Cooling and slowing a beam of molecules

Location: Laboratoire Aimé Cotton

Researcher in charge of the Trainees: Dr. Hans Lignier

Maximum number of Trainees: 3

Experiment:

![Diagram of experimental setup]

The cold molecule experiment aims at:

1) cooling the rotation and vibration of a test molecule (Barium Fluoride [BaF]) by optical methods.

2) Charging BaF molecules by the capture of electrons weakly bound to Cesium atoms prepared in a high excited state. The cesium beam is under construction.

Schedule expected:

The Trainees will participate in the measurement of the molecular yield by calibrating the detectors (Micro Channel Plates). It is worth considering the possible comparison to the result given by a quadrupole mass spectrometer (or Residual Gas Analyzer). If the conditions are met, experiment on cooling will be achieved with a new laser source.

References:
