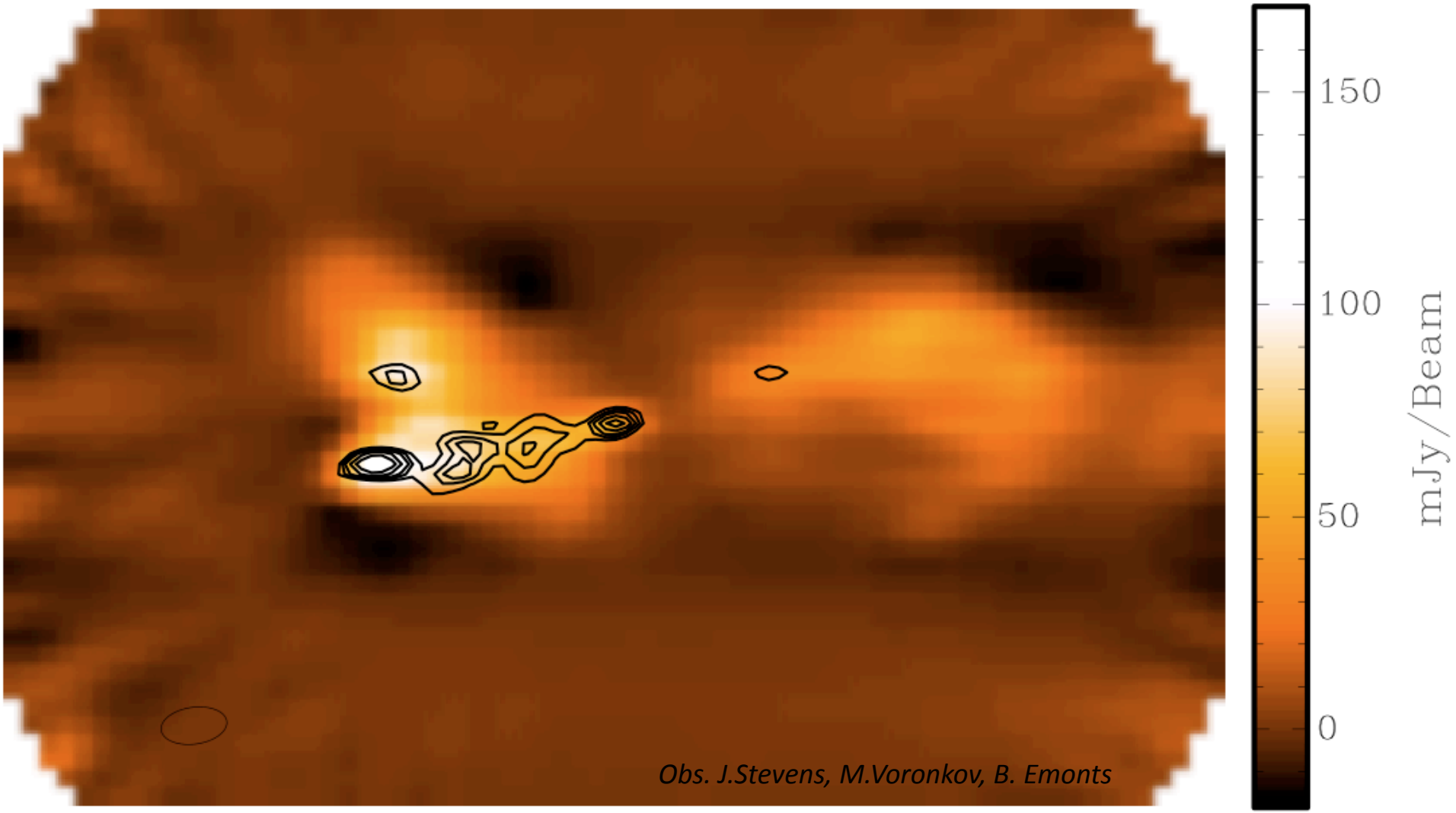
First results on spectral-lines and indices with CABB

Bjorn Emonts
(CSIRO – ATNF)

