

Galactic science discussion group

- more antennas before contract expires
- Science enabling tools
 - collision rates, line frequencies, analysis tools (excitation, chemistry, radiative transfer)
- VLBI
- Data rate
 - mosaics, spectral resolution, high time resolution
- Band 1: zeeman molecules, pulsar wind nebula, **high dust surface densities/ large grains**
- Band 2/5: Deuterated molecules
- Longer baselines
- Band 11: NII, SED peak
- Is the compact array quick enough?
- Singledish with a focal plane array?
- additional subarrays
 - simultaneous mult-frequency capability
 - more lower sensitivity projects
- *Are the design specs limiting serendipity?*

Extragalactic discussion group

trace formation of disk galaxies in low J lines over moderate z – Band 1 + 2

Free-free as dust-free SF indicator in all galaxies - Band 1

SSC progenitors beyond 20 Mpc (350 GHz continuum/ULIRGs) - longer baselines (ALMA equivalent of VLA antenna at Pie Town)

Sgr A* event horizon - VLBI

Software for interpreting rich line spectra for astrochemistry novices, advanced imaging of nearby galaxies for determination of SF laws, data cube visualization

Water (thermal + maser) from 325 and 658 GHz lines – Band 5?

Rotational 28-micron H_2 emission at $z \sim 10$ – Band 11

LMC wide-field multiline chemistry survey – speed (currently 20 x 200 hrs for 20 tunings)

GRB afterglow followup – more subarrays for TOO multifreq monitoring every 3 hrs