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(54) Title: APPARATUS AND METHODS OF FORMING A GAS CLUSTER ION BEAM USING A LOW-PRESSURE SOURCE

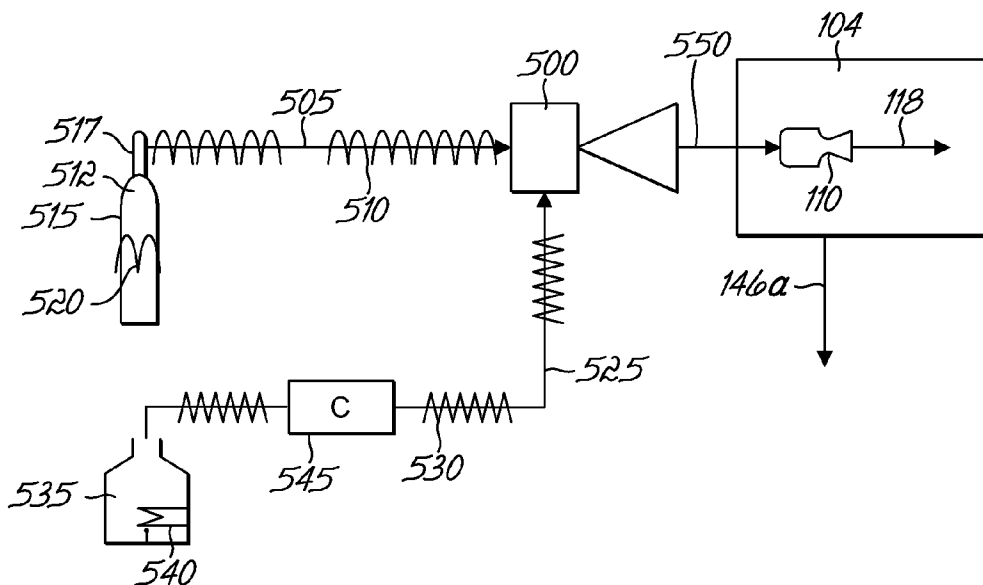


FIG. 5

(57) Abstract: Embodiments of a gas cluster ion beam apparatus (100) and methods for forming a gas cluster ion beam (128) using a low-pressure process source (535) are generally described herein. In one embodiment, the low-pressure process source (535) is mixed with a high-pressure diluent source (512) in a static pump (500) to form a mixed source, from which a gas cluster jet (118) is generated and ionized to form the gas cluster ion beam. Other embodiments may be described and claimed.

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B. FIELDS SEARCHED

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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

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A	US 2004/137733 A1 (HAUTALA JOHN J [US]) 15 July 2004 (2004-07-15) paragraph [0030]; figures 1,2	1-23
A	JP 06 275548 A (OSAKA GAS CO LTD) 30 September 1994 (1994-09-30) abstract; figure 1	1,9,17
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Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents :

<p>'A' document defining the general state of the art which is not considered to be of particular relevance</p> <p>'E' earlier document but published on or after the international filing date</p> <p>'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>'O' document referring to an oral disclosure, use, exhibition or other means</p> <p>'P' document published prior to the international filing date but later than the priority date claimed</p>	<p>'*' later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>'X' document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>'Y' document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>'&' document member of the same patent family</p>
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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