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(71) Applicants:
• **Hitachi Medical Corporation**
Chiyoda-ku
Tokyo 101-0021 (JP)

• **SHIINA, Tsuyoshi**
Tsukuba-shi, Ibaraki 305-0032 (JP)

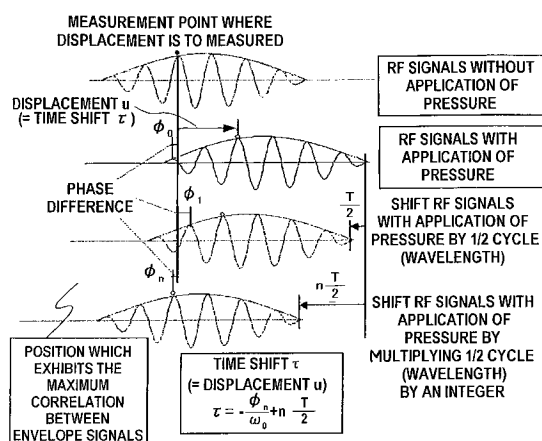
(72) Inventors:
• **Shiina, Tsuyoshi**
Sakyo-ku, Kyoto 606 8507 (JP)
• **Yamakawa, Makoto**
Kyoto-shi, Kyoto 607-8261 (JP)
• **Nitta, Naotaka**
Tsukuba-shi, Ibaraki 305-8564 (JP)

(74) Representative: **Strehl Schübel-Hopf & Partner**
Maximilianstrasse 54
80538 München (DE)

(54) **Ultrasonic diagnosis system and strain distribution display method**

(57) A measurement point is set at frame data consisting of an envelope signal obtained by orthogonal detection of an RF signal output from an ultrasonic probe before and after compression of an examinee. The measurement point is moved in the ultrasonic beam direction (first dimensional direction), second dimensional direction or third dimensional direction with respect to the frame data so as to obtain a position where the envelope signal correlation coefficient before and after compression belonging to a correlation window surrounding the measurement point becomes maximum. According to this, the displacement of the measurement point accompanying the compression is obtained and the phase difference between the RF signals before and after the compression is obtained, so as to accurately obtain a displacement of the measurement point accompanying the compression by displacement measurement means. Thus, it is possible to estimate the displacement distribution without being restricted by the displacement amount, reduce the calculation time, and cope with a horizontal direction displacement.

FIG. 5





EUROPEAN SEARCH REPORT

Application Number
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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	DE 198 24 108 A1 (PESAVENTO ANDREAS [DE]; ERMERT HELMUT [DE]) 2 December 1999 (1999-12-02) * column 2, line 21 - column 6, line 55 * * figures *	1-11	INV. A61B8/08 G01S15/10 G01S15/88 G01S15/89
A	----- TSUYOSHI SHIINA ET AL: "Fukugo jiko sokanho ni yoru jitsujikan tissue elasticity imaging/REAL TIME TISSUE ELASTICITY IMAGING USING THE COMBINED AUTOCORRELATION METHOD", CHOONPA IGAKU - JAPANESE JOURNAL OF MEDICAL ULTRASONICS, NIHON CHOONPA IGAKKAI, TOKYO, JP, vol. 26, no. 2, 15 February 1999 (1999-02-15), pages 57-66, XP002974145, ISSN: 0287-0592 * abstract * * figures * & SHIINA T ET AL: "REAL TIME TISSUE ELASTICITY IMAGING USING THE COMBINED AUTOCORRELATION METHOD", JOURNAL OF MEDICAL ULTRASONICS, JAPAN SOCIETY OF ULTRASONICS IN MEDICINE, TOKYO, JP, vol. 29, no. AUTUMN, 21 September 2002 (2002-09-21), pages 119-128, XP008033652, ISSN: 1346-4523 * page 120, right-hand column, last paragraph - page 123, left-hand column, paragraph 1 * * figures 1-3 * ----- -/--	1-11	TECHNICAL FIELDS SEARCHED (IPC) A61B G01N G01S
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 3 November 2011	Examiner Görlach, Tobias
CATEGORY OF CITED DOCUMENTS 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		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	

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Application Number
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DOCUMENTS CONSIDERED TO BE RELEVANT			
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A,D	OPHIR J ET AL: "Elastography: A quantitative method for imaging the elasticity of biological tissues", ULTRASONIC IMAGING, DYNAMEDIA INC., SILVER SPRING, MD, US, vol. 13, no. 2, 1 April 1991 (1991-04-01), pages 111-134, XP026409707, ISSN: 0161-7346 [retrieved on 1991-04-01] * page 114, last paragraph - page 116, paragraph 5 * -----	1-11	
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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 3 November 2011	Examiner Görlach, Tobias
CATEGORY OF CITED DOCUMENTS 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 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			

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

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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
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专利名称(译)	超声诊断系统和应变分布显示方法		
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[标]申请(专利权)人(译)	株式会社日立医药 椎名TSUYOSHI		
申请(专利权)人(译)	日立医疗器械股份有限公司 椎名, TSUYOSHI		
当前申请(专利权)人(译)	日立医疗器械股份有限公司 椎名, TSUYOSHI		
[标]发明人	SHIINA TSUYOSHI YAMAKAWA MAKOTO NITTA NAOTAKA		
发明人	SHIINA, TSUYOSHI YAMAKAWA, MAKOTO NITTA, NAOTAKA		
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优先权	2002222868 2002-07-31 JP 2002222869 2002-07-31 JP		
其他公开文献	EP2374413A2 EP2374413B1		
外部链接	Espacenet		

摘要(译)

测量点被设置在帧数据上,该帧数据包括通过在受检者压缩之前和之后正交检测从超声波探头输出的RF信号而获得的包络信号。测量点相对于帧数据在超声波束方向(第一维方向),第二维方向或第三维方向上移动,以便获得压缩之前和之后的包络信号相关系数属于相关窗口的位置围绕测量点变得最大。据此,获得伴随压缩的测量点的位移,并且获得压缩之前和之后的RF信号之间的相位差,从而精确地获得伴随位移测量装置的压缩的测量点的位移。因此,可以在不受位移量限制的情况下估计位移分布,减少计算时间,并且可以应对水平方向位移。

FIG. 5

