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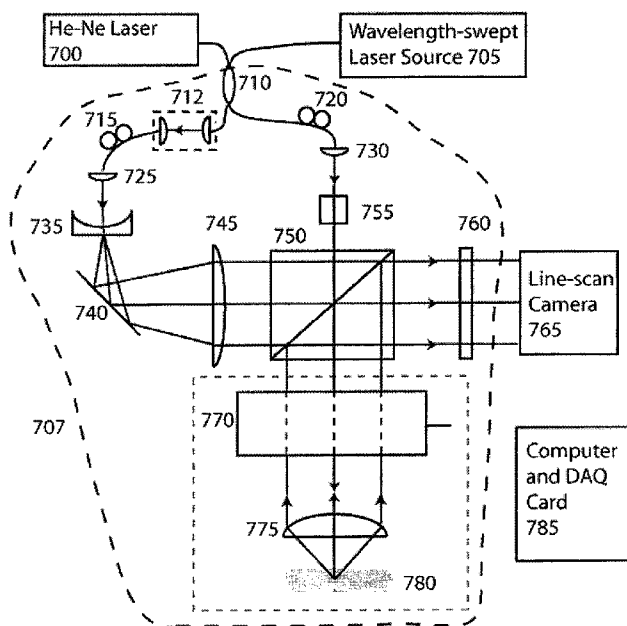
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  - (71) Applicant (for all designated States except US): **THE GENERAL HOSPITAL CORPORATION** [US/US]; 55 Fruit Street, Boston, MA 02114 (US).
  - (72) Inventors; and
  - (75) Inventors/Applicants (for US only): **DESJARDINS, Adrien, E.** [CA/US]; 17 Rear Endicott Avenue, Apt. 2, Somerville, MA 02144 (US). **VAKOC, Benjamin, J.** [US/US]; 3 Sargent Street, Cambridge, MA 02140 (US). **TEANEY, Guillermo, J.** [US/US]; 12 Fairmont Street, Cambridge, MA 02139 (US). **BOUMA, Brett, E.** [US/US]; 12 Monmouth Street, Quincy, MA 02171 (US).
  - (74) Agents: **ABELEV, Gary et al.**; Dorsey & Whitney LLP, 250 Park Avenue, New York, NY 10177 (US).
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(54) Title: METHODS AND SYSTEMS FOR PERFORMING ANGLE-RESOLVED FOURIER-DOMAIN OPTICAL COHERENCE TOMOGRAPHY



(57) Abstract: Angle-resolved Fourier-domain optical coherence tomography for measuring spatially-resolved angular backscattering distributions from transparent and turbid samples is presented. Speckle reduction and generating image contrast are shown. A wave length- swept laser source and line- scan camera are used. The input beam on the sample to be measured is collimated, with the reference beam being spatially expanded. The backscattered light from the sample interferes with the spatially expanded reference beam.

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*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**INTERNATIONAL SEARCH REPORT**

International application No  
PCT/US2007/062465

**A. CLASSIFICATION OF SUBJECT MATTER**  
INV. G01B9/02 G01N21/47 A61B5/00

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)  
G01B A61B G01N

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

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PYTHILA AND A WAX J W: "Rapid, depth-resolved light scattering measurements using Fourier domain, angle-resolved low coherence interferometry" OPTICS EXPRESS, OPTICAL SOCIETY OF AMERICA, WASHINGTON, DC,, US, vol. 12, no. 25, 13 December 2004 (2004-12-13), pages 6178-6183, XP002420432 ISSN: 1094-4087 abstract page 2 - page 4 figures 1(a),1(b)	1-28

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>*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</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>*&amp;* document member of the same patent family</p>
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Date of the actual completion of the international search  19 July 2007	Date of mailing of the international search report  08/08/2007
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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, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer  Kokkonen, Jukka
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## INTERNATIONAL SEARCH REPORT

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## C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PYTHILA J W ET AL: "Determining nuclear morphology using an improved angle-resolved low coherence inteferometry system" OPTICS EXPRESS, OPTICAL SOCIETY OF AMERICA, WASHINGTON, DC,, US, vol. 11, no. 25, 15 December 2003 (2003-12-15), pages 3473-3484, XP002420433 ISSN: 1094-4087 cited in the application abstract page 2 - page 4 figures 1(a),1(b)	1-28
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X,P	----- A.E DESJARDINS, B.J. VAKOC, G.J. TEARNEY, B.E. BOUMA: "Speckle reduction in OCT using massively-parallel detection and frequency-domain ranging" OPTICS EXPRESS, vol. 14, no. 11, 29 May 2006 (2006-05-29), pages 4736-4745, XP002443246 the whole document -----	1-28