



GEMaC

Groupe d'Étude de la Matière Condensée

FOURIER TRANSFORM INFRARED SPECTROSCOPY

A Bomem DA8 interferometer is used either for transmission or emission (photoluminescence) measurements.

The spectral range in wavenumber is $25.000 - 10 \text{ cm}^{-1}$, depending on the optical elements (source, beamsplitter and detector), and the resolution can reach 0.02 cm^{-1} , in the best case.

The transmission measurements can be achieved at low temperature in the range $5 - 300 \text{ K}$. For infrared photoluminescence, the exciting source is a YAG: Nd laser at $1.06 \mu\text{m}$, the measurements are carried out in a helium bath cryostat in the range $2 - 300 \text{ K}$. The wavelength range can spread from the visible up to $12 \mu\text{m}$ (800 cm^{-1}). It is also possible to perform micro-PL measurements, using Cassegrain infrared mirror microscope objectives.



Bomem DA8 interferometer