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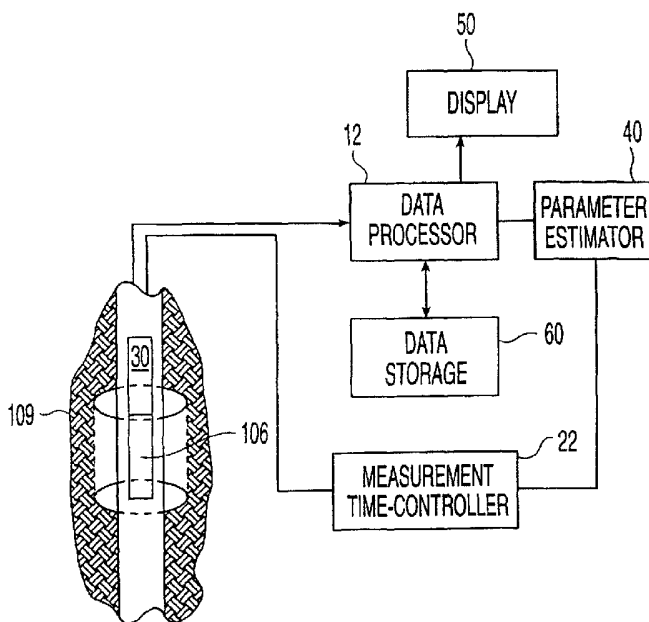
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(54) Title: SYSTEM AND METHODS FOR T1-BASED LOGGING



(57) Abstract: System and methods for using nuclear magnetic resonance T1 measurements for wireline, LWD and MWD applications. T1 and T2 measurements are obtained by probe (30). Parameter estimator (40) derives values of parameters such as diffusion from T1 and T2 measurements.

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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.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/32336

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G01V 3/00
 US CL : 324/303

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. : 324/303, 306, 307, 309, 312, 314, 318, 300

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)
 Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6,242,913 A (PRAMMER) 05 June 2001 (05.06.2001), see pulse sequence on cover drawing.	1-26
A	US 6,392,409 A (CHEN) 21 May 2002 (21.05.2002), see abstract of the disclosure.	1-26
A	US 4,728,892 A (VINEGAR et al) 01 March 1988 (01.03.1988), see col. 1 lines 45-68 and col. 2 lines 1-21.	1-26

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent published on or after the international filing date
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- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

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- "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
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

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DUT

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US04/32336

Continuation of B. FIELDS SEARCHED Item 3:

EAST

search terms: relaxation, spin, diffusivity, integration, distribution, polarization