RRL's with LOFAR: An Update

JBRO, Reinout van Weeren, Francisco Salgado, Leah Morabito, Wilfred Frieswijk, Carmen Toribio, Xander Tielens, Ashish Asgekar, Glenn White & Huub Rottgering

+ John McKean, Richard Fallows, Jason Hessels !!

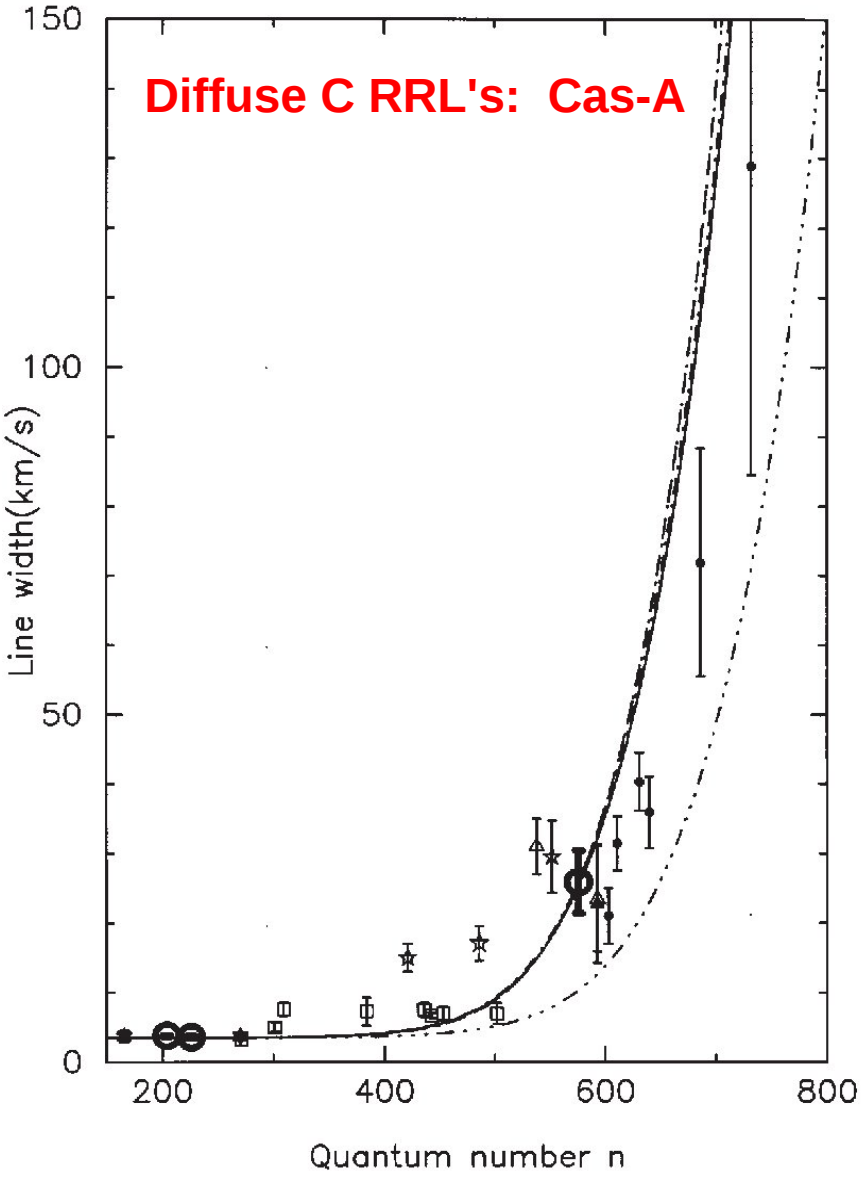
(1) LCASS – LBA low

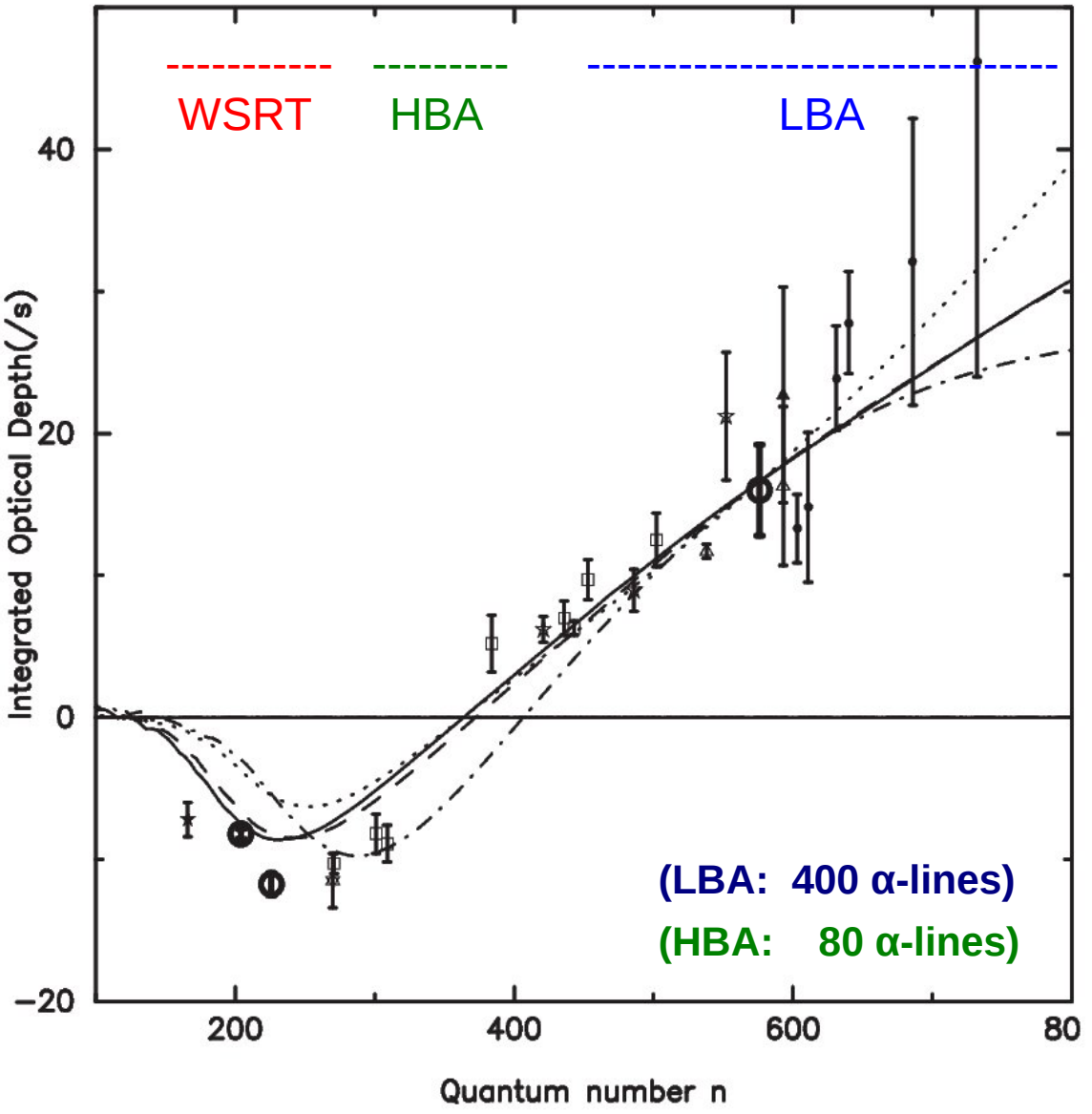
(2) LOFAR cycle 0

Modelling the RRL gas properties

Frequency behavior of σ and τ => T_e , n_e , EM

(e.g. Payne+1994)





LOFAR: First Galactic Cycle 0 results (imaging)

