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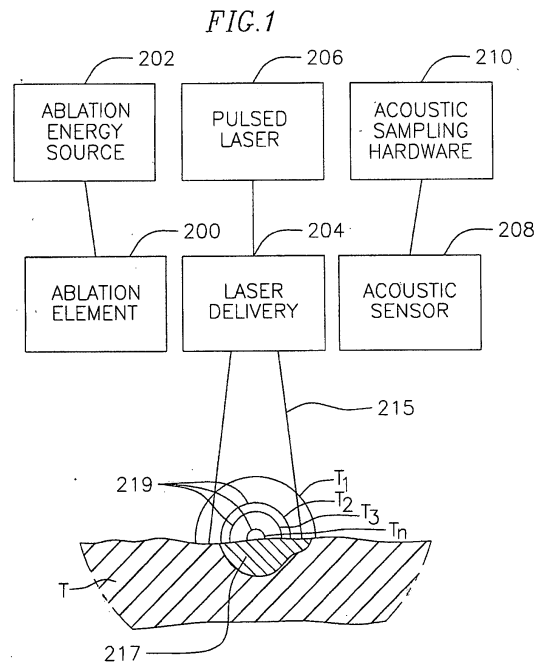
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(54) **Real-Time optoacoustic monitoring with electrophysiologic catheters**

(57) A system and method for opto-acoustic tissue and lesion assessment in real time on one or more of the following tissue characteristics: tissue thickness, lesion progression, lesion width, steam pop, and char formation, system includes an ablation element, laser delivery means, and an acoustic sensor. The invention involves irradiating tissue undergoing ablation treatment to create acoustic waves that have a temporal profile which can be recorded and analyzed by acoustic sampling hardware for reconstructing a cross-sectional aspect of the irradiated tissue. The ablation element (e.g., RF ablation), laser delivery means and acoustic sensor are configured to interact with a tissue surface from a common orientation; that is, these components are each generally facing the tissue surface such that the direction of irradiation and the direction of acoustic detection are generally opposite to each other, where the stress waves induced by the laser-induced heating of the tissue below the surface are reflected back to the tissue surface.



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European Patent Office

PARTIAL EUROPEAN SEARCH REPORT

Application Number

which under Rule 63 of the European Patent Convention EP 07 25 5010 shall be considered, for the purposes of subsequent proceedings, as the European search report

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 2004/000148 A (GLUCON INC [US]; PESACH BENNY [IL]; BALBERG MICHAL [IL]) 31 December 2003 (2003-12-31) * page 8, line 8 - line 13 * * page 10, line 25 - page 13, line 10 * * page 15, line 24 - page 16, line 18 * * page 17, line 23 - page 18, line 7 * * page 19, line 27 - line 29 * * figures 1-4 *	1-8, 28-32	INV. A61B5/00 A61B8/12
A	-----	20-27	ADD. A61B18/14
X	WO 2004/000112 A (GLUCON INC [US]; PESACH BENNY [IL]; BALBERG MICHAL [IL]) 31 December 2003 (2003-12-31) * page 16, line 14 - page 18, line 6 * * figures 4,5 * ----- -/--	20-27	
			TECHNICAL FIELDS SEARCHED (IPC)
			A61B
INCOMPLETE SEARCH			
<p>The Search Division considers that the present application, or one or more of its claims, does/do not comply with the EPC to such an extent that a meaningful search into the state of the art cannot be carried out, or can only be carried out partially, for these claims.</p> <p>Claims searched completely :</p> <p>Claims searched incompletely :</p> <p>Claims not searched :</p> <p>Reason for the limitation of the search: see sheet C</p>			
Place of search		Date of completion of the search	Examiner
The Hague		29 May 2008	Görlach, Tobias
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			

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EPO FORM 1503 03.02 (P04E07)



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A	<p>US 6 200 310 B1 (BEN-HAIM SHLOMO [IL] ET AL) 13 March 2001 (2001-03-13) * column 5, line 5 - line 7 * * column 8, line 9 - line 54 * * column 10, line 31 - line 33 * * figure 4 *</p> <p>----- -/--</p>	1,3,6,7,20,22,25	



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A	<p>KROTOV EUGENE V ET AL: "Detection of thermal acoustic radiation from laser-heated deep tissue" APPLIED PHYSICS LETTERS, AIP, AMERICAN INSTITUTE OF PHYSICS, MELVILLE, NY, vol. 81, no. 21, 18 November 2002 (2002-11-18), pages 3918-3920, XP012032553 ISSN: 0003-6951 * the whole document *</p> <p style="text-align: center;">-----</p>	1-8, 20-32	
			TECHNICAL FIELDS SEARCHED (IPC)

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Claim(s) searched completely:
1-8,20-32

Claim(s) not searched:
9-19

Reason for the limitation of the search (non-patentable invention(s)):

Article 53(c) EPC: Method of treatment of the human or animal body by surgery

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 07 25 5010

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

29-05-2008

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