

Miniature TOF mass spectrometer using a Flexible Circuitboard Reflectron

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Time-of-Flight mass spectrometers (TOF-MS) are finding many uses in field-portable and remote sampling applications due to their inherent simplicity and potential for ruggedization. Three advances are described here to improve the instrument's performance: (1) a focusing ion extraction source, (2) a flexible circuit-board reflectron, and (3) a low-noise channelplate detector assembly. These improvements in design will be discussed along with a new configuration of an arrayed TOF analyzer for rapid parallel processing and high volume throughput.