

Science at 1cm (= 0.3 to 3cm)

‘Thermal imaging on mas scales’

T_B (1cm, 180km, 8xVLA, 10hr) \sim 1K, 10mas

- Sensitivity/Collecting area: 5-10x VLA
- Critical Frequency range: 1-25, 25-50, 70-100
- Configuration: 3km to 3000km?
- Areal coverage/survey speed: D? FPA?
- Instantaneous wide BW
- Polarization: wide field?

■ Distant galaxies

- Low order CO: ‘sweet spot’ => total gas, large scale dynamics
- CO deep fields: larger Vol survey, CO lum function to knee curve
- Free-Free-only galaxies (CMB/young)
- Subkpc imaging SF + molecular gas (proto-glob. Clusters)

Pre-meditated killer-apps

- CoL: pebbles to rocks, opt. thin < 10AU
 - PP disks: inner stratification of grain sizes/migration
 - Circum-planetary disks
 - Formation main sequence/multiplicity

• Galaxy ecosystems

- Line mapping 10x faster than ALMA
- Continuum: synch, FF, spinning dust
- Low and high mass SF
- Rich chemistry of large molecules

• Physics, Cosmology

- Time domain: TDEs, GW-EM, Nova
- Pulsars at Gal Center
- Plasma physics Sun to Clusters
- Megamasers
- Proper motion of Local Group