New challenges in high resolution molecular spectroscopy

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To address the increasing computer resources and the new optical measurements techniques (in the lab as well as for spatial observations), molecular spectroscopy is facing new challenges which go from the determination of molecular parameters for data bases for Atmospheric Physics and Astrophysics, to the determination of precise molecular structures forming the “elementary blocks of life, or to the determination of spectroscopic parameters allowing the interpretation of molecular dynamics in the time domain.

The talk will try to present in a general way some of those challenges, relative to the applications of planetary and terrestrial atmospheres and of interstellar medium, for biological molecules or for quantum chemical or dynamical developments, in relation with the MCTDH community.