

CNRS/ICB



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Contact person : [V. Boudon](#)

The Molecular Spectroscopy and Applications group of the **Institut Carnot de Bourgogne** is the world leader in the analysis of high-resolution spectra of methane (

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CH

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¹³

CH

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and CH

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D). It will produce a data base of line parameters for these three isotopologues (positions, intensities, lineshape parameters). Methane is a major greenhouse pollutant on Earth and an important constituent of many astrophysical bodies (giant planets, Titan, dwarf planets, brown

dwarfs, methane stars, exoplanets). Modelling methane absorption over a wide spectral range is essential to retrieve methane vertical profiles, minor species abundances and surface properties. It is thus of primary importance for the study of these objects to constitute a highly reliable and consistent database of line parameters extending for the far infrared to the visible region.

Key Persons :

V. Boudon CNRS Researcher, head of the Molecular Spectroscopy and Applications (SMA) group in Dijon, chairman (2007, 2011, ...) and member of the scientific committee of the Colloquium of High Resolution Molecular Spectroscopy

Expertise: Activities concern the modelling of the absorption spectrum of small molecules, especially CH₄, and the production of programs and linelists.

Role in the project: Leader of ICB(CNRS), Member of Project Board, PI of methane line list database (SA1), evaluation (SA2)

T. Gabard Associate Professor

Expertise: working on theory and programs for the study of lineshapes of the methane molecule.

Role in the project: producer expert (NA2), evaluation (SA2)

Ch. Wenger (UMR 5209) CNRS Research Engineer

Expertise: Database management and software design

Role in the project: working on spectroscopy software development (JRA3) and access to methane line list database (SA1)

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