

# NRAO Observatories: Commensal Data

## VLITE: The VLA Low-band Ionosphere and Transient Experiment

- Commensal **340 MHz** system capable of continuously accessing up to 64 MHz from the VLA Low-band (236-492 MHz) system
- Science operations with 10 antennas began on 11/25/14 → **expanded to 16 antennas on 7/22/17.**
- Data are recorded *simultaneously* with all regular VLA observations\*
- **Collaboration** between NRAO and the U.S. Naval Research Laboratory (NRL)

\*Except for TAC-approved P-band and moving source observations (e.g., solar system objects)



# VLITE: Two Telescopes in One

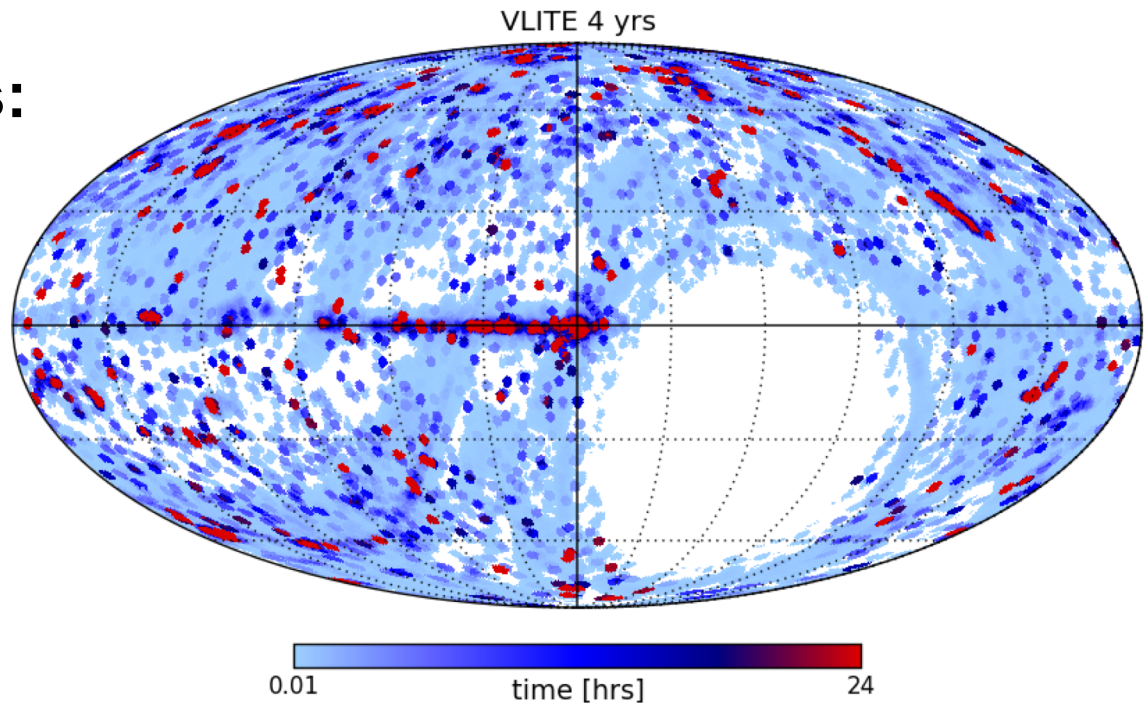
- Science operations began on 11/25/2014 with 10 antennas
- Expansion to 16 antennas (“VLITE-16”) on 7/22/2017

**Raw data + calibration products currently archived at  
NRL and distributed to the community upon request**

## 48 month benchmarks:

- >1 million scans  
(24,232 hours)
- >2 million cataloged  
sources

**Science:** Transients,  
galaxy clusters, AGN,  
star-forming galaxies,  
YSOs, XRBs . . .



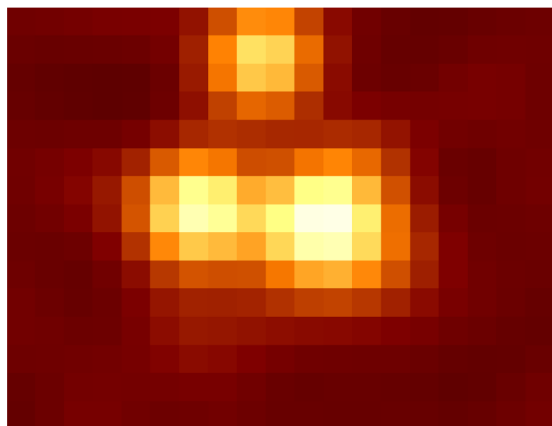
[vlite.nrao.edu](http://vlite.nrao.edu)

# VLITE Commensal Sky Survey (VCSS)

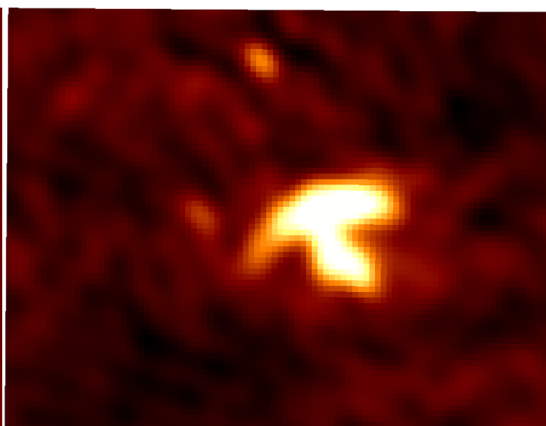
## VLITE observations support VLASS

- 1) Instantaneous radio spectra for point sources
  - **Archived data:** 818 hours
  - **Flux errors:** ~20%
- 2) Extended source morphologies
  - **Resolution:** 12-25 arcsec
  - **Sources:** ~1 million
- 3) Independent verification of transient events
  - **Depth:** ~3 mJy/beam

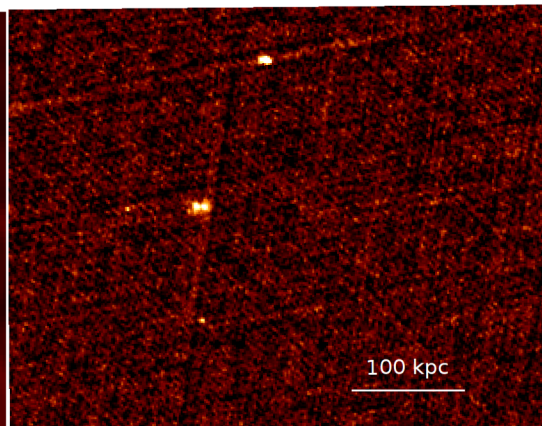
**NVSS**



**VCSS**



**VLASS**



Steep spectrum source unresolved in NVSS and not detected in VLASS