



# VIALACTEA

## discovery & cutout

## services

Marco Molinaro, Robert Butora  
INAF - OATs



# Outline



- Dataset figures
- VIALACTEA community requirements
- Current status of the services
- Future VO related plans





# Datasets



Name	Species
CHaMP	HCO+
HOPS	H2O, NH3 (2 transitions)
GRS	13CO
MALT90	HCO+, HCN, N2H+, HNC
ThrUMMS	12CO, 13CO, C18O
NANTEN	12CO
OGS	12CO, 13CO
JCMT-HARP	12CO
VGPS	HI
CGPS	HI

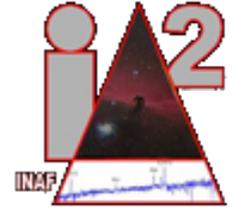
- Radio 3-D FITS cubes (4-D, 1 degenerate axis)
  - ~10K files
  - ~300GB
- Radio 2-D FITS (in progress, not listed here)
  - ~2K files
  - ~100GB

- Various coordinate systems and projections
- Cube 3-D axis: velocity
- Mixed data policy





# Community Requirements



- Discovery
  - Filter on:
    - positions, velocity range, survey name/species/transition
  - Position + range filtering
    - Point, circle, rectangle + velocity range
- Cutout
  - On single file, uses a dataset unique identifier (PublisherDID)
  - Only if “fully contained” (at least at v0)
- Merge
  - On single “sub-survey” (collection), no data manipulation
  - Usually rectangular-discovery based
- ...plus some user-driven data staging





# Current status



- Services in place
  - Not full production, but tested
  - Work on different endpoints, but I/F is in common
    - Operational mode depends on parameter settings
  - Discovery and cutout already available (2- & 3-D)
  - Next step: merge
- Datasets will continue growing
- Auth&Auth currently concealed with authentication only





# VO status



- 0% in terms of compliance
- ~100% in potential compliance
- I/F to services is custom, parameter based, DAL-1.0 simple services alike
- Result output is custom XML document
  - Including survey metadata





# VO plans



- Information enough for
  - SIAv2 and AccessData service
  - ObsCore (1.1) TAP and Datalink
- Issues?
  - Velocity axis representation:
    - `em_ucd = spect.dopplerVeloc.radio`
  - “galactic” I/F vs. ICRS

