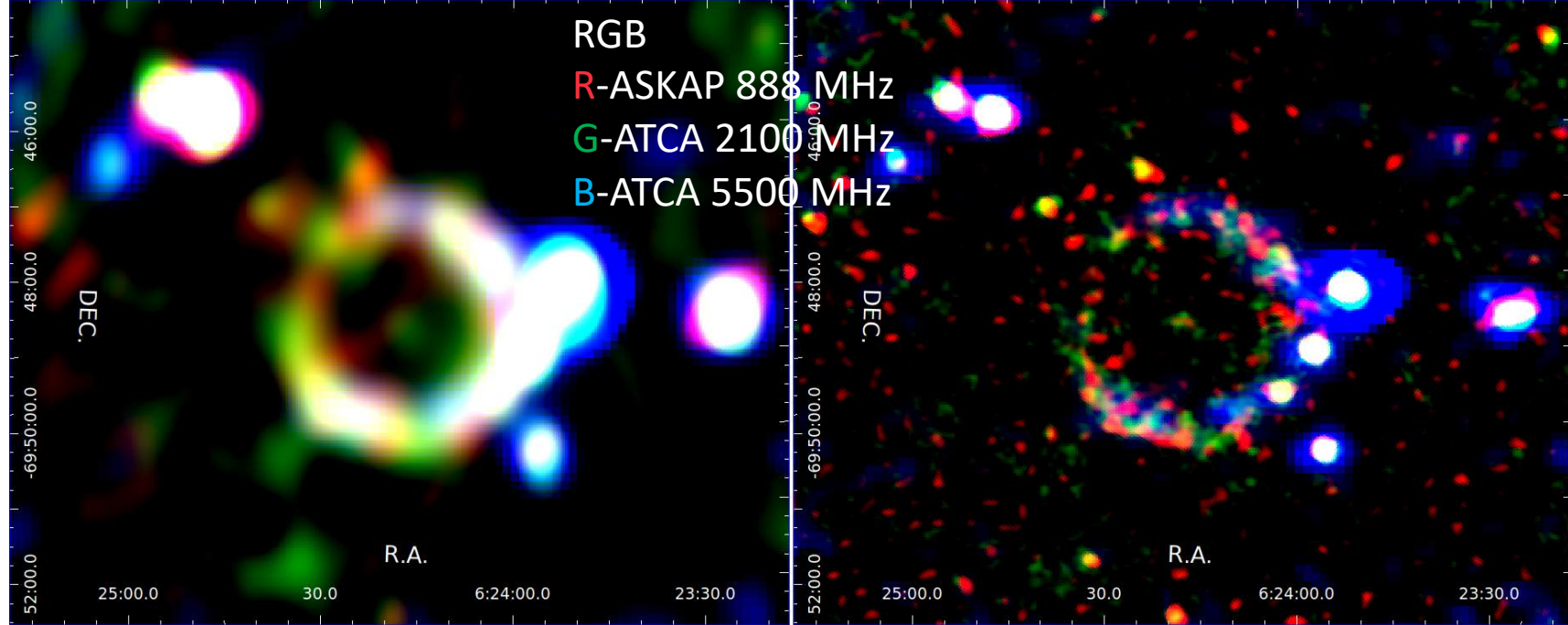


ALL green time observations!

2.1 GHz arrays: 1.5C, 6A, 6D, 367 & H168

5.5 GHz arrays: 6A, 6D, 367 & H168





To be or not to be – SNR or ...?

