

SF in galaxy centers and at low metallicity

galactic centers

Is our Galactic Center special?

What is the origin of the change in X_{CO} ?
Implications for SFE?

Connection to starbursts, ULIRGs, high-z starbursts?

central conditions can be vastly different to disk ones:
high stellar density (bulge) --> radiation field, density
dynamics - short orbital timescales, rising rotation curves
resonance/starburst rings
AGN outflows/jet

Is there a starburst-AGN connection?

low metallicity systems

Are the local (low-mass) systems representative for high-z (high mass) galaxies?

Regulator of SF:

HI --> (H₂ -->) SF? H₂ vs. cloud formation?

What is the dominant parameter for difference in SFE:
metallicity, pressure/surface density, ...

How to test ideas:

Better tracers than CO (e.g. dense gas tracers, CII, CI)?
continuum ~ total gas?

What is the impact of low metallicity:

dust shielding --> dense gas fraction --> SF?