Abstract: Techniques for preventing parasitic beamlets from affecting ion implantation are disclosed. In one particular exemplary embodiment, the techniques may be realized as an apparatus for preventing parasitic beamlets from affecting ion implantation. The apparatus may comprise a controller that is configured to scan a spot beam back and forth, thereby forming an ion beam spanning a predetermined width. The apparatus may also comprise an aperture mechanism that, if kept stationary, allows the spot beam to pass through. The apparatus may further comprise a synchronization mechanism, coupled to the controller and the aperture mechanism, that is configured to cause the aperture mechanism to move in synchronization with the scanned spot beam, allowing the scanned spot beam to pass through but blocking one or more parasitic beamlets associated with the spot beam.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - H01J 3/14 (2007.01)
USPC - 250/396R

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)
USPC - 250/396R

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC - 250/396R-400 (text search - see terms below)

Electronic database consulted during the international search (name of database and, where practicable, search terms used)
PubWEST(PGPB,USPT,USOC,EPAB,JPAB); Google Scholar
Search Terms: ion implantation, parasitic

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category*</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>US 6,369,874 B1 (del Puerto) 09 April 2002 (09.04.2002), entire document especially col 7, in 9 to col 8, in 40, col 1, In 54-60 and col 9, In 12 to col 10, In 11</td>
<td>22 and 24-28</td>
</tr>
<tr>
<td>Y</td>
<td>US 2004/0262542 A1 (RATHMELL et al.) 30 September 2004 (30.09.2004), para [0005], [0007], [0003], [0015], Fig 3</td>
<td>1-21 and 23</td>
</tr>
<tr>
<td>Y</td>
<td>US 5,375,451 A (Sandstrom) 27 December 1994 (27.12.1994), col 6, In 57 to col 7, In 12</td>
<td>16 and 18</td>
</tr>
</tbody>
</table>

Further documents are listed in the continuation of Box C.

* Special categories of cited documents:
  "A" document defining the general state of the art which is not considered to be of particular relevance
  "E" earlier application or patent but published on or after the international filing date
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  "O" document referring to an oral disclosure, use, exhibition or other means
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  "T" 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
  "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
  "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
  "&" document member of the same patent family

Date of the actual completion of the international search
14 August 2007 (14.08.2007)

Name and mailing address of the ISA/US
Mail Stop PCT, Attn: ISA/US, Commissioner for Patents
P.O. Box 1450, Alexandria, Virginia 22313-1450
Facsimile No. 571-273-3201

Date of mailing of the international search report
07 FEB 2008

Authorized officer
Lee W. Young
PCT Helpdesk: 571-272-4300
PCT OSP: 571-272-7774

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