Abstract: In cone-beam volume computed tomography or similar imaging techniques, the effects of x-ray scatter are reduced through using a beam compensation filter (a bow tie filter) (610), air gap (G) technique, and an anticounter grid (612) and corrected through the use of a beam stop array (602) combined with interpolation or convolution operation. Images are taken with the beam stop array (602), and a larger number of images are taken without the beam stop array (602). The images taken with the beam stop array (602) are spatially interpolated to derive scatter information, which is then angularly interpolated to provide as many scatter images as there are images taken without the beam stop array (602). The interpolations are performed through cubic spline interpolation or any other interpolation techniques or low-pass filtering operation (convolution operation with a selected kernel). Each scatter image is subtracted from a corresponding one of the images taken without the beam stop array (602) to provide a sequence of scatter-corrected images.
### INTERNATIONAL SEARCH REPORT

**A. CLASSIFICATION OF SUBJECT MATTER**
- IPC(7): A61B 6/03
- US CL: 378/7, 19, 901

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)
- U.S.: 378/4, 7, 8, 15, 19, 901

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)

Please See Continuation Sheet

**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>A</td>
<td>US 5,533,088 A (Fiviz) 02 July 1996 (02/07.1996) entire document.</td>
<td>1-35</td>
</tr>
</tbody>
</table>

* Further documents are listed in the continuation of Box C.  

**See patent family annex.**

**Date of the actual completion of the international search**

21 May 2003 (21.05.2003)

**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. (703)305-2230

Form PCT/ISA/210 (second sheet) (July 1998)
Continuation of B. FIELDS SEARCHED Item 3:
USPTO EAST/BRS (USPAT, US-PGPUB, EPO, JPO, DERWENT, IBM_TDB)
search terms: scatter, beam stop array, angular interpolation