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SMP48-P01 会場:コンベンションホール 時間:5 月 23 日 17:15-18:45

高圧ＮＭＲによる高密度液体水素の分子運動観測
High pressure NMR of high density liquid molecular hydrogen

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Microscopic dynamics of molecular hydrogen in liquid state is important for understanding its transport properties. Nuclear magnetic relaxation times of compressed liquid molecular hydrogen were measured at room temperature using a diamond anvil cell. We determined spin relaxation times of molecular hydrogen at pressures up to 1.8 GPa at 294+/-1 K temperature, where active dynamics of the molecules are quantitatively described from the observed results [1]. The dynsmics of molecules in highly-compressed hydrogen is in reasonable agreement with the standard kinetic theory assuming hard-sphere molecules.

[1] T. Okuchi, J. Phys. Chem. C, 116, 2179 (2012)