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(54) Title: IMPROVED SPACE FOCUS TIME OF FLIGHT MASS SPECTROMETER

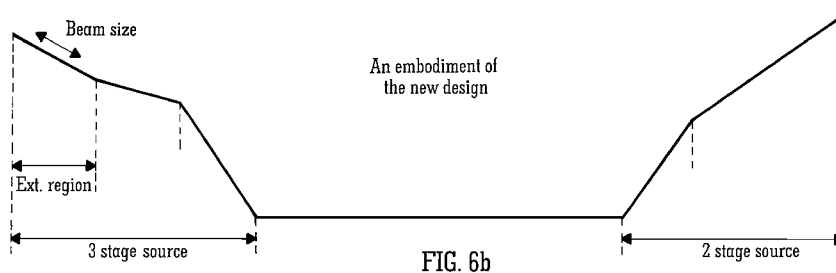


FIG. 6b

(57) Abstract: A Time of Flight mass spectrometer is disclosed wherein a fifth order spatial focusing device is provided. The device which may comprise an additional stage in the source region of the Time of Flight mass analyser is arranged to introduce a non-zero fifth order spatial focusing term so that the combined effect of first, third and fifth order spatial focusing terms results in a reduction in the spread of ion arrival times  $\Delta T$  of ions arriving at the ion detector.

**INTERNATIONAL SEARCH REPORT**

International application No  
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A. CLASSIFICATION OF SUBJECT MATTER  
INV. H01J49/40  
ADD.

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)  
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 practicable, search terms used)  
EPO-Internal, INSPEC, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 627 877 B1 (DAVIS STEPHEN C [GB] ET AL) 30 September 2003 (2003-09-30) abstract; figure 1 column 10 column 15, line 42 - column 17, line 8; figures 11, 12	1-5,8-17
X	----- SHORT ET AL: "Improved energy compensation for time-of-flight mass spectrometry", JOURNAL OF THE AMERICAN SOCIETY FOR MASS SPECTROMETRY, ELSEVIER SCIENCE INC, US, vol. 5, no. 8, 1 August 1994 (1994-08-01), pages 779-787, XP005936485, ISSN: 1044-0305 abstract page 783 - page 784 ----- -/--	1,2,5-17

Further documents are listed in the continuation of Box C.

See patent family annex.

\* Special categories of cited documents :

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"&" document member of the same patent family

Date of the actual completion of the international search  4 June 2012	Date of mailing of the international search report  13/06/2012
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer  Loiseleur, Pierre
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## INTERNATIONAL SEARCH REPORT

International application No  
PCT/GB2011/052576

C(Continuation). 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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A	US 2004/084613 A1 (BATEMAN ROBERT HAROLD [GB] ET AL) 6 May 2004 (2004-05-06) the whole document -----	12
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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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