

LC0_019 update

Ger de Bruyn ++

++ EoR project team

Kapteyn Institute, Groningen &
ASTRON, Dwingeloo

LC0_019 April – August 2013 overview

Observing/transfer/archiving: Michiel, Oscar,..

- ElaisN1 field 60 + 58h DDT May/June (Jelic, with S+TKSP Best et al)
- some 8h Summertime syntheses on NCP (compare with 8/16h winter)
- 8h on 3C196 with IS (on 18 August 2013)
- still ~ 50 h in the queue (?)

Processing: Sarod, Pandey, Vibor, Sanaz, Soobash,..

- Model building: time consuming !!
- SAGEcal (50-300 directions/clusters, up to 6000 sources)
- Effects on 'unmodelled' emission, e.g. polarization !
- Robust calibration: see Kazemi-Yatawatta, arXiv 1307.5040 (future talk)

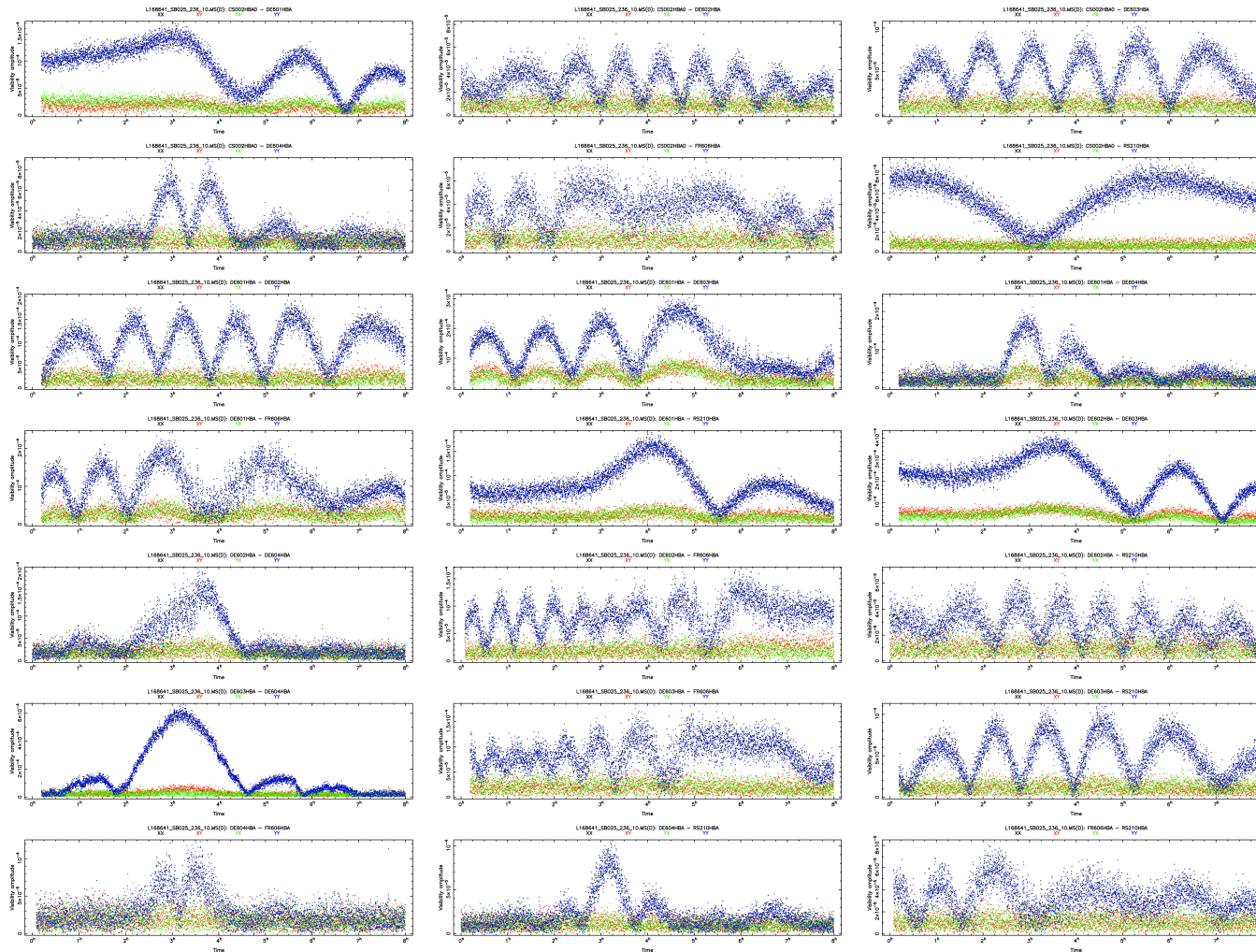
Polarization imaging, RM-cubes: Vibor, Pandey, Sarod,..