NGC 612: the nearest powerful FR-II radio galaxy

5h in H168 array



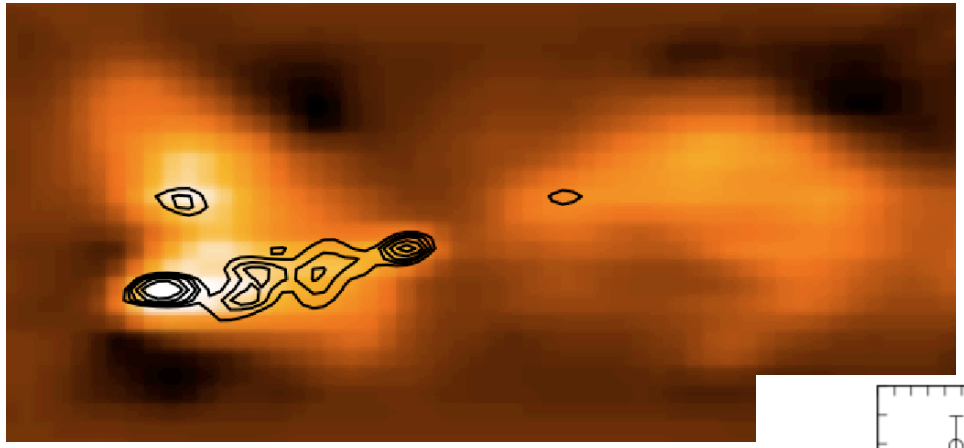
Color: 6cm continuum

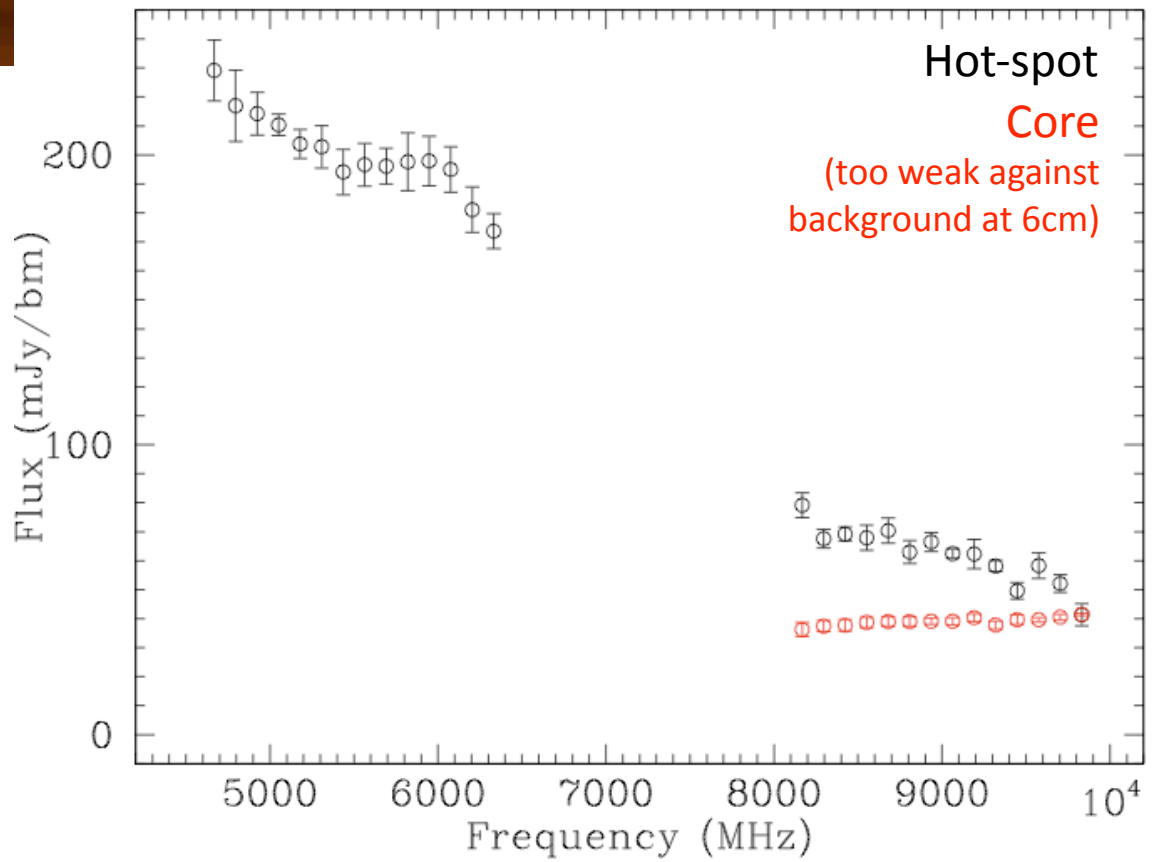
Contours: 3cm continuum

- calibration on full 2GHz band
- flux calibration: gpboot on 128 MHz chunks
- cleaned and combined in linmos
- NO SELFCAL YET!

