

- How representative of the conditions of the MW is the Local ISM? Are we in a unique spot, sitting in cavity? How does this influence our measurements of ISM properties?
- How can we utilize HI to distinguish different ISM phases: molecular clouds, WNM, CNM, PDR? What observables can we use:  $T_{\text{spin}}$ , morphology,  $N_{\text{H}}$ ?
- What is the role of stellar winds and supernova explosions in driving turbulence versus, for example, gravitational energy stored in the disk.
- Is the concept of pressure equilibrium still useful in a dynamic ISM? If yes, on what scales? If no, can we save it by adding a dynamic term? When is external pressure important for the structure of molecular clouds?
- Is the accretion of gas onto galaxies and important process for the physics of the ISM?
- There have been predictions of enhanced emission from gas that is heated by dissipative processes, e.g. Shocks. What is the current observational situation, and what are the prospects for future observational demonstration that this is occurring?

- What observational evidence is there for/against various spiral arm models?
- Beyond CO, [CII], [CI]: How can we probe ISM in other galaxies and at high- $z$ ? What do we learn from local/Galactic star forming regions that can be applied, e.g. at  $z > 4$ ?
- Do the types of measurements that work on resolved galaxies (KS, dust modeling, DGR,  $X_{\text{CO}}$ ) average out correctly when applied to unresolved galaxies or are we fitting models to unresolved galaxies that aren't applicable?
- How much is known about the fluctuations in the dark matter density in the MW sized halo (simulation/theory/obs)? Does it also have a role to play in shaping ISM structures & dynamics?

- What is the next big step...
  - for theories and models?
  - for simulations?
  - for observations of the MW?
  - for observations of other galaxies (near & far)?
- What will we do with the next big observational facilities?