High Performance and Small Foot Print Time of Flight
Mass Spectrometer by using the Multi-turn Technology

INFiTOF

Hi-Resolution & Compact TOF-MS

Company policy

There are many fears these days,but no perfect solutions exist. We started out as a university venture. Osaka University has been developing many unique and cutting edge MS technologies, and has made it possible to create new markets by using high-resolution, compact time of flight MS.
Our goal was to create a portable high resolution mass spectrometer with an intuitive software interface and a price point that would match its size. The last 2 years have been spent working towards realizing this dream. We feel we have come close to this goal with our first product release.

Shinichi Miki, CEO

Products

INFiTOF

High-Reso. And compact Time of Flight MS

Resolution: >30,000
Dynamic range: 10bit
Sampling rate: 2GS/s
Dimensions (mm): W234 x H456 x D640
Weight:36kg

with Direct inlet probe (optional)

Do not settle for having to choose between Portability or High Resolution. Finally an instrument that provides portability and high precision high resolution mass spectrometry in the same package.

with G/C(optional)

Company profile

Company Name: MSI.TOKYO, INC.
Address: 1-3-10 Tobitakyu, Chofu, Tokyo 182-0036
TEL: +81-42-426-4581 FAX:+81-42-426-4585
CEO: Shinichi Miki
Company start-up: March 11th 2008
Capital stock: 66,000,000 JPY

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Pittcon2010
Bronze Award

Safety for the future possible today!

MSI TOKYO

High Performance and Small Foot Print Time of Flight Mass Spectrometer by using the Multi-turn Technology

INFiTOF

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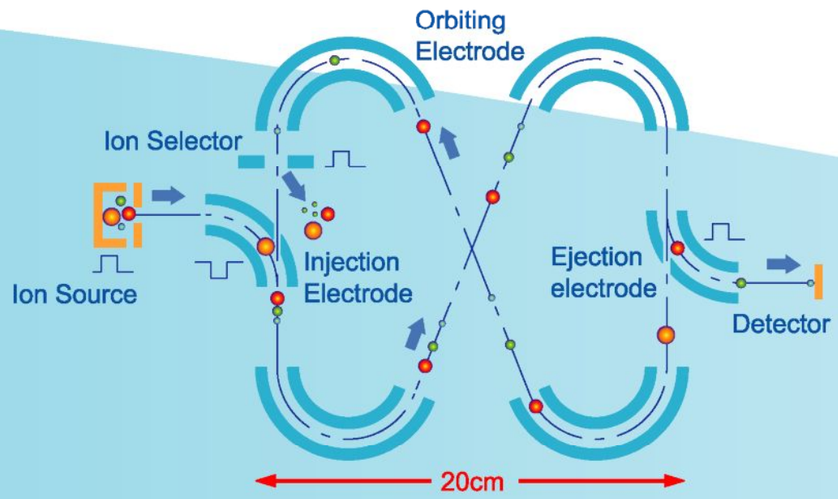
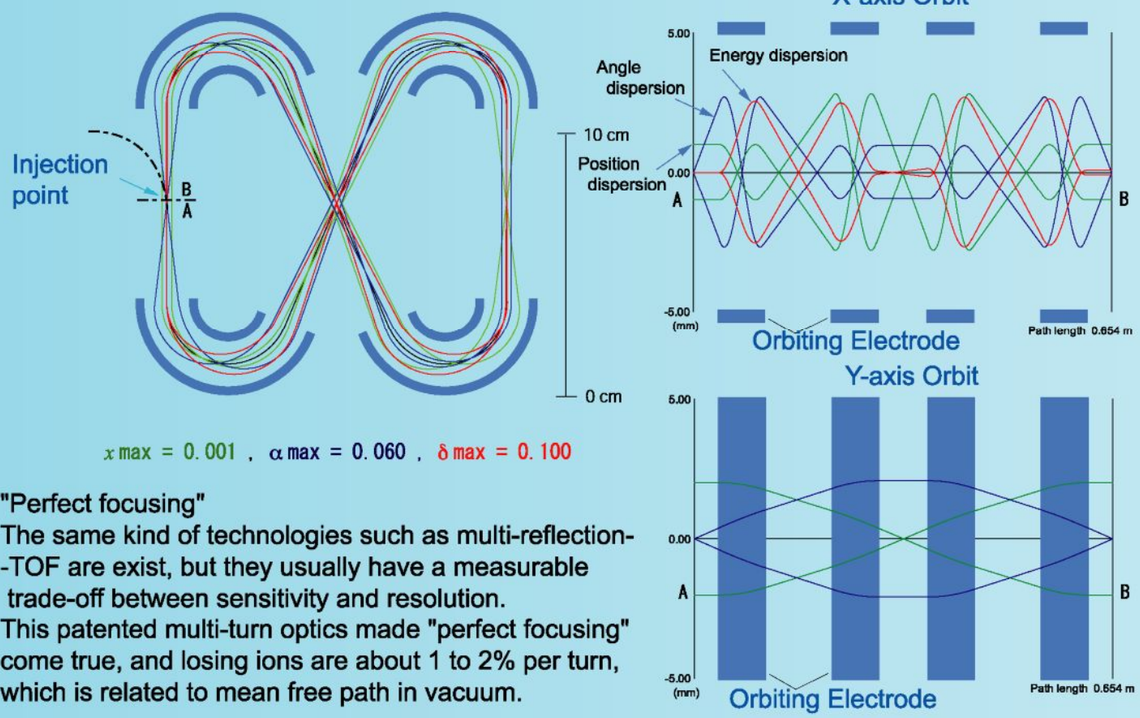
There are four orbiting electrodes and two injection/ejection electrodes on a palm-sized optics bench. The Ion source gives kinetic-energy for orbiting motion in the infinite loop. Injection and ejection electrodes are synchronized with Ion source pulsing triggering. Injection electrode has to be in the on state while ions enter the analyzer, then has to be turned off before first ion (smallest ion) returns to it. Orbiting electrodes are constant, so orbiting ion can be held until ejection electrode is ON