NGC 612: the nearest powerful FR-II radio galaxy

5h in H168 array

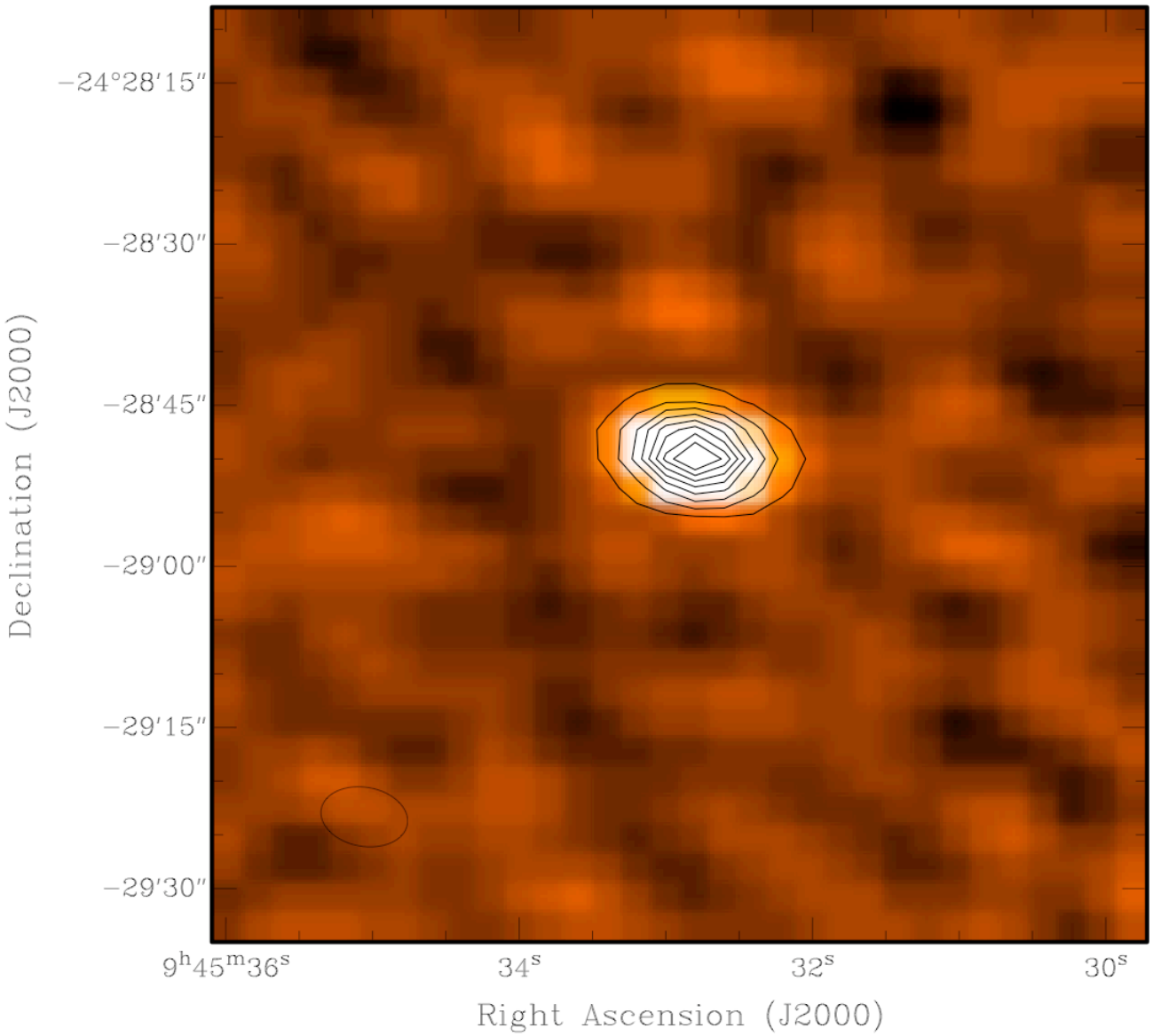




- flux calibration per 128 MHz
- corrected for primary beam
- old model of 1934 used

CO(1-0) in a *z*=3 radio galaxy

(Ilana Feain, Ray Norris, George Miley, Minnie Mao, Elaine Sadler,
Montse Villar-Martin, Clive Tadhunter, Tom Oosterloo)