- Elais N1
- 3C196
- NCP

Ionospheric research (refraction/Faraday rotation correction): Maaijke, Vibor, David S.

Analysis: Ajinkya, Saleem, Abhik, Leon,...

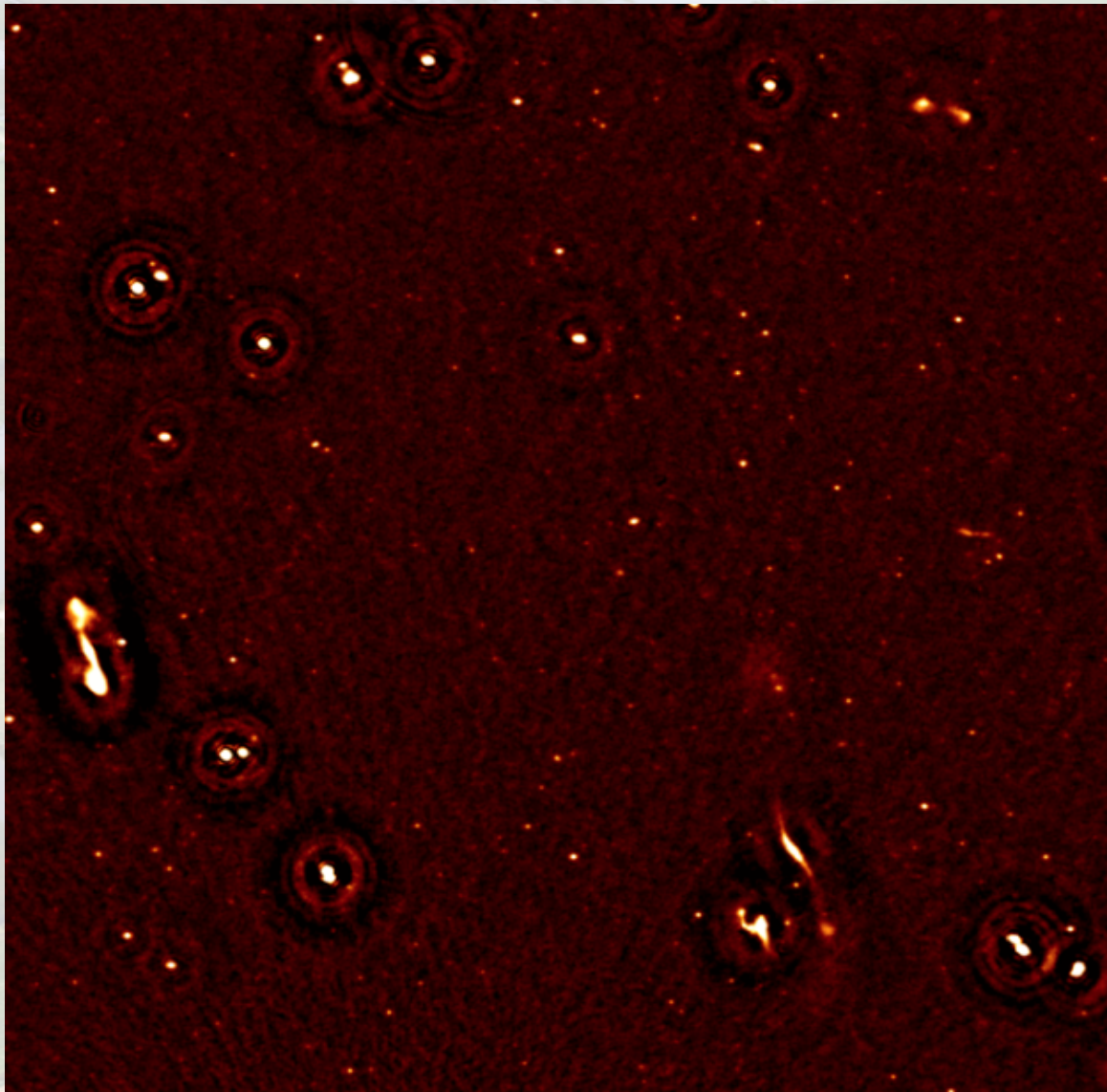
Raw data on 3C196 with 7 IS (18 Aug 2013)



