Deutsches Zentrum
DLR für Luft- und Raumfahrt

Handout

FT spectrometer Bruker IFS125 HiRes

Description of facility
The FT spectrometer at DLR is a commercial high resolution BRUKER IFS 125 HR instrument covering the spectral range from 10 to 50000 cm-1 with a maximum resolution of 0.001 cm-1 (30 MHz). The instrument can be evacuated to avoid absorption of radiation by water and carbon dioxide in the ambient air. The spectrometer is equipped with a number of highly sophisticated absorption cells covering absorption paths from 0.15 m to 0.5 m and temperatures from 200 K to 1000 K. Several sensitive detectors cover the entire electromagnetic spectrum from FIR to UV. For the MIR region the detector optics were optimized to yield sensitivities up to 10 times higher than standard commercial detectors.

Application
Determination of spectrometric parameters of gases (line position, line strength, pressure broadening, absorption cross section) and derived parameters (gas temperature, spectral transmission/ absorption/emission, gas concentration).

Main focus:

- extension of the spectroscopic data base of atmospheric trace gases
- precise measurement of spectral intensities

Literature / References
- http://www.dlr.de/caf/desktopdefault.aspx/tabid-5379/9114_read-17063/
- www.bruker.com

Documents
- Flyer

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Download of documents, this handout, and cross-references to related measurement techiques and facilities are available at: http://messtec.dlr.de/link-76-en.

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