Scheduled observations

MRC 0943-242

Radio Galaxy with giant Lyα halo

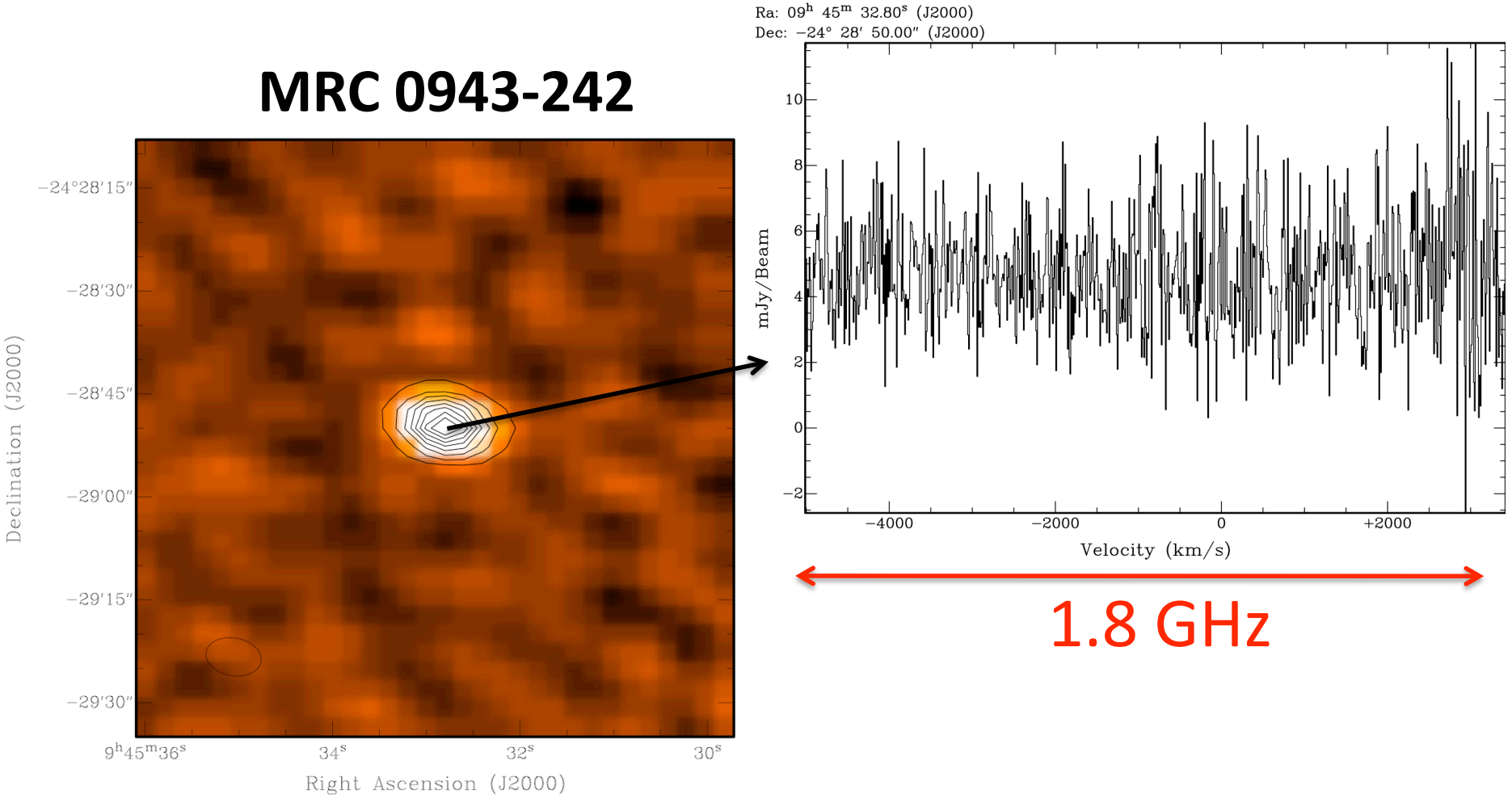
Z = 2.93 (29.3 GHz)

Continuum source: 4.5 mJy:

Easily detected!