CS002
 RS210 !!
 DE601
 DE602
 DE603
 DE604 ?
 FR606

Ultra-deep imaging on the NCP

Sarod Yatawatta

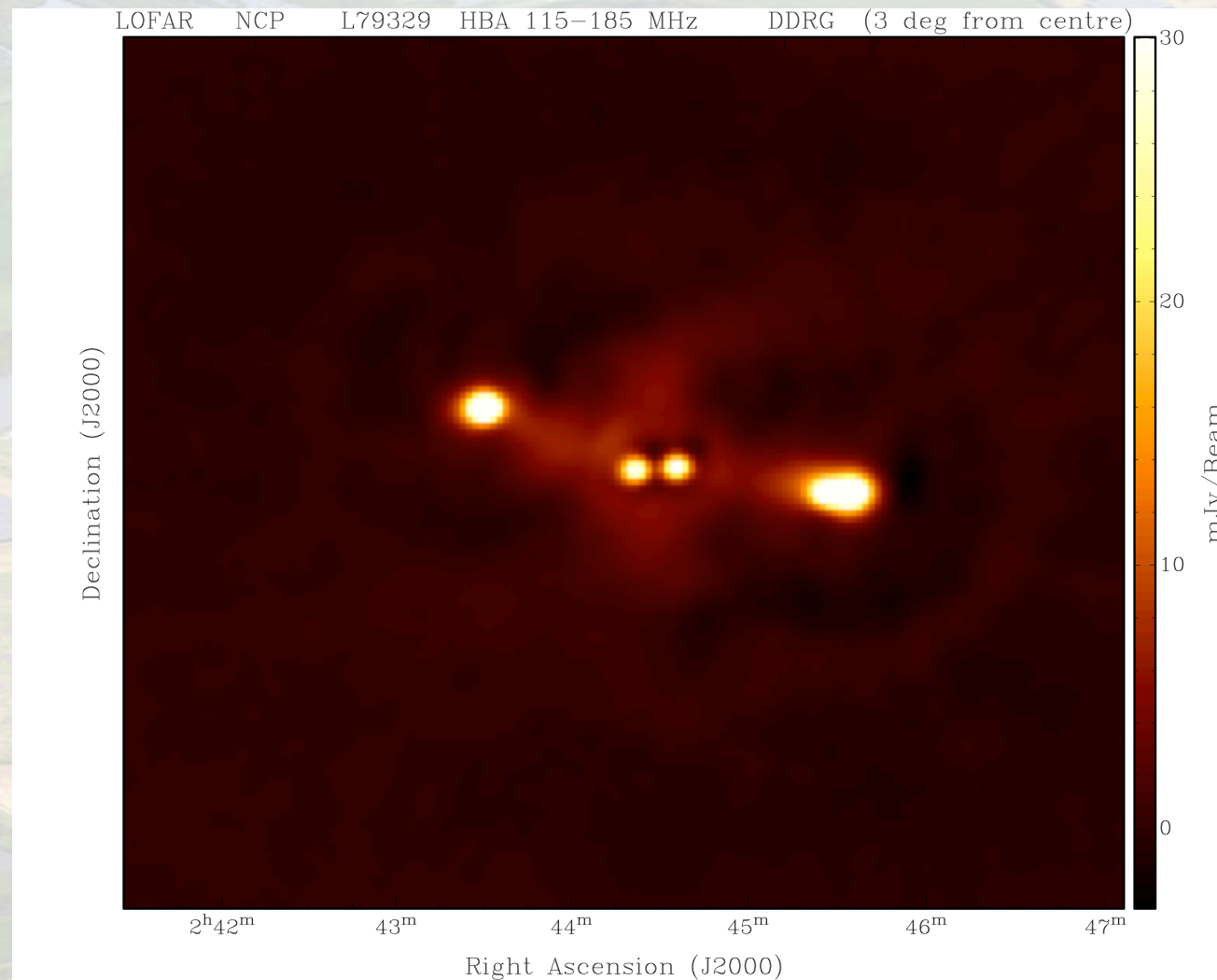


80 h on NCP
(5 x 15-16h)

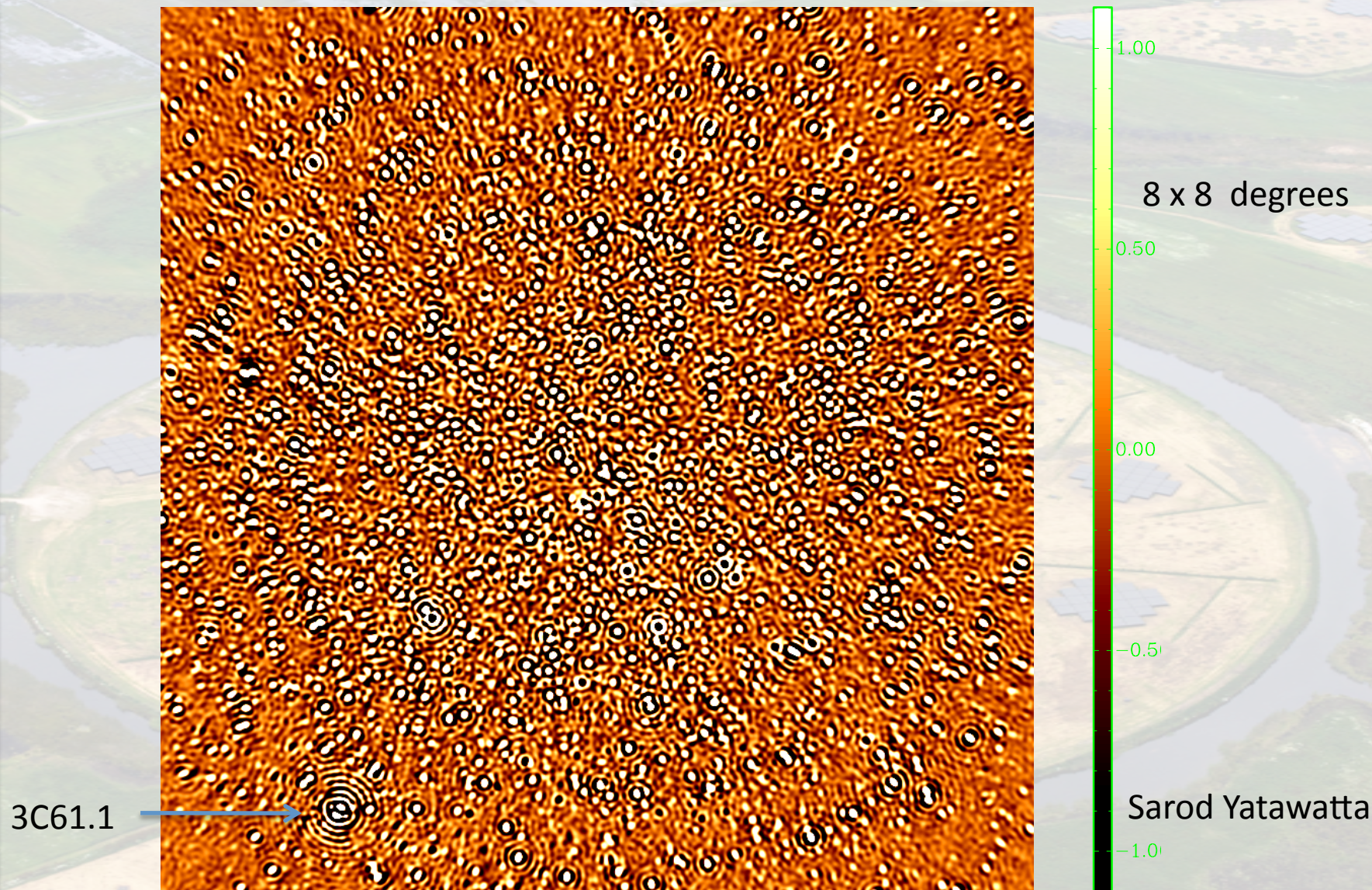
Centered on NCP
 $0.7^\circ \times 0.7^\circ$
(1% of image)