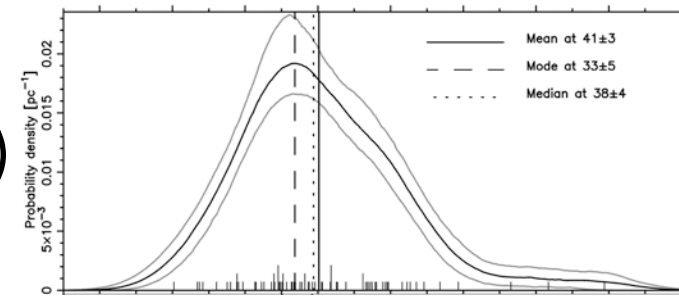
Polarisation images to come +
new ATCA at 6A (next weekend)

To be or NOT to be... Lost LMC SNR or ORC (Odd Radio Circle)



Case for "lost" LMC SNR

1. Typical size $D^*=48.5\text{pc}$ (LMC SNR $D_{\text{av}}=41\text{pc}$)
2. Perfect $D=200''\pm 2''$ ring
3. Type Ia ?
4. Evolving in perfect rarified environment
5. But possible source in the centre??
Can't be CC SNR too far away from the LMC!!
6. Moving towards the MW i.e. between LMC and MW?
7. Steep $\alpha \sim -0.8 \rightarrow$ typical for very **old** SNR with low Σ

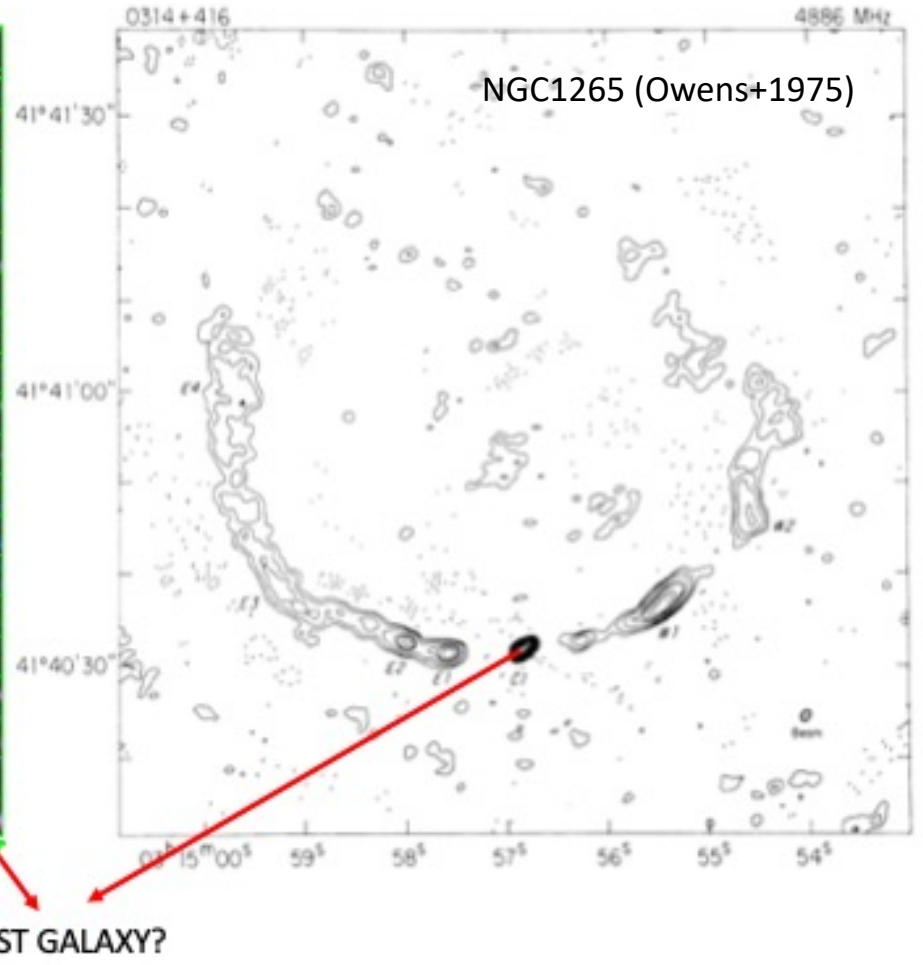
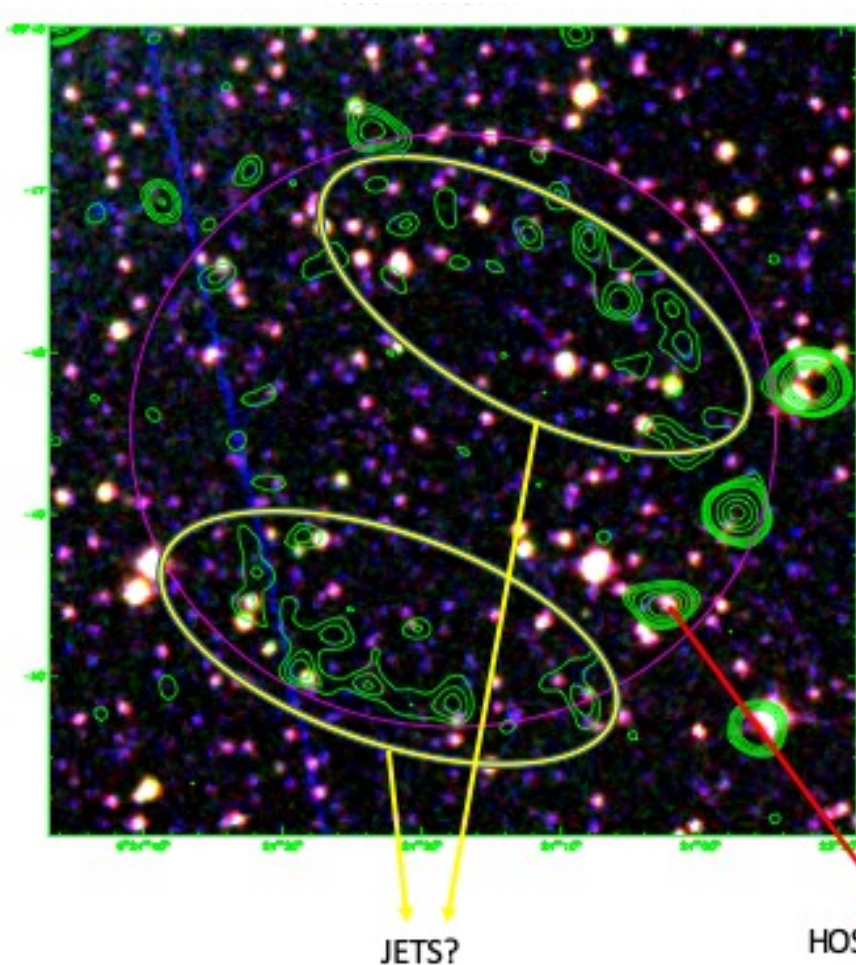