CO(1-0) in a *z*=3 radio galaxy

MRC 0943-242

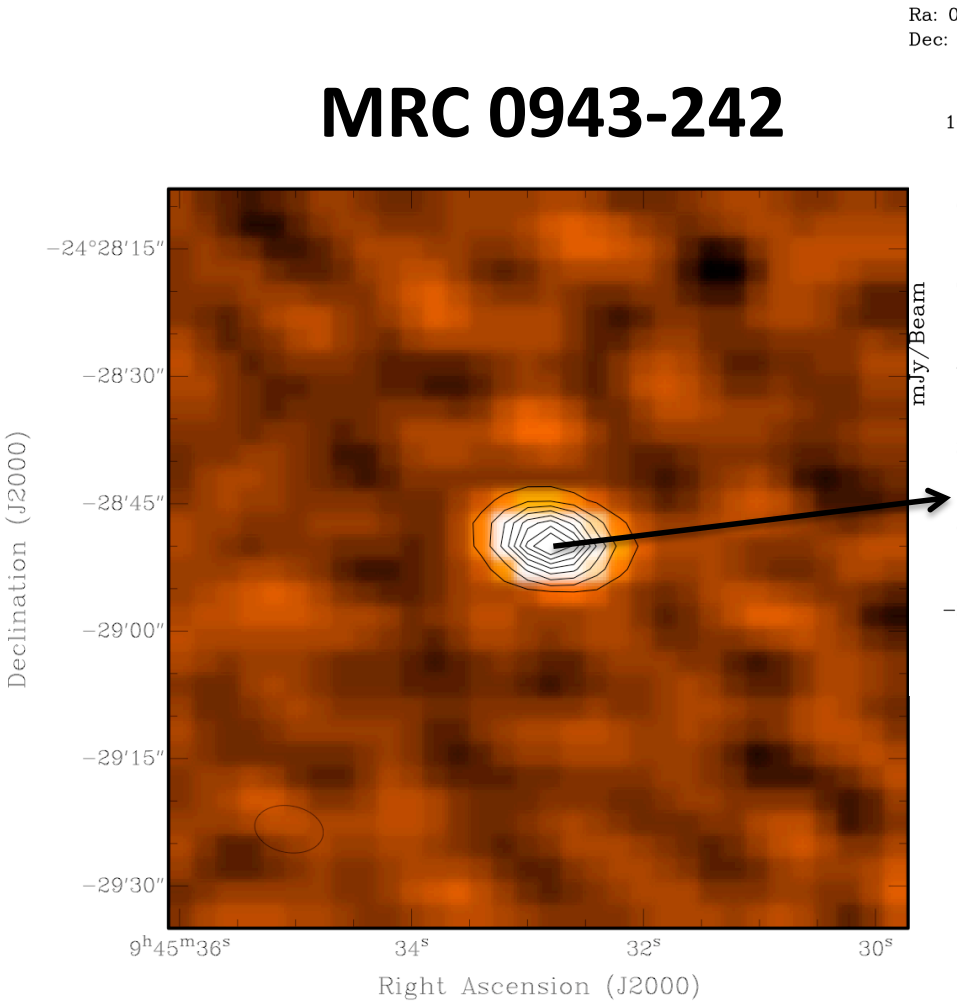


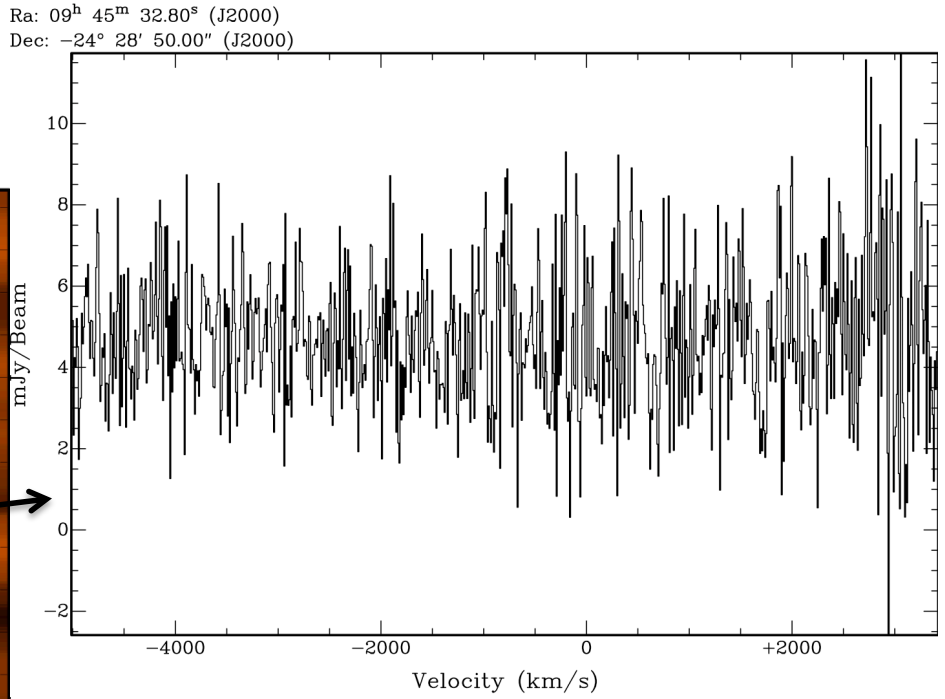
Centred band at 30 GHz (‘hard’ limit for 7mm)

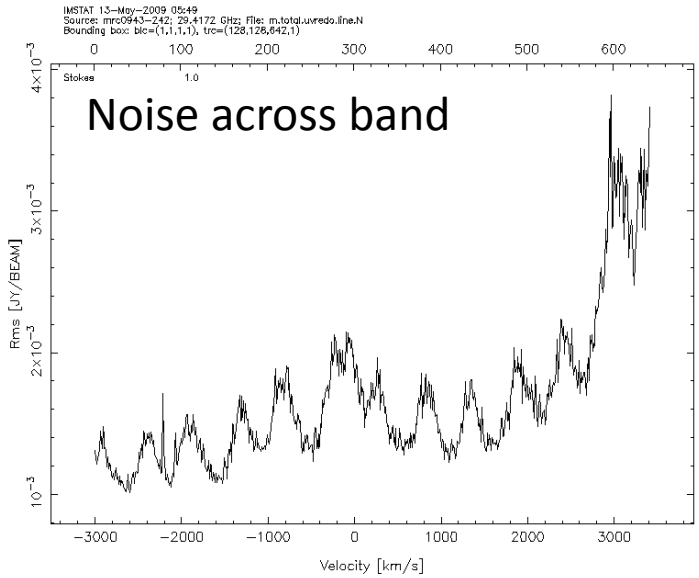
-> Good quality data almost all the way down to 29 GHz!

