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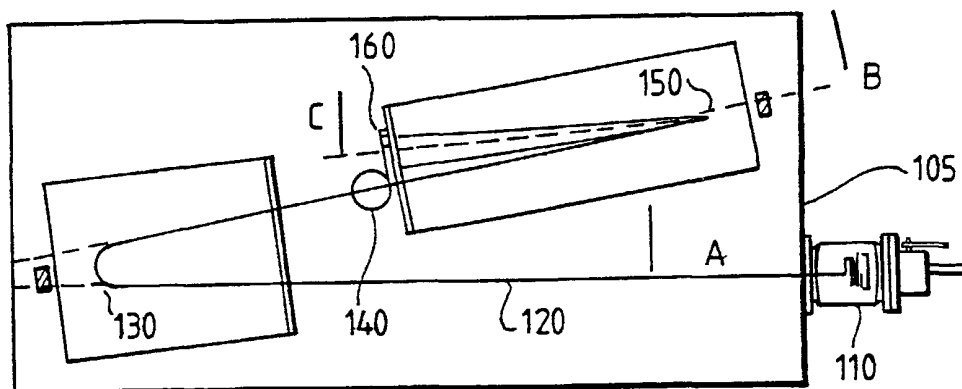
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(54) Title: TIME OF FLIGHT MASS SPECTROMETRY APPARATUS



(57) Abstract: Mass spectrometry apparatus (105) comprises a serial arrangement of an ion source (110), first time of flight means, a field free region (120), means to fragment the molecules, a second time of flight means and a large area detector (160). The second time of flight means includes an ion mirror (150), the ion mirror (150) being arranged to produce a reflecting substantially quadratic field. The first time of flight means is arranged to provide spatial focusing concomitant with time focusing of ions at or near the entrance to the ion mirror (150). The means provided to fragment the ions from the first time of flight means can be a collision cell (140) or in the field free region (220) or in the first time of flight means. The means to fragment the molecules has a potential which is different from the potential at the entrance to the ion mirror (150), and the detecting surface of the detector (160) is mounted in the time focal surface of the ion mirror (150).



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H01J49/40

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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X	column 9 -column 10 ---	17
Y	CHEN Y H ET AL: "Orthogonal electron impact source for a time-of-flight mass spectrometer with high mass resolving power1" INTERNATIONAL JOURNAL OF MASS SPECTROMETRY, ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM, NL, vol. 185-187, 29 April 1999 (1999-04-29), pages 221-226, XP004163672 ISSN: 1387-3806 page 222; figure 2 --- -/--	1-4, 6-8, 10-12, 14, 15



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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