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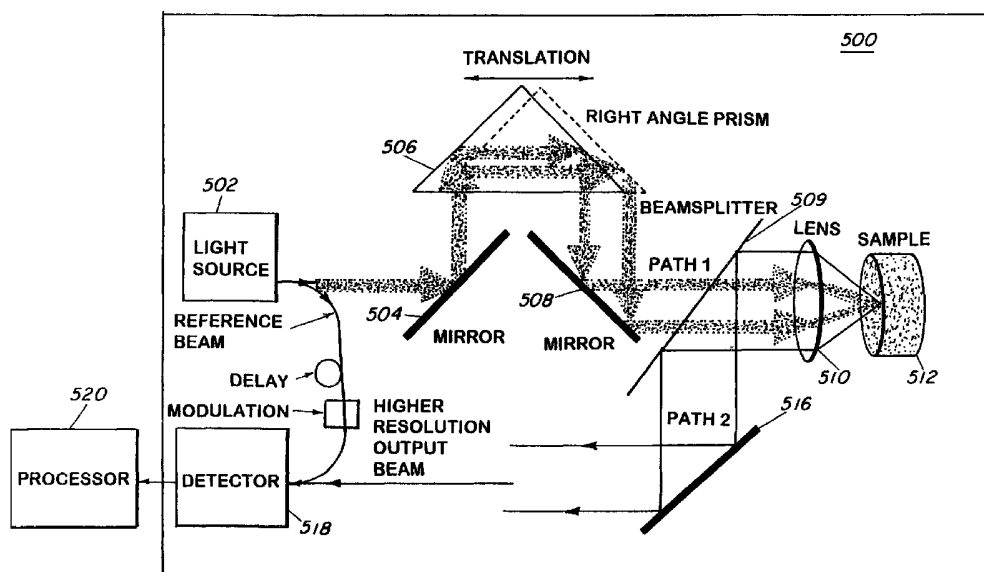
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(54) Title: METHOD AND APPARATUS FOR REDUCING SPECKLE IN OPTICAL COHERENCE TOMOGRAPHY IMAGES



(57) Abstract: A method and apparatus for reducing speckle due to MSL, without any loss of resolution, by averaging over different angles of the incident light at low input resolution, while collecting the backscattered light at a full resolution of a lens is described. The present invention allows discrimination against the speckle due to coherent MSL.



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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/US03/37204

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G01N 21/00

US CL : 356/342

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. : 356/342, 364-369, 450, 453, 487, 489, 491, 520; 250/225-236

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
NONE

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

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/0101593 A1 (YANG et al) 01 August 2002 (01.08.2002), Figure 3, paragraphs [0026]-[0031], [0038]-[0041]; claim 11.	1-3, 7-19
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Y		4-6, 20-22
Y	US 6,377,349 B1 (FERCHER) 23 April 2002 (23.04.2002), Figure 2.	4, 5, 20, 21
Y,E	US 6,710,875 B1 (ZAVISLAN) 23 March 2004 (23.03.2004), Figure 2.	6, 22
A,P	US 2003/0053072 A1 (FERCHER et al) 20 March 2003 (20.03.2003), see entire document.	1-22
A,P	US 2003/0137669 A1 (ROLLINS et al) 24 July 2003 (24.07.2003), see entire document.	1-22
A	US 6,381,015 B1 (SONEHARA et al) 30 April 2002 (30.04.2002), see entire document.	1-22
A	US 5,748,311 A (HAMANN et al) 05 May 1998 (05.05.1998), see entire document.	1-22
A	US 5,432,607 A (TAUBENBLATT) 11 July 1995 (11.07.1995), see entire document.	1-22



Further documents are listed in the continuation of Box C.



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"P"	document published prior to the international filing date but later than the priority date claimed		

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# INTERNATIONAL SEARCH REPORT

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## Continuation of B. FIELDS SEARCHED Item 3:

EAST: USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM\_TDB

search terms: 356/\$.ccls.; 356/ccls. and oct; (356/\$.ccls. and oct) and msl; 356/\$.ccls. and mls; 356/\$.ccls. and msl; 356/\$.ccls. and coherence adj3 tomography; (356/\$.ccls. and coherence adj3 tomography) and reduc\$4 adj 3 speckle; 356/\$.ccls. and reduc\$4 adj3 speckle) and average) and scatter\$4; (((356/\$.ccls. and reduce\$4 adj3 speckle) and average) and scatter\$4) and backscatter\$3; 356/\$.ccls. and backscatter\$3; 356/\$.ccls. and backscatter\$3; (356/\$.ccls. and backscatter\$3) and mls) and noise; ("6134002").PN; 356/\$.CCLS.; ((356/\$.CCLS.) and (wafer or substrate) adj3 (tilt or angle)); ("6556290").PN; ((356/\$.ccls. and oct) and msl) and ((beam adj2 splitter) or (beamsplitter)); (356/\$.ccls. and mls) and reflected; (356/\$.ccls. and oct) and ((wafer or substrate) adj3 (tilt)); (356/\$.ccls. and coherence adj3 tomography) and ((beam adj2 splitter) or (beamsplitter)); ((356/\$.ccls. and oct) and msl) and 356/138-155.ccls.