CO(1-0) in a *z*=3 radio galaxy

MRC 0943-242

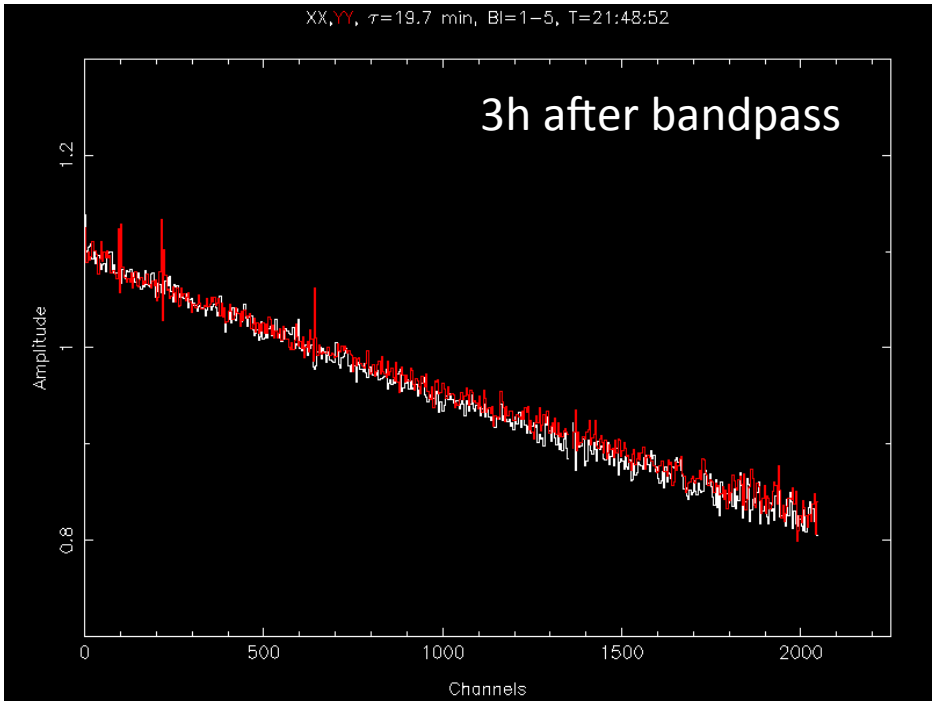


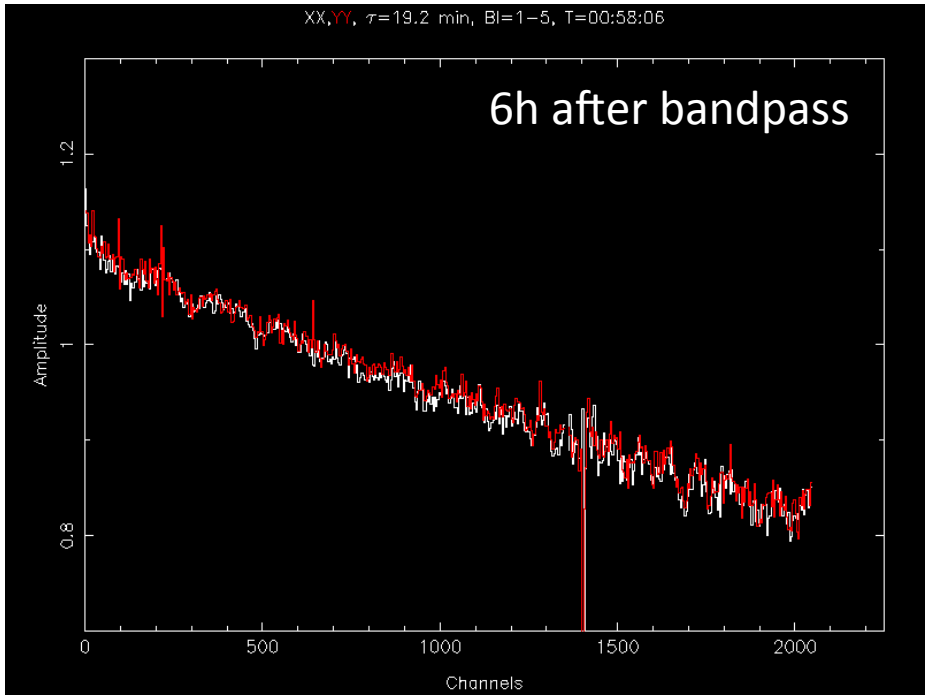


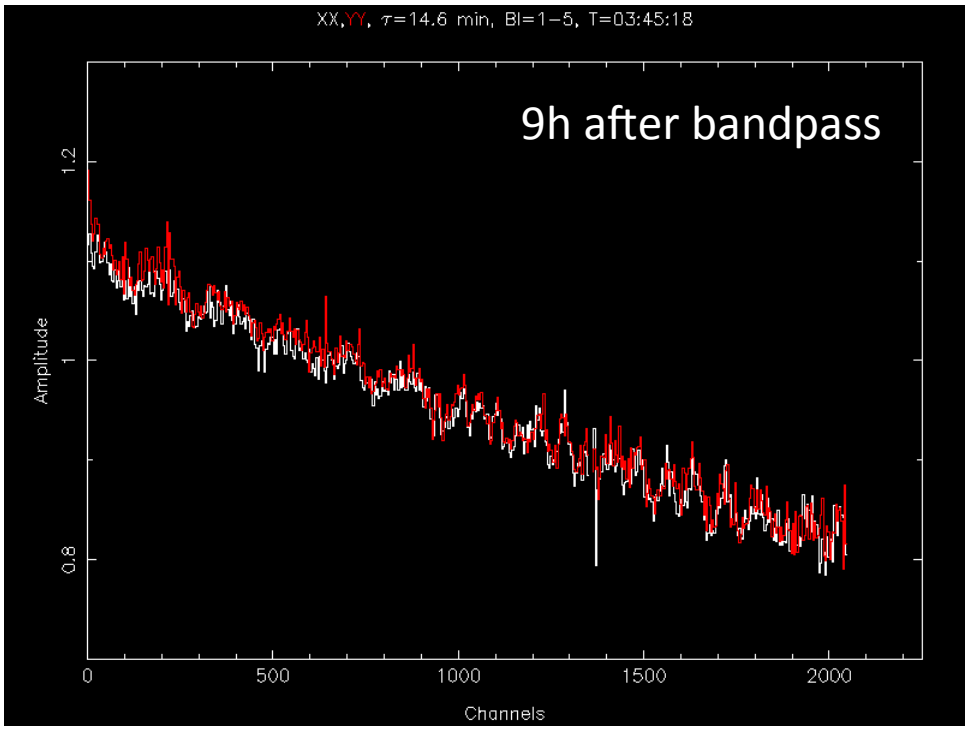


Bandpass stability:
- 2 GHz overall -> very good
- Smaller scale fluctuations

