

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
17 November 2005 (17.11.2005)

PCT

(10) International Publication Number
WO 2005/109010 A3

(51) International Patent Classification⁷: **G01V 3/00**

(21) International Application Number:
PCT/US2005/015342

(22) International Filing Date: 3 May 2005 (03.05.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/568,035 4 May 2004 (04.05.2004) US

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

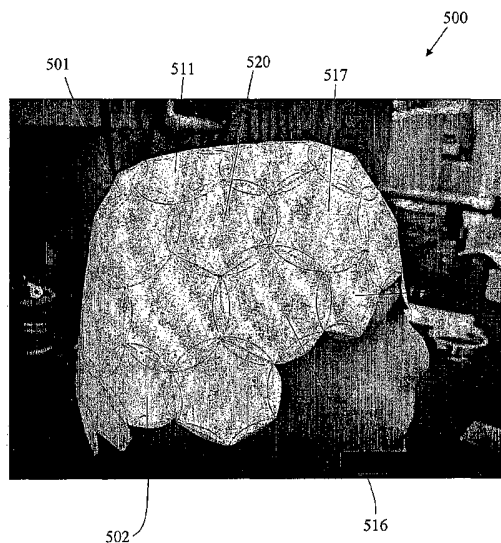
Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
16 February 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: MRI POLYHEDRAL COIL ARRAY POSITIONING WITH NON-ZERO GAUSSIAN CURVATURE



(57) Abstract: The invention is based, in part, on the recognition that patterns of coil elements can be arranged on surfaces with non-zero Gaussian curvature in an array having a reduced mutual inductance among the coils. For example, a coil array can include coil elements positioned according to the faces of a portion of a polyhedron. The coil elements can form a surface that is curved in two dimensions. The sizes of the coil elements are selected to reduce mutual inductance among the coils. Such coil arrays can be used to improve sensitivity in MRI systems significantly.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/15342

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G01V 3/00

US CL : 324/318

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)

U.S. : 324/318-322, 309, 307

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)
WEST2.3 USPT, PGPB, EPAB, JPAB, DWPI, TDBD, USOC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- A	US 4,825,162 A (ROEMER et al) 25 April 1989 (25.04.1989), figures 3, 8, col. 4 lines 20-51; col. 2 lines 55-58; col. 11 lines 13-39, and see the entire reference in general.	1-34 ----- 35
X --- A	US 2003/0100826 A1 (Savelainen) 29 May 2003 (29.05.2003), figures 1-9. See entire reference.	1-6, 8, 9, 12-15, 20, 25, 27-30, and 33-35 ----- 7, 10, 11, 16-19, 21- 24, 26, 31, and 32
A	US 2002/0156362 A1 (BOCK et al) 24 October 2002 (24.10.2002), See figures 1 and 3, as well as the entire written disclosure.	1-35

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

26 November 2005 (26.11.2005)

Date of mailing of the international search report

21 DEC 2005

Name and mailing address of the ISA/US

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