

FAST MCP DETECTORS FOR TIME-OF-FLIGHT INSTRUMENTATION

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For modern time-of-flight mass spectrometry the timing requirements demand signal responses clearly below 1 ns. Such fast signals are realized with MCP detectors with impedance matched anodes. We will present several designs and realizations of detectors with impedance matched anodes, including the design for the RTOF time-of-flight mass spectrometer of the ROSINA instrument on the ROSETTA mission. For example, for a single ion registered by the MCP detector of the RTOF sensor the pulse width is 500 ps FWHM and the rise time is around 150 ps.

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