

## Abstract:

This paper investigates response of the MCP (MicroChannel Plate) detector and the counting efficiency of pulses produced by ions of different masses found in the used mass spectrum starting from 2 Da up to 30 Da. Tests were performed on an apparatus with a cryogenic 22-pole RF ion trap which is used to measure ion interactions. After the ions are released from the trap, they are detected by the MCP detector. Upon detection, the measured signal is processed by a discriminator which has a threshold of 10 mV. The consequence of the chosen discriminator threshold is a loss of pulses with an amplitude of less than 10 mV. From the measured data, we compared the relative losses of pulses for the chosen ions. At the same time we estimated the upper limit of the loss of pulses. The obtained results will be used to evaluate the measurements on the apparatus with the ion trap.