

Micro Ion Trap Mass Spectrometry

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We have been exploring the miniaturization of ion trap mass spectrometry with cylindrical ion traps as small as 0.5 mm. These dimensions are comparable to the thickness of the substrates used in microfluidic devices and the simple structures are amenable to microfabrication techniques. Aspects such as sample introduction and ionization, sensitivity, resolution, and space charge effects in these miniature devices will be discussed. Progress in developing a battery-powered hand-held prototype based on this technology will be demonstrated.

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