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Mass Spectrometry Using a Pulsed Electrostatic Particle Guide**

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MASS SPECTROMETRY USING A PULSED ELECTROSTATIC PARTICLE GUIDE.**

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Time of flight mass spectrometry (*TOF-MS*) has become a valuable technique for the study of high mass biomolecules since the introduction of matrix assisted laser desorption ionization (*MALDI*) methods. Microchannel plate (*MCP*) detectors used in *TOF-MS* are ideally suited for high sensitivity applications due to the rapid response and high gain. The problem with *MCP* detectors is that the individual channels of the plate array can become easily saturated and recovery can take up to several milliseconds. This severely limits the dynamic range and sensitivity for detection of high mass ions. The use of a pulsed electrostatic particle guide increases both the sensitivity and dynamic range by selectively directing low abundance, high molecular weight ions to the detector. This increase in the dynamic range provides a means of detecting trace levels of high molecular weight compounds using a matrix assisted ionization technique.

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