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

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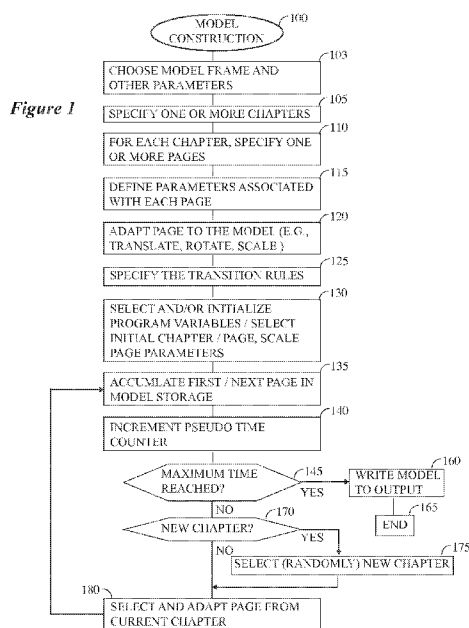
- (84) **Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CL, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

**Declarations under Rule 4.17:**

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

[Continued on next page]

(54) **Title:** SYSTEM AND METHOD FOR COMPUTATIONAL GEOLOGY



(57) **Abstract:** One aspect of the invention is a method for building geologic / stratigraphic models of the earth for the purposes of numerical simulations of phenomena of interest, such as seismic wave propagation, or fluid flow, reservoir simulation, etc. An embodiment of the invention uses stochastic methods to create material property models that have desired statistical properties by numerically simulating deposition of geological layers. The method can create multiple material parameter models from numerical implementations of a variety of geological processes.



**Published:**

**(88) Date of publication of the international search report:**

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

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INTERNATIONAL SEARCH REPORT

International application No  
PCT/US2014/024632

A. CLASSIFICATION OF SUBJECT MATTER  
INV. G01V99/00  
ADD. G01V1/00

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)  
G01V

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)  
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 7 043 367 B2 (GRANJEON DIDIER [FR]) 9 May 2006 (2006-05-09) the whole document column 3, line 39 - column 4, line 15 column 6, line 28 - column 8, line 43 column 11, line 50 - column 12, line 41 abstract; figures 1-4	1-14
A	US 2012/265510 A1 (LEPAGE FRANCOIS [FR]) 18 October 2012 (2012-10-18) the whole document ----- -/--	1-14

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 but published on or after the international filing date
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- "O" document referring to an oral disclosure, use, exhibition or other means
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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
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- "&" document member of the same patent family

Date of the actual completion of the international search  9 December 2014	Date of mailing of the international search report  18/12/2014
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer  De Bekker, Ruben

## INTERNATIONAL SEARCH REPORT

International application No  
PCT/US2014/024632

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	LERAT O ET AL: "Construction of a Stochastic Geological Model Constrained by High-Resolution 3D Seismic Data - Application to the Girassol Field Offshore Angola", SPE INTERNATIONAL OIL AND GAS CONFERENCE AND EXHIBITION, XX, XX, 11 November 2007 (2007-11-11), pages 1-16, XP002568891, the whole document -----	1-14

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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