

Within the framework of my BSc Thesis I became familiar with a unique molecular beam apparatus for cluster studies. I have learned about clusters and molecular beams, mass spectrometry, photodissociation and molecular dynamics. My specific task was to generate several computer programs for data acquisition and evaluation of the present experiments: (1) A program for TOF to mass spectra conversion. This program facilitated immediate evaluation of the measured mass spectra. (2) A program for TOF spectra conversion into the kinetic energy distribution KED of the fragments, which provides immediate information about the studied photochemical processes. The immediate information provided by both these programs enable a more effective control of the experiment. (3) Finally, I have modified Monte-Carlo simulation program. This program serves the ultimate TOF → KED conversion of the experimental data. All the programs were tested with photodissociation of a well studied system of HBr cluster, and they have shown a good performance.