PSF $6'' \times 6''$
rms $30 \mu\text{Jy}$

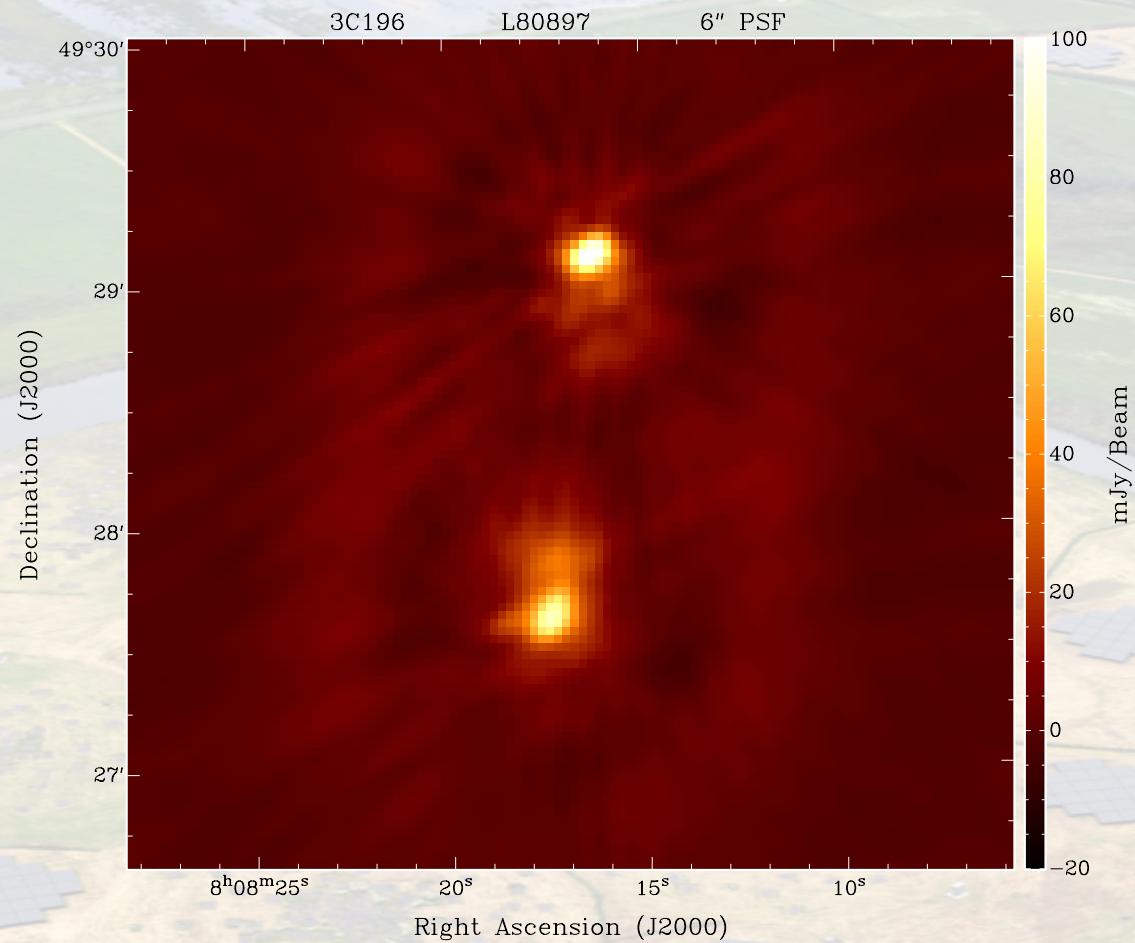
A Double-Double in the NCP



Deep image of NCP (45h, 3' PSF) : source confusion limited



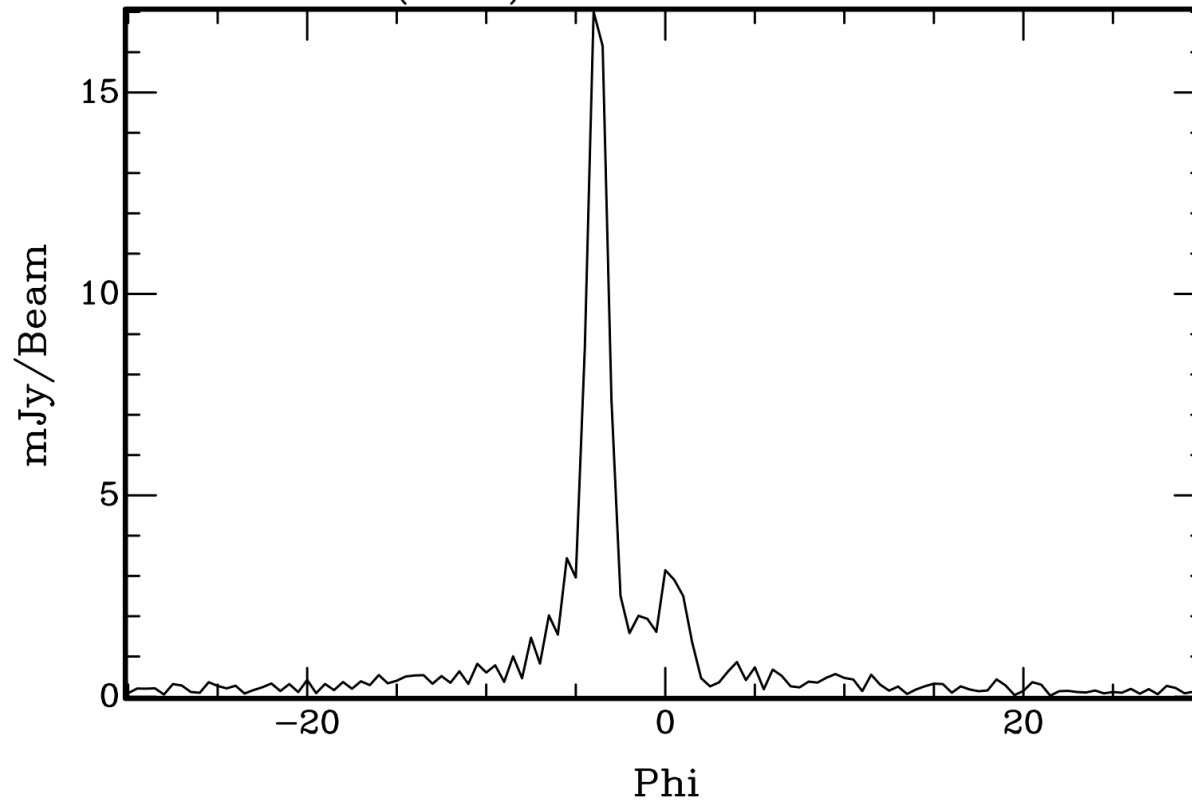
