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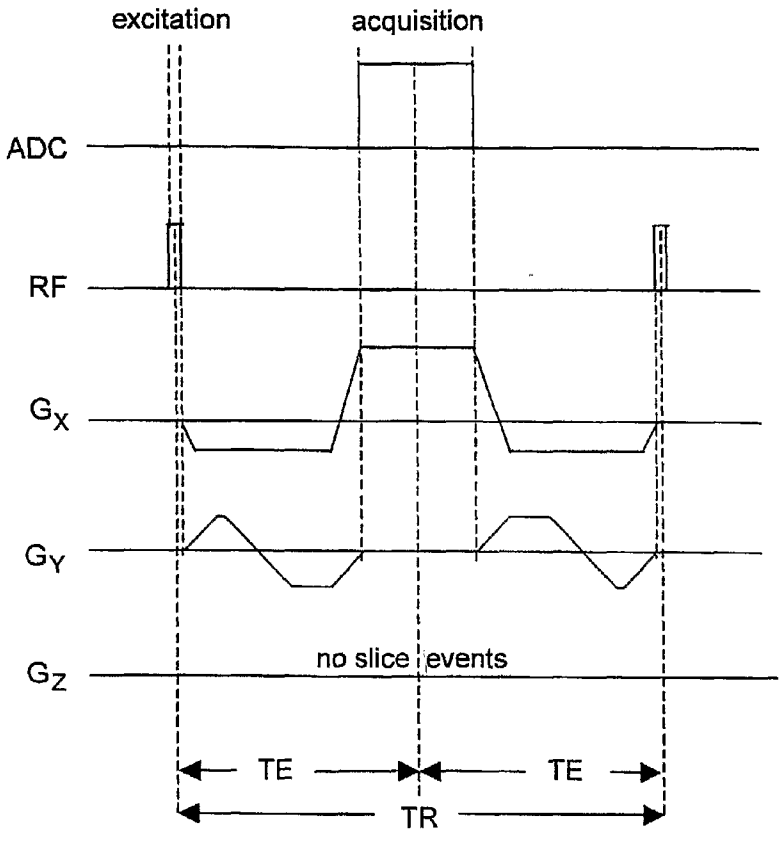
*[Continued on next page]*

(54) Title: INTERVENTIONAL MAGNETIC RESONANCE IMAGING BASED ON GLOBAL COHERENT FREE PRECESSION




(57) Abstract: Methods and systems for obtaining intravascular magnetic resonance images of blood flow are disclosed. In preferred forms, a train of radio frequency (RF) pulses is produced by an intravascularly introduced RF transmitter positioned in proximate location to the blood flow so as to create a continuous stream of coherently excited protons of the blood flow. The coherently excited protons of the blood flow are sampled as the protons freely precess while flowing through a region of three dimensional space unaffected by the ongoing intravascular RF excitation. An image of the sampled coherently excited protons may then be constructed.

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A. CLASSIFICATION OF SUBJECT MATTER
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USPC - 600/419
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)
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| X<br>--<br>Y | US 5,445,151 A (DARROW et al) 29 August 1995 (29.08.1995) entire document | 7-11<br>---<br>1-6 |
| Y | US 2004/0254452 A1 (JUDD et al) 16 December 2004 (16.12.2004) entire document | 1-6 |
| A | US 2004/0116800 A1 (HELFER et al) 17 June 2004 (17.06.2004) entire document | 1-11 |
| A | US 5,225,779 A (PARKER et al) 06 July 1993 (06.07.1993) entire document | 1-11 |

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