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Declarations under Rule 4.17:

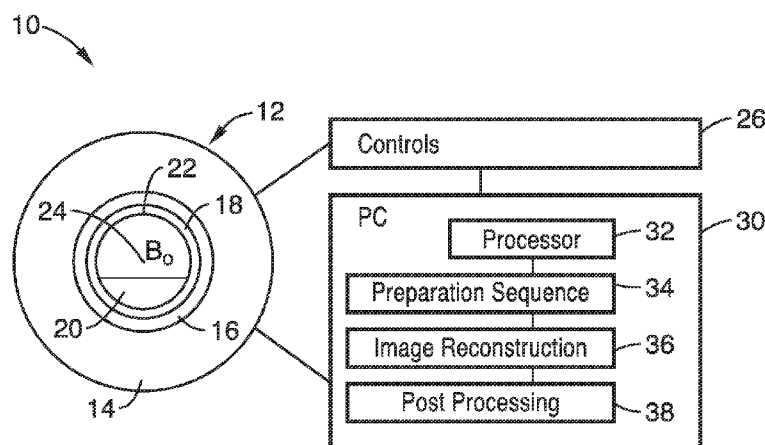
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

Published:

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[Continued on next page]

- (54) **Title:** CARDIAC MRI CURVILINEAR TAGGING

**FIG. 1**

- (57) **Abstract:** A preparation sequencing system and methods are disclosed for generating curvilinear taglines of altered magnetization in an imaging plane of an NMR image. A preparation sequencing module is disclosed for generating a sinusoidal gradient signal simultaneously with a continuous a radio frequency (RF) signal, wherein the sinusoidal gradient signal is shaped to generate a rotating on-resonance excitation plane such that each point in the imaged target volume is on-resonance at least once in a period corresponding to one full rotation of the excitation plane. The on-resonance excitation plane is configured to simultaneously generate a plurality of curvilinear or circular taglines of altered magnetization in the imaging plane.



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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/023726**A. CLASSIFICATION OF SUBJECT MATTER****A61B 5/055(2006.01)i, G06T 7/00(2006.01)i**

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)

A61B 5/055; A61B 5/05; G06K 9/00; A61B 18/18

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: MRI, tagging, excitation plane, curvilinear

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2008-0009704 A1 (MORTEZA GHARIB et al.) 10 January 2008 See paragraphs [0047],[0055],[0076], and figures 1A, 1B, 5.	1-32
A	US 2010-0014735 A1 (BI XIAOMING et al.) 21 January 2010 See paragraph [0018], and figure 1.	1-32
A	US 2010-0063380 A1 (DUEK JEFFREY L. et al.) 11 March 2010 See paragraph [0075], claim 1, and figure 6.	1-32
A	US 2008-0269595 A1 (WONG ERIC C.) 30 October 2008 See paragraph [0062], claim 2, and figure 7.	1-32

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

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"&" document member of the same patent family

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2008-0009704 A1	10.01.2008	US 8073523 B2	06.12.2011
US 2010-0014735 A1	21.01.2010	US 8165371 B2	24.04.2012
US 2010-0063380 A1	11.03.2010	WO 2010-030657 A1	18.03.2010
US 2008-0269595 A1	30.10.2008	None	