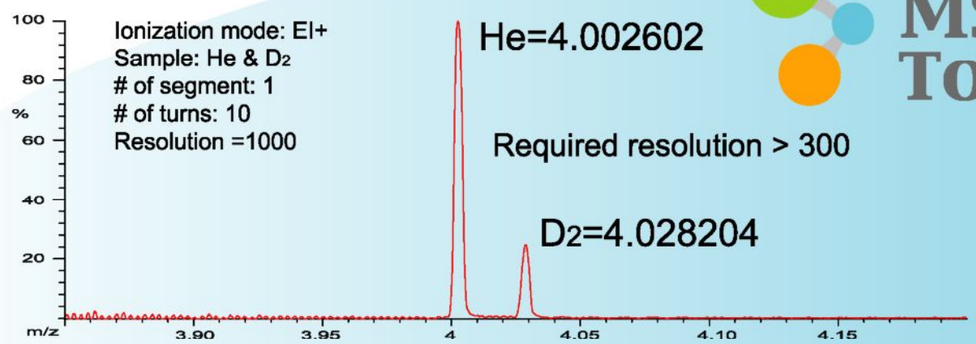




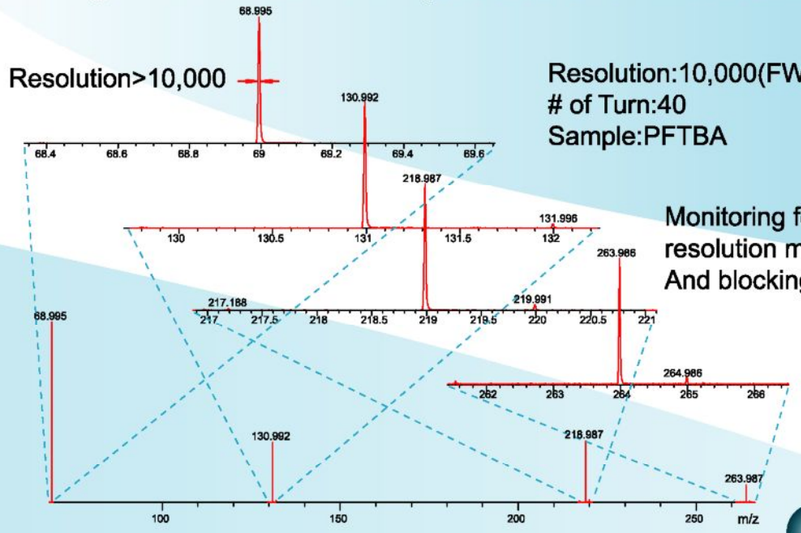
$x\,\max = 0.001$, $\alpha\,\max = 0.060$, $\delta\,\max = 0.100$

