H_2 Formation

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H2 is the most abundant molecule in the Universe, observed in a large variety of environments from the cold Interstellar Medium to the early Universe. Its formation still poses unresolved physical problems, coming mainly from its homonuclear character.

After reviewing its main structural properties, I will present what is (thought to be) known on its formation in the Solar neighborhood, how these processes are modified in less and less metallic environments (where dust abundances are reduced) [1], and eventually in neutral primordial gas before formation of the first starts [2].

Références

[1] Sternberg, A., Le Petit, F., Roueff, E., Le Bourlot, J., 2014, ApJ, 790, 10

[2] Galli, D., Palla, F, Annual Review of Astronomy and Astrophysics, 2013, 51, 163