The development of GEISA was started in 1976 at LMD and is regularly updated. GEISA is a computer-accessible spectroscopic database that is designed to support modeling efforts requiring high accuracy in terms of gas concentration variation. It provides absorption properties to meet the needs of communities involved in understanding the atmospheres of the Earth and other planets.

**Evolution of GEISA line parameters sub-database since 1975**

- The performance of remote sensing applications of the second generation, including vertical sounding, high-resolution, sophisticated hyperspectral spectroscopic instruments, such as AERI (http://www.aeri.ucar.edu/), the USA and IASI (http://www.ens-eb任何人都和anf.isere-grenoble.fr) in Europe, highly depend on the accuracy of the spectroscopic parameters of the optically active atmospheric gases.

**GEISA/IASI 2011**

- 14 molecules (55 isotopic species) selected for operational Meteorology: HCO, CO, CO2, H2O, HCN, HCOOH, CH3OH, CH3OCH3, N2O, NO, NO2, HNO3, CO2
- 6 molecules (13 isotopic species) selected for IASI Trace Gas retrievals: NH3, H2O, HC3N, HCN, HCOOH, CH3OH

**Assessment of spectroscopy for IASI and IASI-NG**

Use of GEISA/IASI-11 in STRANSAC for impact evaluation of Spectroscopy update in IASI and IASI-NG brightness temperatures (BT) modelizations, comparing to instrument noise.

Evaluation of the impact of gas concentration variations on brightness temperatures (BT) computed with 4A-DP and using GEISA 2011 data - comparison with IASI and IASI-NG noises.