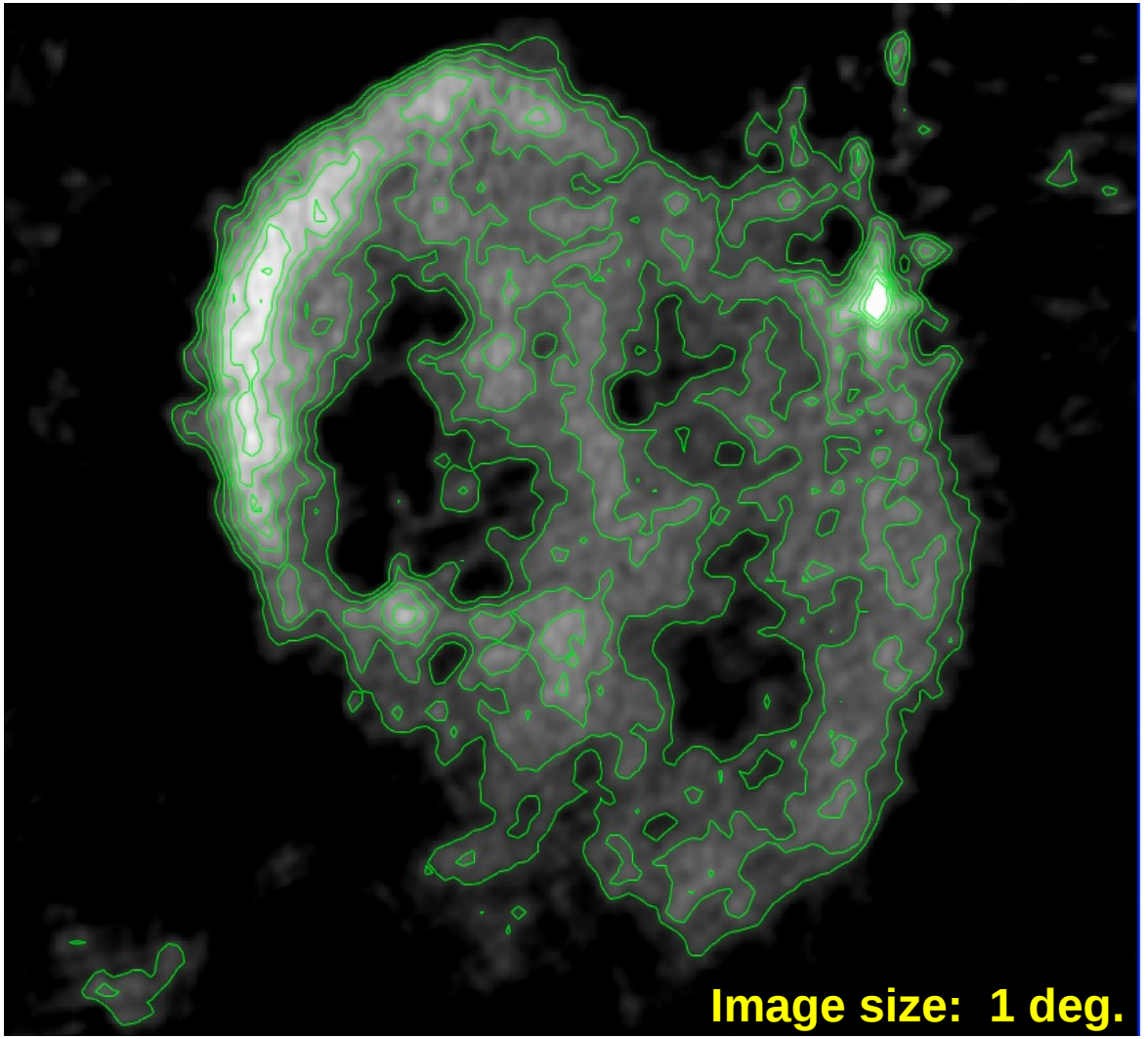
IC443 **(RA=06, DEC=+22, LC0_043 - GW)**

Data

- **Target : IC443 (Gal. SNR)**
- **Calibrator : 3C196**
- **9 Hr LBA_outer (30-70 MHz)**
- **Processing (MSSS pipeline)**
  (TauA demix, ignore.target=T)

Figure

- **Zoom : LBA 55-60 MHz**
- **imaging : casapy (multi-scale)**
- **issues : star shaped**
  point sources

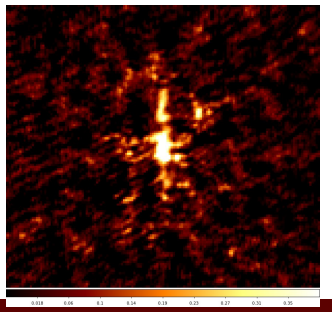


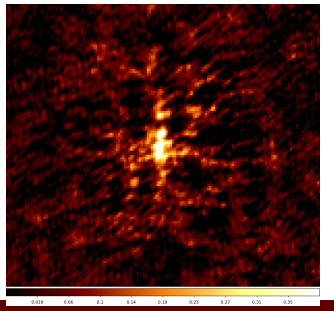
(courtesy: G. White, J. Gregson, et al.)