Polarized double radio galaxies in the 3C196 field



Total intensity with 6" PSF

Faraday depth spectrum (RM-cube at 3' PSF)

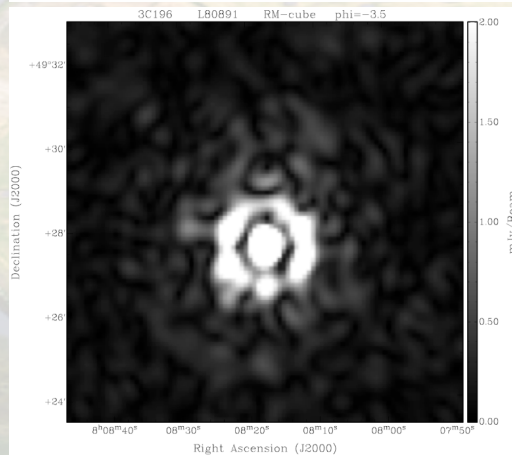
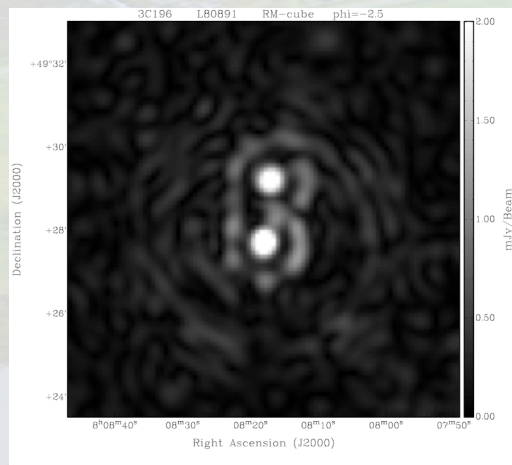
Ra: 08^h 08^m 15.99^s (J2000)
Dec: +49° 27' 55.86" (J2000)



