The GEISA (Gestion et Etude des Informations Spectroscopiques Atmosphériques; Management and Study of Atmospheric Spectroscopic Information database) has been updated in 2003/2004.

The performances of new atmospheric sounders like AIRS (Advanced InfraRed Sounder), in the USA, and IASI (Infrared Atmospheric Sounder Interferometer) in Europe, which have a better vertical resolution and accuracy, compared to the presently existing satellite infrared vertical sounders, is directly related to the quality of the spectroscopic parameters of the optically active gases. For these instruments, the so-called GEISA/IASI spectroscopic sub-database has been elaborated from the general GEISA spectroscopic database system, with a continuous update from new spectroscopic parameters, when available. The specific purpose of this effort is to assess the capability of measurement by the IASI instrument, within the designated goals of ISSWG (IASI Sounding Science Working Group), in the frame of the CNES (Centre National d'Etudes Spatiales, France)/EUMETSAT (EUropean organization for the exploitation of METeorological SATellites) European Polar System (EPS) preparation. The assessment is done by simulating either high-resolution radiance spectra or experimental data, or both, as the situation demands.

The purpose of this presentation is to show some selected results of critical comparisons, in terms of spectroscopic line parameter archives (i.e.: HITRAN or MIPAS databases). All the archived spectroscopic data of GEISA and GEISA/IASI can be handled through a user-friendly associated management software, which is posted on the ARA/LMD group web site at: http://ara.lmd.polytechnique.fr