

LASER INDUCED ALIGNMENT OF CS₂ MOLECULES SOLVATED INSIDE HELIUM DROPLETS

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Laser-induced alignment of CS₂ molecules solvated inside liquid helium droplets has been investigated experimentally. The alignment is triggered by a 200 fs nonresonant, linearly polarized laser pulse and measured by timed Coulomb explosion with a delayed intense 30 fs laser pulse. The time resolved measurements reveal that for the first few picoseconds (ps) the rotational dynamics are almost as fast as that of isolated molecules. In particular, the degree of alignment reaches a maximum after just 1 ps compared to 0.7 ps for isolated molecules.