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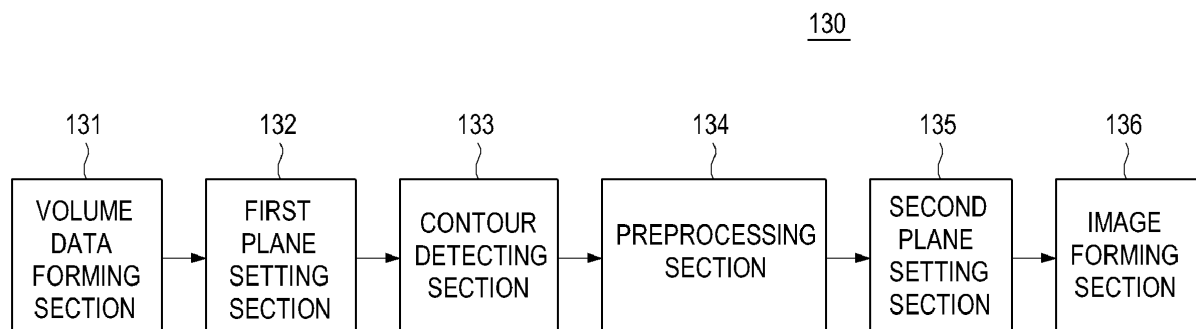
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(54) **Ultrasound system and method for providing multiple plane images for a plurality of views**

(57) Embodiments for forming multiple plane images for a target object in an ultrasound system are disclosed. A processor forms volume data indicative of the target object by using ultrasound data. The processor is configured to: set a reference plane in the volume data; detect a falx contour and a contour of a cerebrum in the

reference plane and an entire contour of the brain in the volume data; normalize the volume data by using the falx contour, the cerebrum contour and the entire contour of the fetal brain; and set multiple planes with respect to the reference plane in the volume data. The processor forms plane images corresponding to the respective multiple planes by using the volume data.

FIG. 4



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EUROPEAN SEARCH REPORT

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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)
Y	US 2005/251036 A1 (EASTERN VIRGINIA MED SCHOOL [US]; ABUHAMAD ALFRED Z [US]) 10 November 2005 (2005-11-10) * abstract; figures 1, 24 - 26 * * paragraph [0075] - paragraph [0082] * * paragraphs [0093], [0095] - [0096] * * paragraph [0128] - paragraph [0130] * -----	1-15	INV. G01S15/89 G01S7/52 A61B8/08
Y	US 2007/249935 A1 (DESCHINGER HARALD [AT] ET AL) 25 October 2007 (2007-10-25) * abstract; figures 1, 3, 4 * * paragraphs [0016] & [0019] * * paragraph [0021] - paragraph [0027] * -----	1-15	
X	US 2006/034513 A1 (CAI ANMING H [US] ET AL) 16 February 2006 (2006-02-16) * abstract; figure 1 * * paragraphs [0021], [0035], [0039] * * paragraphs [0041], [0042], [0044] * -----	1-15	
Y		1-15	
A	"Sonographic examination of the fetal central nervous system: guidelines for performing the 'basic examination' and the 'fetal neurosonogram'", ULTRASOUND IN OBSTETRICS AND GYNECOLOGY, vol. 29, no. 1, 1 January 2007 (2007-01-01), pages 109-116, XP55040876, ISSN: 0960-7692, DOI: 10.1002/uog.3909 * the whole document * -----	6-8, 13-15	TECHNICAL FIELDS SEARCHED (IPC) G01S A61B
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 15 October 2012	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	

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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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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2005251036 A1	10-11-2005	EP 1861016 A2	05-12-2007
		JP 2008534082 A	28-08-2008
		US 2005251036 A1	10-11-2005
		WO 2006104959 A2	05-10-2006

US 2007249935 A1	25-10-2007	CN 101057787 A	24-10-2007
		DE 102007018454 A1	25-10-2007
		JP 2007289685 A	08-11-2007
		US 2007249935 A1	25-10-2007

US 2006034513 A1	16-02-2006	US 2006034513 A1	16-02-2006
		WO 2006022815 A1	02-03-2006

专利名称(译)	超声系统和方法，用于为多个视图提供多个平面图像		
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审查员(译)	KNOLL伯恩哈德		
优先权	1020090083074 2009-09-03 KR		
其他公开文献	EP2296011B1 EP2296011A2		
外部链接	Espacenet		

摘要(译)

公开了用于在超声系统中形成目标对象的多个平面图像的实施例。处理器通过使用超声数据形成指示目标对象的体数据。处理器用于：在体数据中设置参考平面；在体积数据中检测参考平面中的镰刀轮廓和大脑轮廓以及大脑的整个轮廓；通过使用镰刀轮廓，大脑轮廓和胎儿大脑的整个轮廓来标准化体积数据；并在体数据中相对于参考平面设置多个平面。处理器通过使用体数据形成与各个多个平面相对应的平面图像。

FIG. 4

