Abstract: A co-axial time-of-flight mass spectrometer having a longitudinal axis and first and second ion mirrors at opposite ends of the longitudinal axis. Ions enter the spectrometer along an input trajectory offset from the longitudinal axis and after one or more passes between the mirrors ions leave along an output trajectory offset from the longitudinal axis for detection by an ion detector. The input and output trajectories are offset from the longitudinal axis by an angle no greater than tan (l) where D_{min} is the or the minimum transverse dimension of the ion mirror and L is the distance between the entrances of the ion mirrors.
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report: 27 November 2008
INTERNATIONAL SEARCH REPORT

International application No
PCT/GB2007/004683

A. CLASSIFICATION OF SUBJECT MATTER

 inv. 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)

HOIO

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, INSPEC, COMPENDEX

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
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<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<tbody>
<tr>
<td>Y</td>
<td>US 6 013 913 A (HANSON CURTISS D [US]) 11 January 2000 (2000-01-11) abstract claims 1,6-8 figures 2-5,8-11 col umn 1, line 7 - 1th e 9 col umn 2, line 56 - 1ine 67 col umn 3, line 22 - 1ine 31 column 3, line 56 - 1ine 67 column 4, line 3 - 1ine 5</td>
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Special categories of cited documents:

*A* document defining the general state of the art which is not considered to be of particular relevance

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*O* document referring to an oral disclosure, use, exhibition or other means

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Date of the actual completion of the international search

2 October 2008

Date of mailing of the international search report

15/10/2008

Name and mailing address of the ISA/
European Patent Office, P.B./5818 Patentlaan 2 NL - 2280 HV Rijswijk
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Lachaud, Stephane

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## DOCUMENTS CONSIDERED TO BE RELEVANT

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<td>WO 2006/102430 A (LECO CORP [US]; VERENTCHIKOV ANATOLI N [RU]; YAVOR MIKHAIL [RU]) 28 September 2006 (2006-09-28) abstract claims 1,4,5,7,39,40 page 13, paragraph 81 page 14, paragraph 83 page 22, line 3, paragraph 119 page 22, line 14, paragraph 119 - line 16 page 12, paragraph 158 figures 3a,3b,4a-4c,5a-5c</td>
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