* Using distance to LMC of 50kpc

To be or NOT to be... Lost LMC SNR or ORC (Odd Radio Circle)



Case for AGN (NAT) ???



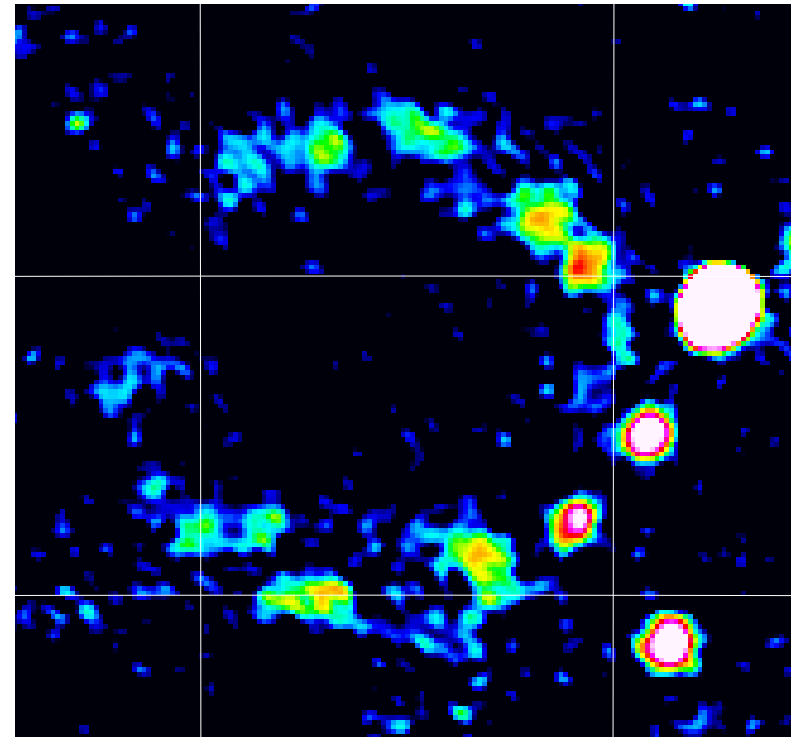
To be or NOT to be... Lost LMC SNR or ORC (Odd Radio Circle)



...or precessing BL-Lac ???