"Perfect focusing"
The same kind of technologies such as multi-reflection--TOF are exist, but they usually have a measurable trade-off between sensitivity and resolution.
This patented multi-turn optics made "perfect focusing" come true, and losing ions are about 1 to 2% per turn, which is related to mean free path in vacuum.

1, He and D_2 monitoring



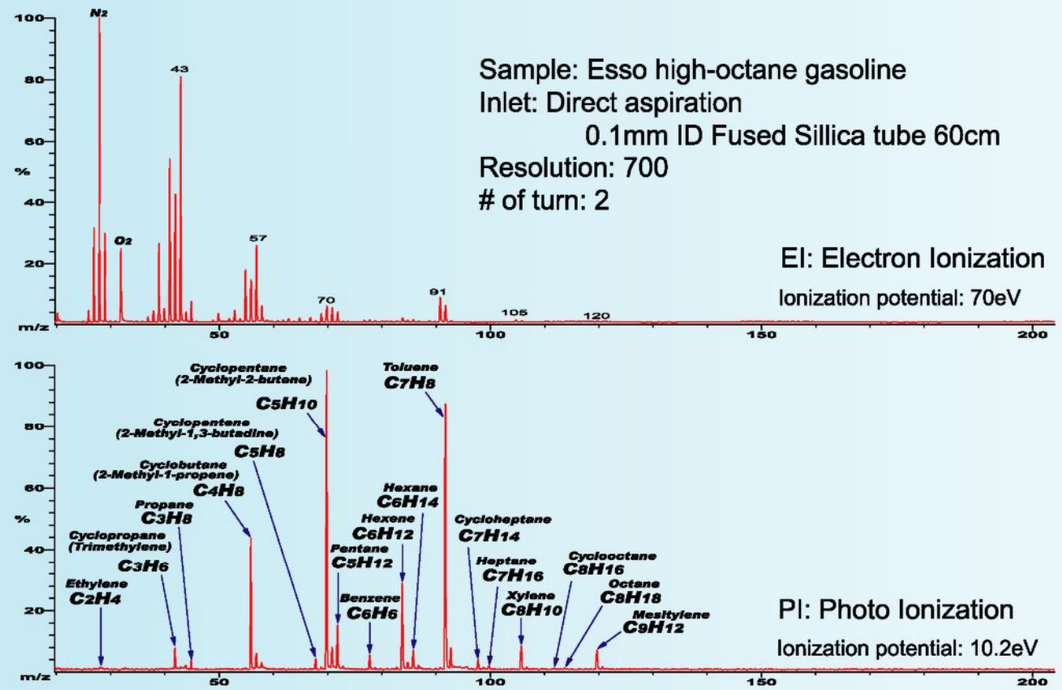
2, High Resolution SIM (Selected Ion Monitoring)



Resolution:10,000(FWHM)
# of Turn:40
Sample:PFTBA

Monitoring for typical peak by "high mass resolution mode" enable downsizing storage. And blocking useless ion to detector.

3, Photo Ionization



Sample: Esso high-octane gasoline
Inlet: Direct aspiration
0.1mm ID Fused Sillica tube 60cm
Resolution: 700
# of turn: 2

EI: Electron Ionization
Ionization potential: 70eV

PI: Photo Ionization
Ionization potential: 10.2eV