

CORRECTED VERSION

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
8 December 2011 (08.12.2011)

PCT

(10) International Publication Number
WO 2011/152928 A8(51) International Patent Classification:
G01V 1/00 (2006.01)77079 (US). DICKENS, Thomas, A. [US/US]; 9239
Buffalo Speedway, Houston, TX 77025 (US).(21) International Application Number:
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stream Research Company, CORP-URC-SW359, P.O.
Box 2189, Houston, TX 77252-2189 (US).(22) International Filing Date:
22 April 2011 (22.04.2011)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/350,783 2 June 2010 (02.06.2010) US
61/472,955 7 April 2011 (07.04.2011) US(71) Applicant (for all designated States except US):
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NY [US/US]; CORP-URC-SW359, P.O. Box 2189,
Houston, TX 77252-2189 (US).(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP,
KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD,
ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI,
NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD,
SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR,
TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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ham, A. [GB/US]; 434 Hickory Post Lane, Houston, TX(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG,
ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ,

[Continued on next page]

(54) Title: EFFICIENT COMPUTATION OF WAVE EQUATION MIGRATION ANGLE GATHERS

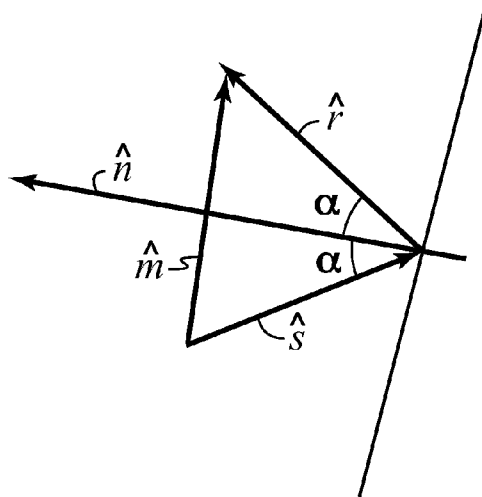


FIG. 1

(57) Abstract: Method for efficient computation of
wave equation migration angle gathers by using mul-
tiple imaging conditions. Common reflection angle
or common azimuth gathers or gathers including
both common reflection angles and common azimuth
angles are produced as the data are migrated. In the
course of either wave equation migration or reverse
time migration, the pressures and particle motion ve-
locities that need to be computed are sufficient to
also compute the Poynting vector pointing in the di-
rection of source-side (35) or receiver-side (37)
wavefield propagation. From that, the reflection and
azimuth angles can be computed (38). The seismic
images can then be stored in the appropriate angle
bins, from which common reflection angle or azi-
muth data volumes can be assembled (39).



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, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— *with amended claims (Art. 19(1))*

(48) Date of publication of this corrected version:

2 February 2012

(15) Information about Correction:

see Notice of 2 February 2012

Published:

— *with international search report (Art. 21(3))*