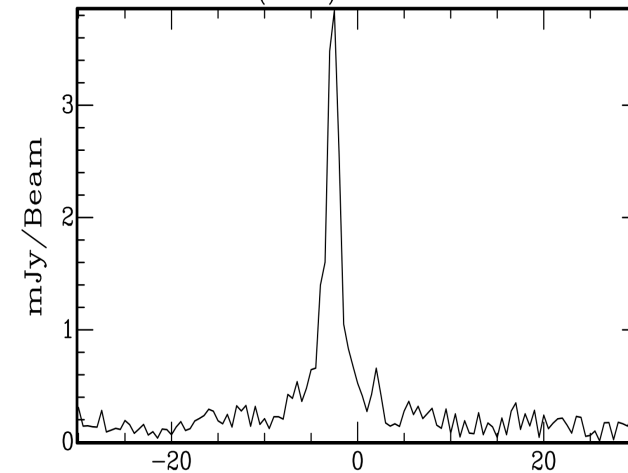
17 mJy peak !

See also
David Starkey's
Summerproject
presentation
tomorrow

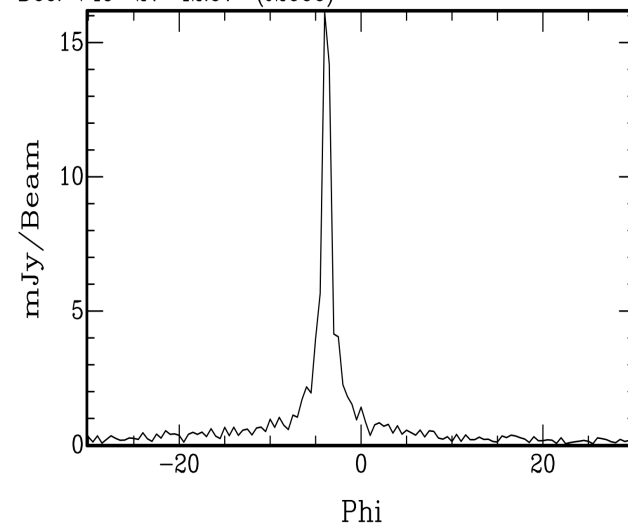
Frames and spectra at higher angular resolution (30") !



Ra: 08^h 08^m 15.87^s (J2000)
Dec: +49° 29' 5.86" (J2000)



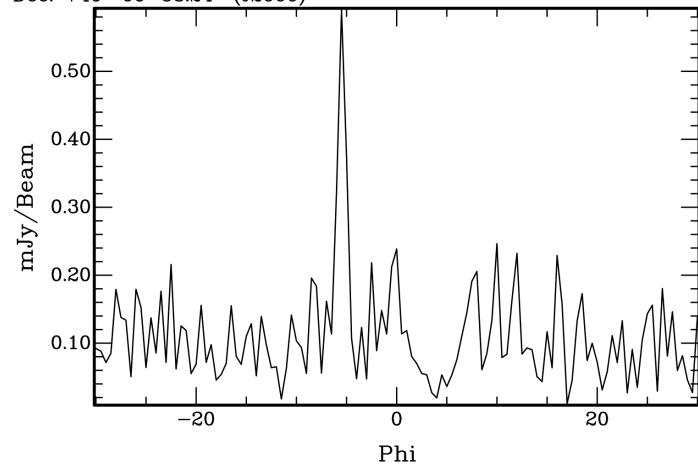
Ra: 08^h 08^m 17.25^s (J2000)
Dec: +49° 27' 42.07" (J2000)