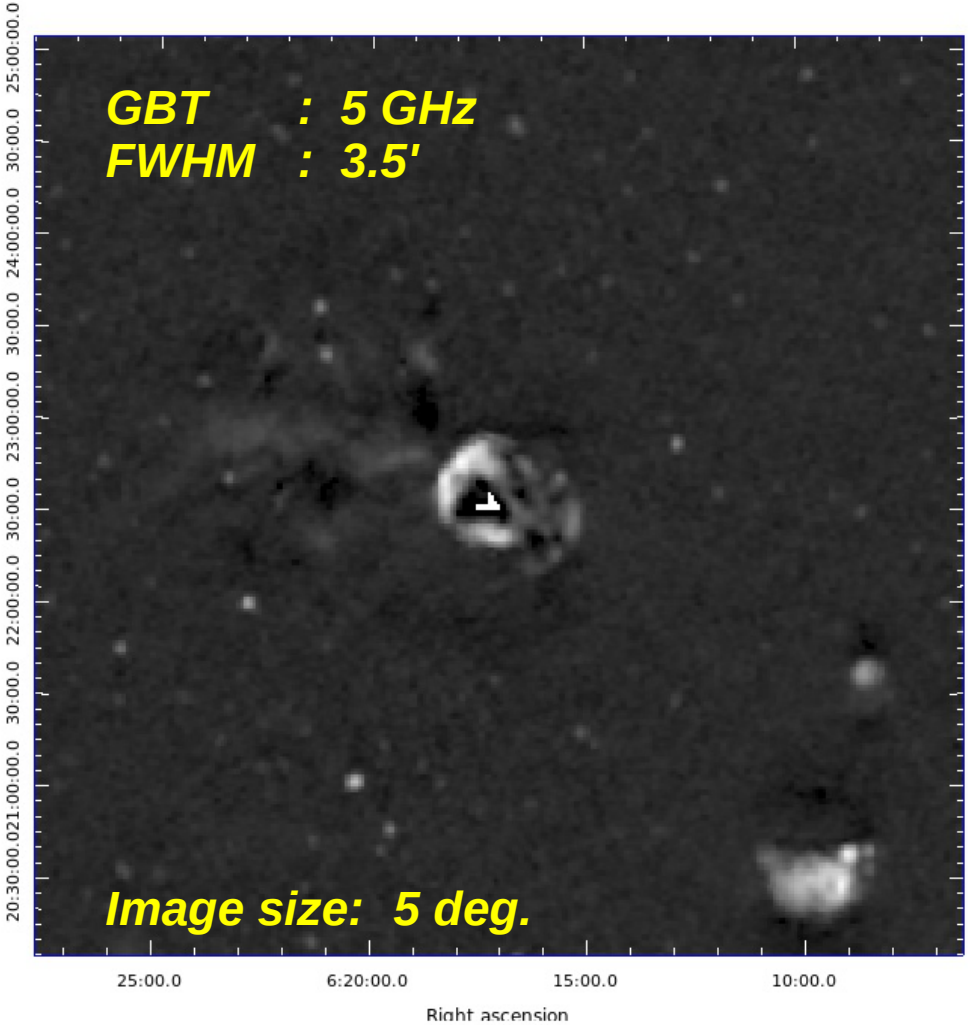
LOFAR: First Galactic Cycle 0 results (imaging)