ORC -- What else...

- Ask Ray!!!
- Few similar object in:
 - ASKAP Pilot
 - GMRT

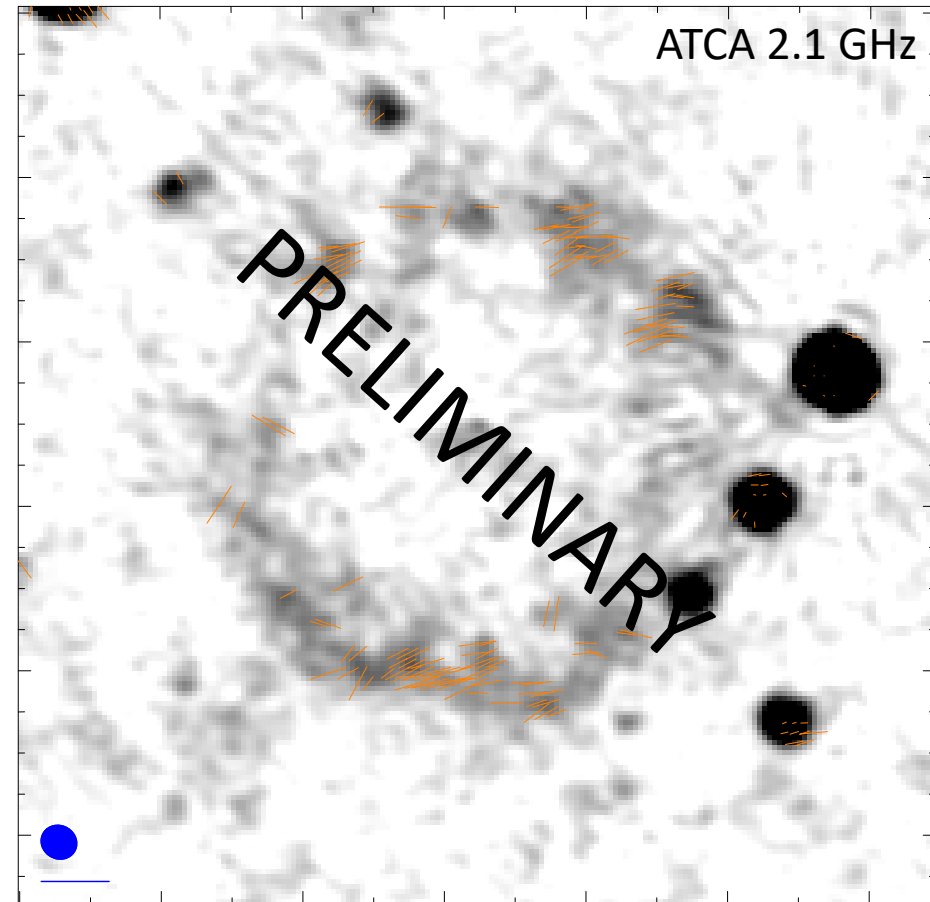


To be or NOT to be... Lost LMC SNR or ORC (Odd Radio Circle)



ORC -- What is next?

- Radio polarisation
- Optical narrow-bands
- eROSITA
- IR
- ?

