

The Atomic to Molecular (HI-to-H2) Transition in Galaxy Star-Forming Regions

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The atomic to molecular hydrogen (HI-to-H2) phase transition is of fundamental importance for star-formation and the emergence of chemical complexity in the interstellar medium of galaxies. I will present an overview, and discuss recent theoretical studies, numerical and analytic, of the HI-to-H2 transition in irradiated systems, with applications to the multi-scale behavior observed in turbulent star-forming galaxy disks from low- to high-redshift.

References (Cambria 10 pt, bold face, aligned to the left)

- [1] Sternberg A., Le Petit, F., Roueff, E., & Le Bourlot, J., ApJ 790, 10 (2014)
- [2] Bialy S., & Sternberg A., ApJ 822, 83 (2016)
- [3] Bialy S. Burkhart B., & Sternberg A., ApJ 843 92 (2017)