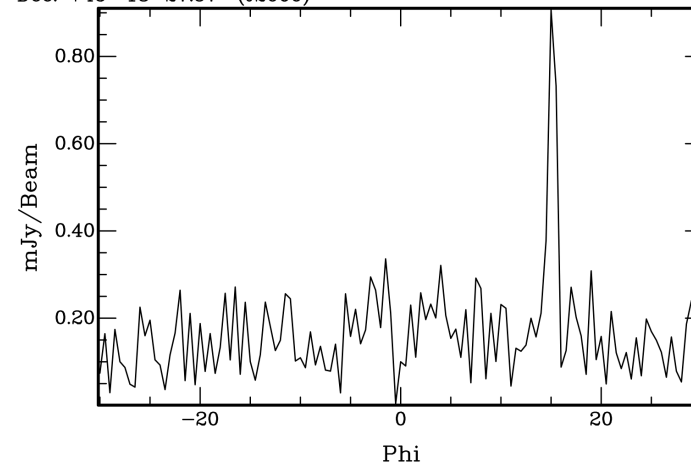
NB: width of RMSF = 1.0 rad/m²

Some other extended sources in the field

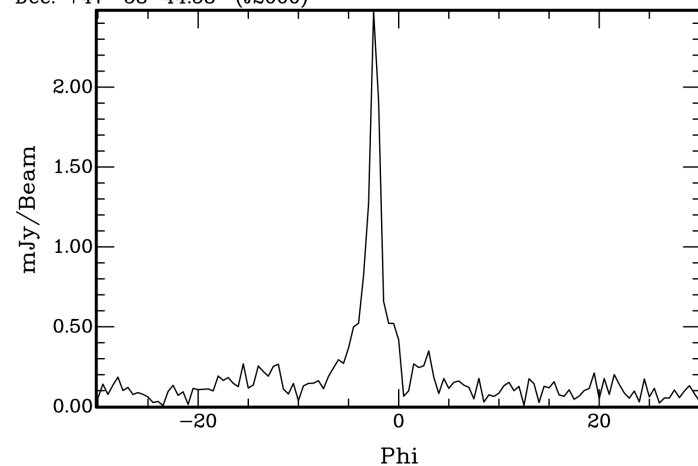
Ra: $08^{\text{h}} 20^{\text{m}} 6.02^{\text{s}}$ (J2000)
Dec: $+49^{\circ} 06' 58.24''$ (J2000)



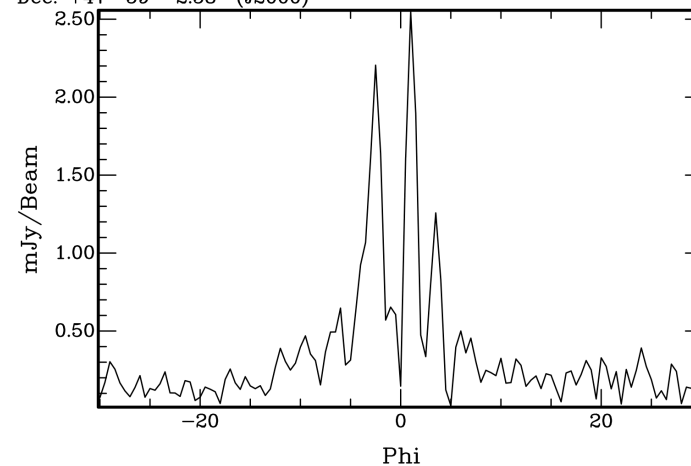
Ra: $08^{\text{h}} 13^{\text{m}} 16.19^{\text{s}}$ (J2000)
Dec: $+45^{\circ} 13' 27.57''$ (J2000)



Ra: $08^{\text{h}} 13^{\text{m}} 36.67^{\text{s}}$ (J2000)
Dec: $+47^{\circ} 58' 44.58''$ (J2000)



Ra: $08^{\text{h}} 13^{\text{m}} 36.07^{\text{s}}$ (J2000)
Dec: $+47^{\circ} 59' 2.58''$ (J2000)



30'' PSF

3'' PSF