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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 SEISMIC DATA MODELING AND MIGRATION

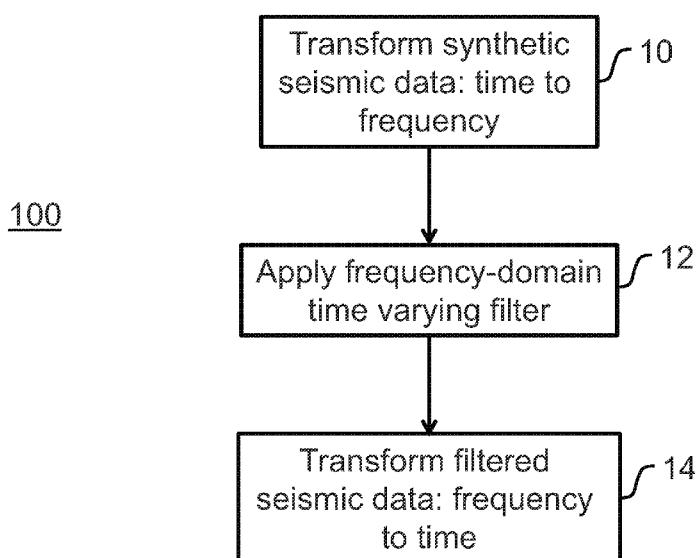


FIG. 1

(57) Abstract: A system and computer-implemented method for accounting for temporal dispersion in low-order finite difference seismic wave propagation is disclosed. An embodiment of the method includes transforming a seismic dataset from time domain to frequency domain to obtain a frequency-domain seismic dataset, applying a frequency-domain time varying filter to the frequency-domain seismic dataset to obtain a filtered frequency-domain seismic dataset, and transforming the filtered frequency-domain seismic dataset from the frequency domain to the time domain to obtain a time-domain filtered seismic dataset. The frequency-domain time varying filter is based on the effective phase velocity inherent in a finite-difference solution to the wave equation.

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- *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))*

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/025891**A. CLASSIFICATION OF SUBJECT MATTER****G01V 1/28(2006.01)i, G06F 19/00(2011.01)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)

G01V 1/28; G01V 1/36; G01V 1/00

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)

eKOMPASS(KIPO internal) & Keywords: transform, dispersion, seismic, difference, frequency, domain, filter and similar terms

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2008-0175101 A1 (SAENGER, E. et al.) 24 July 2008 See the whole document.	1-15
A	US 05060202 A (MEEK, R. A. & LINVILLE, Jr. A. F.) 22 October 1991 See the whole document.	1-15
A	US 6687617 B2 (KELLY, S.) 03 February 2004 See the whole document.	1-15
A	US 05999488 A (SMITH, B. A.) 07 December 1999 See the whole document.	1-15



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

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"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"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

Date of the actual completion of the international search

27 SEPTEMBER 2012 (27.09.2012)

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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
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