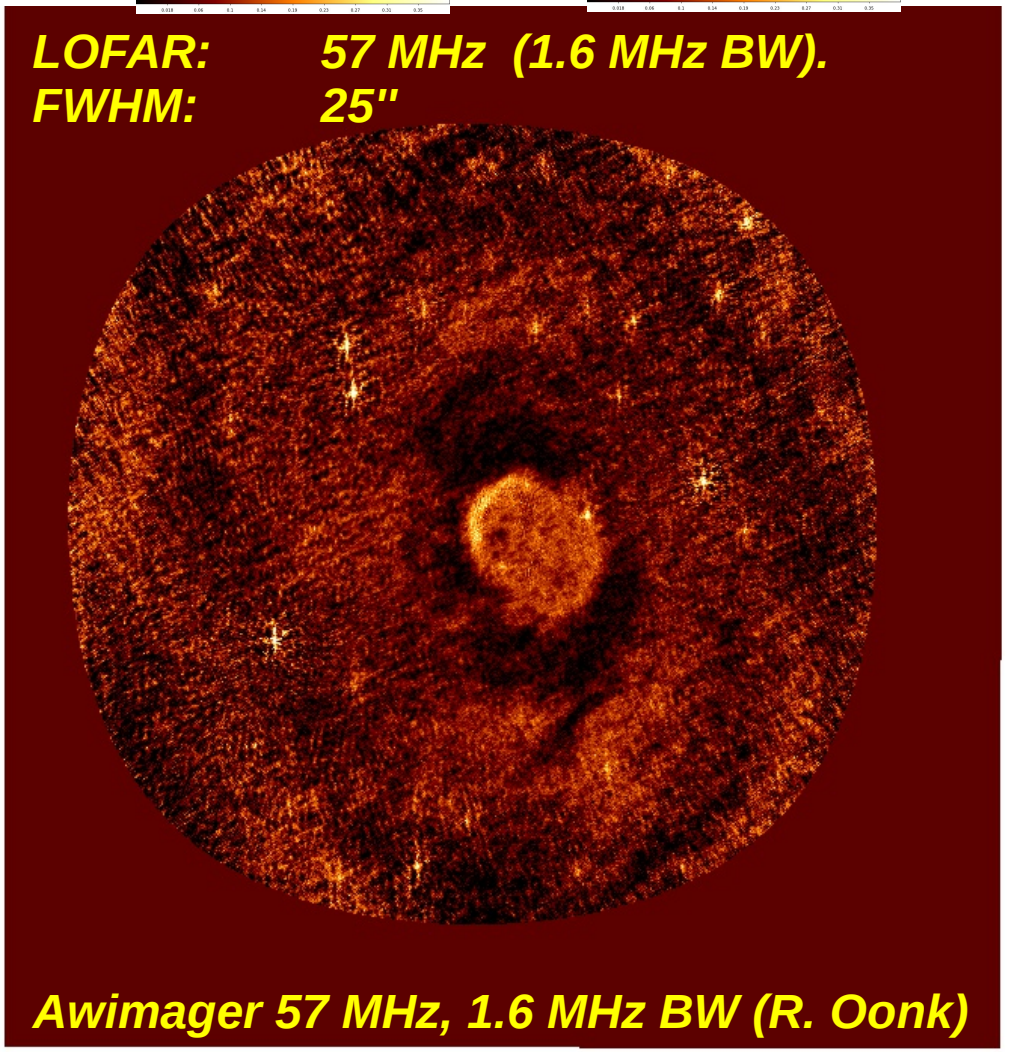
IC443 **(RA=06, DEC=+22, LC0_043 - GW)**

- **GBT 5 GHz**
- **LBA 57 MHz (F_SNR ~ 470 Jy)**









LOFAR: Cycle 0 - Outlook

- **Interferometric RRL "piggy back" projects:**
  - *Milky Way* *(KSP PI: G. White)*
  - *Nearby Galaxies* *(KSP PI: R. Beck)*
  - *AGN* *(KSP PI: R. Morganti)*
  - *Clusters* *(KSP PI: M. Bruggen)*
  - *High z radio galaxies* *(KSP PI: G. Miley)*

- **Beamformed dedicated RRL project:**
  - *Milky Way deep* *(PI: Oonk)*

- **Cycle 0 Issues:**
  - *Pipeline inflexible (piggybacking difficult)*
  - *Awimager (msclean, cleanboxes)*