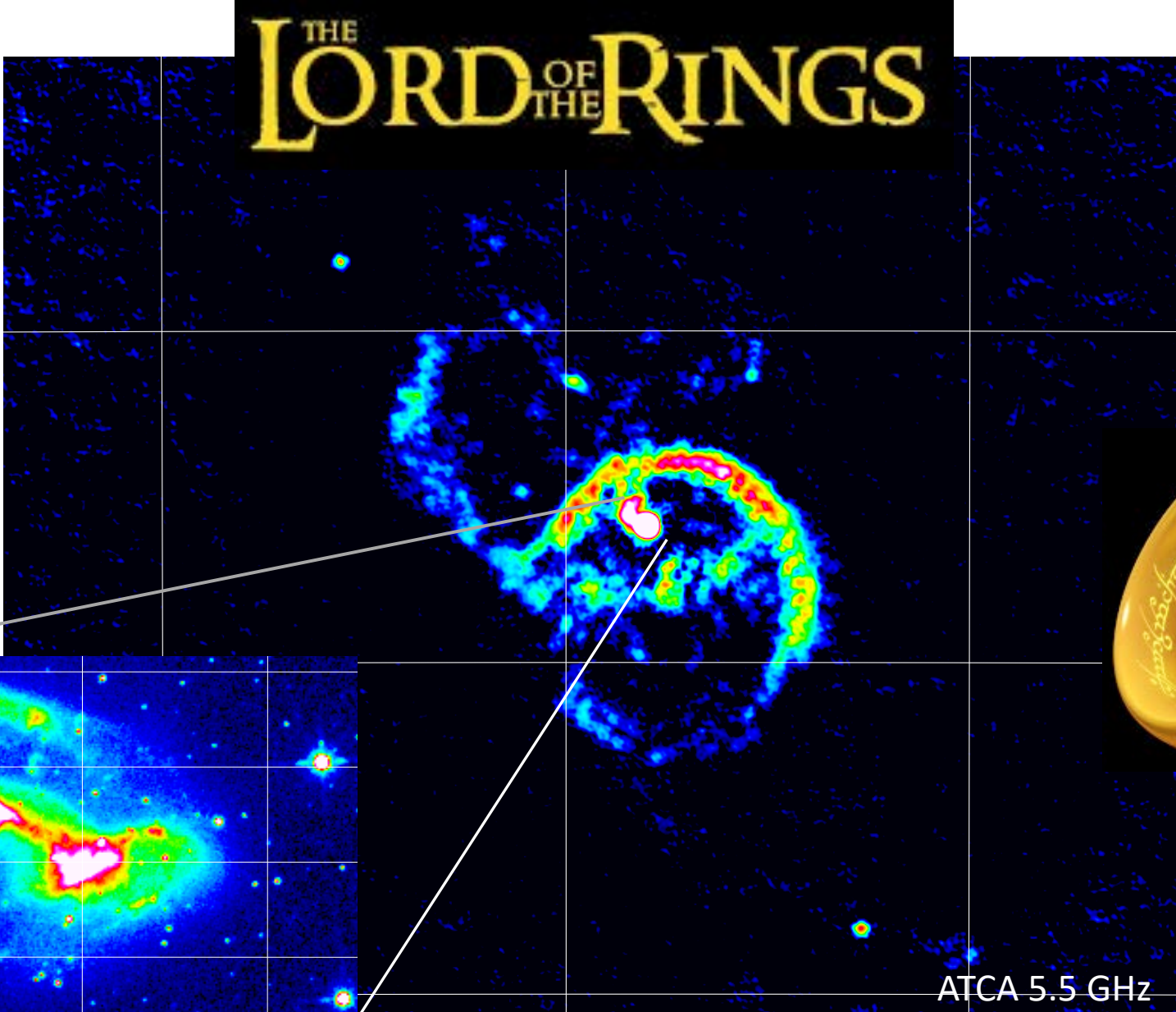


Summary

- 50-50 LMC_SNR vs. ORC
- Big /New instruments → big/new discoveries --- you can bet on that!!!
(otherwise you wasted taxpayers money)
- Expect unexpected
- Multi-frequency (messenger) approach is MUST
- Is sensitivity and resolution mother of all next-gen discoveries?
- How, when and what to publish when it comes to these type of discoveries?

... and very soon to your CTA-Oz “cinema”...

THE LORD OF THE RINGS



HST

ATCA 5.5 GHz