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Applications of the Microchannel Plate in Accelerator Mass Spectrometry MISGANAW GETANEH, University of Tennessee at Martin, KEN GRABOWSKI, DAVID KNIES, CATALINA CETINA, GRAHAM HUBLER, SCOTT TUMEY, Naval Research Laboratory — A microchannel plate (MCP) detector with active area of 10 x 2 cm^2 is used as a position detector for mass spectrometry applications. The MCP detects electrons scattered by an MeV ion beam as it goes through a thin Carbon foil which is placed at a 45^o angle with respect to the beam. The scattered electrons' transverse motion is constrained by application of uniform electric and magnetic fields parallel to the axis of the MCP. The amplified charge is deposited on a double-delay line anode. Differential timing and charge partitioning are used to determine the horizontal and vertical positions of the ion in a plane normal to the MCP axis.

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