rms noise (average):
1.7 mJy/beam
Also some fluctuations







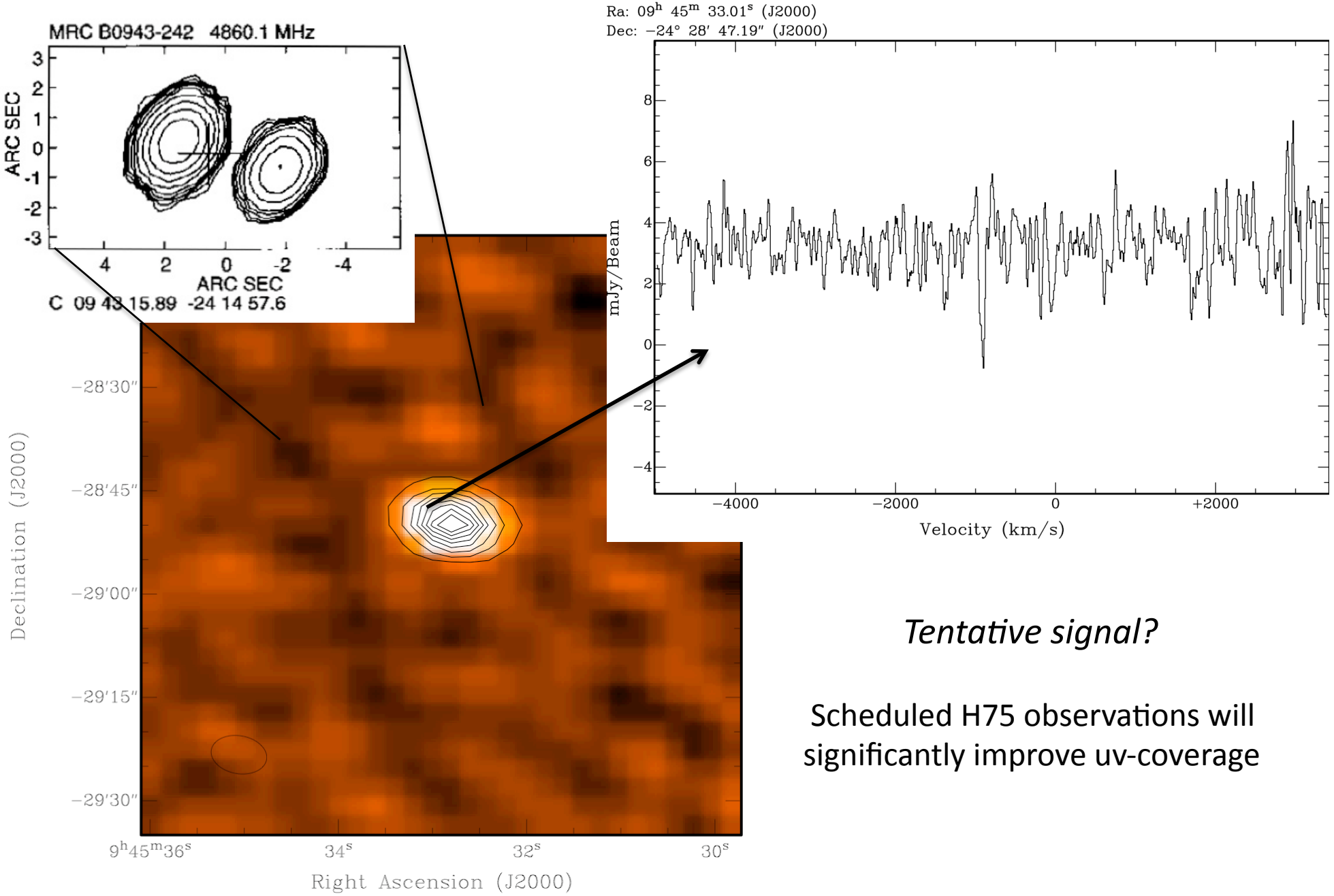
Bandpass not stable over time:

For high spectral dynamic range
-> observe bandpass calibrator
intermittently

(For continuum it may average out)

