

Title (en)
SYSTEMS AND METHODS FOR RANGING WHILE DRILLING

Title (de)
SYSTEME UND VERFAHREN ZUR ORTUNG BEIM BOHREN

Title (fr)
SYSTÈMES ET PROCÉDÉS POUR L'ÉVALUATION DE DISTANCE PENDANT LE FORAGE

Publication
EP 2691797 B1 20190220 (EN)

Application
EP 11859018 A 20110331

Priority
US 2011030639 W 20110331

Abstract (en)
[origin: WO2012134468A1] An improved system and method for ranging while drilling, in effect, induces a dynamic hot spot on the casing of a nearby well. The induced hot spot acts as a magnetic source that can be reliably detected from within the drillstring and in such a manner as to infer the relative position and orientation of the casing to the drillstring. At least some disclosed method embodiments employ one or more rotating magnets in the drillstring, an array of at least two magnetometers in the drillstring and one or more phase-locked loops that are used to enhance the signal to noise ratio of the magnetic signal scattered off of the casing from the rotating magnetic field. The rotating magnet or magnets may be magnetic dipoles or magnetic multipoles, and may be modulated to enable the use of multiple magnetic field sources.

IPC 8 full level
G01V 3/00 (2006.01); **E21B 7/04** (2006.01); **E21B 47/022** (2012.01); **E21B 47/09** (2012.01)

CPC (source: EP)
E21B 7/04 (2013.01); **E21B 47/0228** (2020.05); **E21B 47/092** (2020.05)

Citation (examination)
US 2007126426 A1 20070607 - CLARK BRIAN [US], et al

Cited by
CN112922584A

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
WO 2012134468 A1 20121004; EP 2691797 A1 20140205; EP 2691797 A4 20151111; EP 2691797 B1 20190220

DOCDB simple family (application)
US 2011030639 W 20110331; EP 11859018 A 20110331