(SD2006-104) Aircraft Aerosol Time-of-Flight Mass Spectrometer

Tech ID: 20586 / UC Case 2006-104-0

TECHNOLOGY DESCRIPTION

Researchers at UC San Diego have developed a smaller and higher resolution, single-particle, mass spectrometer based on a previously patented technique and instrument (ATOFMS). [See U.S. patents 5,681,752 and 5,998,215.]

The new instrument is fully automated, compact, faster, has a higher m/z range, higher sensitivity, and low power consumption. It analyzes data in real-time and uses a special robust software library, created with millions of particles, to apportion particles to specific sources "on-the-fly." The library, developed over a ten-year period, is extensive but is readily adaptable to new signatures.

The novel folded-Z design is much smaller than the existing transportable ATOFMS and detects 100 percent of ions up to m/z 2000. The instrument is operational and has undergone field testing.

STATE OF DEVELOPMENT

This technology is available for licensing.

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	8,648,294	02/11/2014	2006-104
United States Of America	Issued Patent	8,626,449	01/07/2013	2006-104

ADVANTAGES

Numerous potential applications exist, such as drug analysis, biowarfare detection of individual biological particles, cleanroom monitoring, on-line biological analysis (MALDI), environmental measurements of pollutants and toxic substances, atmospheric chemistry, and forensics.

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OTHER INFORMATION

KEYWORDS

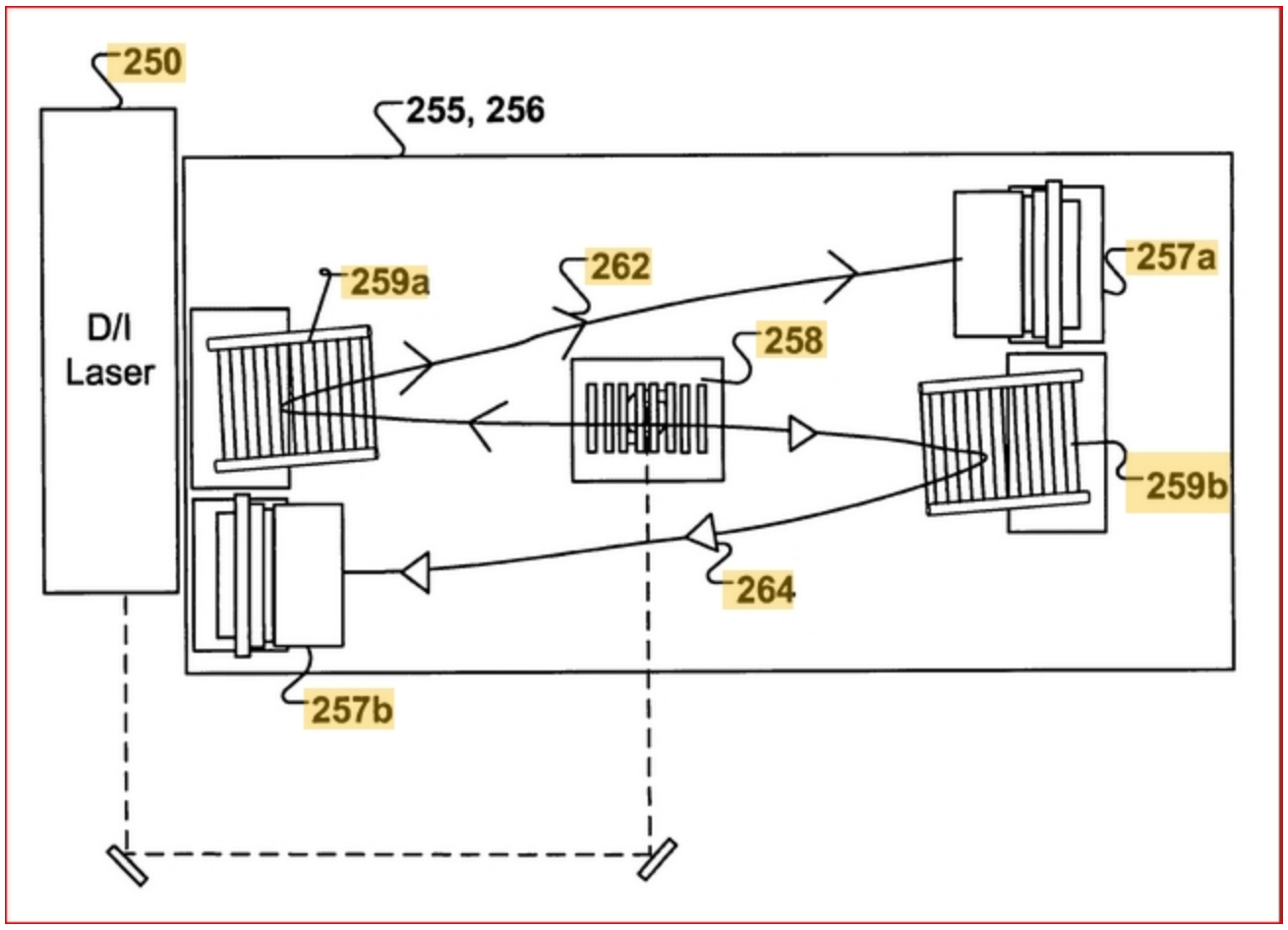
ATOFMS, mass spectrometer

CATEGORIZED AS

- Sensors & Instrumentation
  - Other
  - Physical Measurement

RELATED CASES

2006-104-0



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