

SUPPLEMENTARY EUROPEAN SEARCH REPORT

Application Number
EP 15 88 7196

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	MARTIN F. SCHIFFNER ET AL: "Compensating the combined effects of absorption and dispersion in plane wave pulse-echo ultrasound imaging using sparse recovery", 2013 IEEE INTERNATIONAL ULTRASONICS SYMPOSIUM (IUS), July 2013 (2013-07), pages 573-576, XP055244613, DOI: 10.1109/ULTSYM.2013.0148 ISBN: 978-1-4673-5684-8 * the whole document *	1-10	INV. G01S15/89 G01S7/52
A	HERVÉ LIEBGOTT ET AL: "Pre-beamformed RF signal reconstruction in medical ultrasound using compressive sensing", ULTRASONICS, vol. 53, no. 2, February 2013 (2013-02), pages 525-533, XP028959364, ISSN: 0041-624X, DOI: 10.1016/J.ULTRAS.2012.09.008 [retrieved on 2012-09-28] * the whole document *	1-10	TECHNICAL FIELDS SEARCHED (IPC)
T	LIU JING ET AL: "A Compressed Sensing Strategy for Synthetic Transmit Aperture Ultrasound Imaging", IEEE TRANSACTIONS ON MEDICAL IMAGING, vol. 36, no. 4, April 2017 (2017-04), pages 878-891, XP011644571, ISSN: 0278-0062, DOI: 10.1109/TMI.2016.2644654 [retrieved on 2017-03-31] * sections I to III *		G01S
The supplementary search report has been based on the last set of claims valid and available at the start of the search.			
Place of search Munich		Date of completion of the search 10 October 2017	Examiner Knoll, Bernhard
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			

专利名称(译)	通过合成聚焦进行超声成像的方法和装置		
公开(公告)号	EP3187113A4	公开(公告)日	2017-11-22
申请号	EP2015887196	申请日	2015-09-06
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审查员(译)	KNOLL伯恩哈德		
优先权	201510142749.4 2015-03-27 CN		
其他公开文献	EP3187113A1		
外部链接	Espacenet		

摘要(译)

提供了一种通过合成聚焦进行超声成像的方法和装置。该方法包括：激励超声探头的多个矩阵元件多次发射平面波，其中，在多个矩阵元素每次发射平面波时发送变迹对应于测量矩阵中的各个线。其中元素是随机分布的；在每次传输平面波之后，激励超声探头的所有矩阵元件接收回波信号，以获得信道数据；根据信道数据集和测量矩阵，利用压缩感知重建算法恢复合成聚焦信道数据集；并且将合成聚焦通道数据集进行波束成形以产生超声图像。通过上述方法和装置获得的超声图像不仅分辨率非常高，而且由于超声波传输较少并且在每次传输中存在高能量，因此还具有帧频率高和对比度高的优点。

 Scientific Center for Information Systems VNIIS RUSSIAN MINISTRY OF DEFENSE		SUPPLEMENTARY EUROPEAN SEARCH REPORT		Application Number EP 15 88 7196
DOCUMENTS CONSIDERED TO BE RELEVANT			Relevant to the state of the art	CLASSIFICATION OF THE APPLICATION (IPC)
Category	Citation of documents with indication, where appropriate, of the relevant passages			
X	MARTIN F. SCHIFFNER ET AL.: "Compensating the combing effect of the Doppler and range dispersion in plane wave pulse-echo ultrasound imaging using sparse recovery", 2013 IEEE INTERNATIONAL ULTRASONICS SYMPOSIUM (IUS), 2013, pp. 573-576, ISBN: 978-1-4673-5264-8	1-10	1 INV. G01S/59 G01S/52	
	0919 2013/024613.1 XP05524613.1 DOI: 10.1109/ULTSW.2013.0146 ISBN: 978-1-4673-5264-8 = the whole document =			
A	HERVE LIEBGET ET AL.: "Pre-beamformed RF signal reconstruction in medical ultrasound using compressed sensing", ULTRASONICS, vol. 53, no. 2, February 2013 (2013-02), pp. 1536-1564, XP02693564, ISBN: 0961-624X, DOI: 10.1016/j.ultras.2012.09.008 [retrieved on 2012-09-08]	1-10		TECHNICAL FIELD (IPC)
	= the whole document =			G01S
T	LIU JING ET AL.: "A Compressed Sensing Strategy for Synthetic Transmit Aperture Ultrasound Imaging", IEEE TRANSACTIONS ON MEDICAL IMAGING, vol. 36, no. 4, April 2017 (2017-04), pp. 857-869, XP0308571, ISBN: 0278-0962, DOI: 10.1109/TMI.2016.2645544 [retrieved on 2017-03-31]			
	sections 1 to 111			
The <i>supplementary European Search Report</i> is based on the text and/or claims valid and available at the start of the search.				
Section of the search	Section of the search			Section
Munich	10 October 2017			Knoll, Bernhard
123-4	Classification of cited documents:			
	1. scientific relevant (state of the art)	A. scientific relevant (state of the art)		
	2. not scientific relevant (not state of the art)	B. not scientific relevant (not state of the art)		
	3. not relevant (not state of the art)	C. not relevant (not state of the art)		
	4. not relevant (not state of the art)	D. not relevant (not state of the art)		
	5. not relevant (not state of the art)	E. not relevant (not state of the art)		
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	29. not relevant (not state of the art)	AC. not relevant (not state of the art)		
	30. not relevant (not state of the art)	AD. not relevant (not state of the art)		
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	39. not relevant			