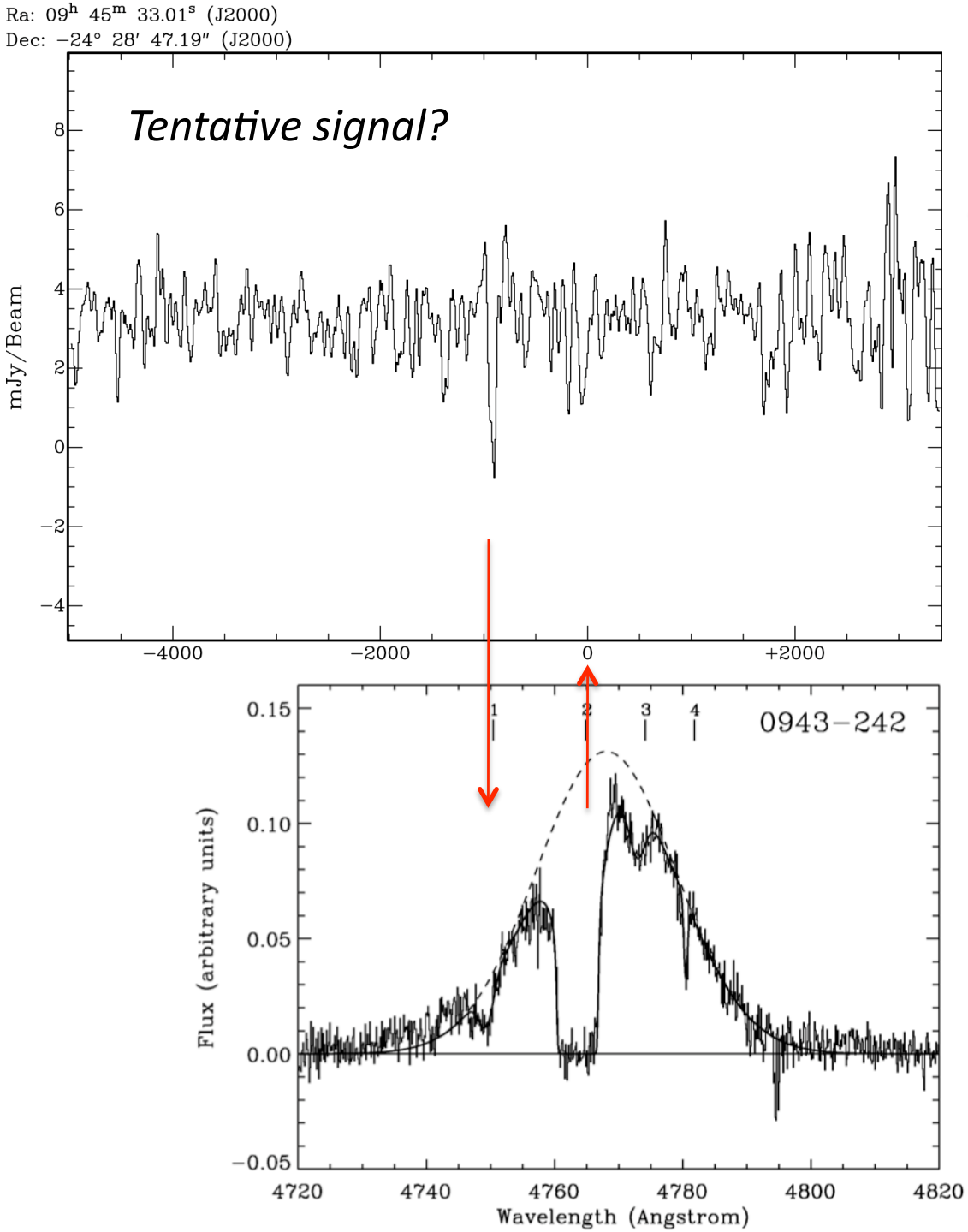
Tobias Westmeier

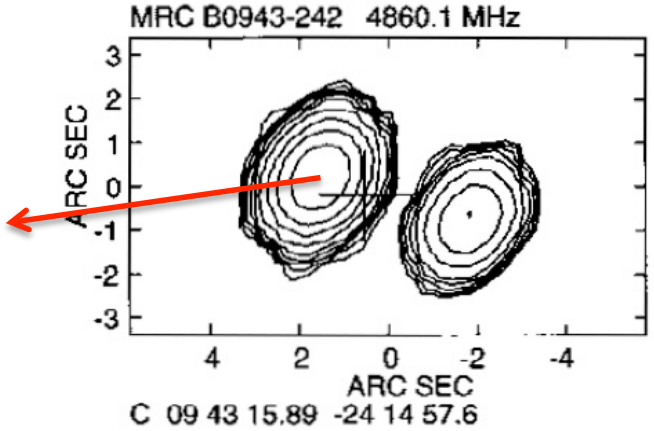
CO(1-0) in a *z*=3 radio galaxy



Tentative signal?

Scheduled H75 observations will significantly improve uv-coverage





- Better reduction (bandpass cal)

-Better uv-coverage (H75 observations for short spacings scheduled)

To be continued…

Lyα emission plus absorption of neutral hydrogen gas (Jarvis et al. 2003)

Conclusions

CABB is great!