

Title (en)  
METHOD FOR DETERMINING DOWNHOLE CHARACTERISTICS IN A PRODUCTION WELL

Title (de)  
VERFAHREN ZUR BESTIMMUNG VON BOHRLOCHEIGENSCHAFTEN IN EINEM PRODUKTIONSBOHRLOCH

Title (fr)  
PROCÉDÉ POUR DÉTERMINER LES CARACTÉRISTIQUES DE FOND DE TROU D'UN Puits DE PRODUCTION

Publication  
**EP 3693538 A1 20200812 (EN)**

Application  
**EP 19156494 A 20190211**

Priority  
EP 19156494 A 20190211

Abstract (en)  
A method for determining one or more downhole characteristics in a production well (10), comprising the steps of: measuring (110) a physical property of the production well (10) using at least one sensor (12); pre-processing (130) the measured values of the physical property using feature scaling or automatic gain control techniques; and determining (150) one or more downhole characteristics using a supervised machine learning method (200). The supervised machine learning method (200) comprises the steps of: cross-validating (210) a predictive analytics algorithm with training data that are previously measured physical properties and applying (220) one or more algorithms to the measured values of the physical property to converge on an estimate for the determined downhole characteristic(s).

IPC 8 full level  
**E21B 41/00** (2006.01); **E21B 47/00** (2012.01); **E21B 49/00** (2006.01)

CPC (source: EP US)  
**E21B 47/00** (2013.01 - EP); **E21B 49/00** (2013.01 - EP); **E21B 49/003** (2013.01 - US); **E21B 49/005** (2013.01 - US);  
**E21B 2200/22** (2020.05 - EP US)

Citation (search report)  
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• [A] CN 108005576 A 20180508 - FIRST CONSTR ENG CO LTD OF CHINA CONSTR 3RD ENG BUREAU  
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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

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**EP 3693538 A1 20200812**; US 2020263538 A1 20200820; WO 2020165098 A1 20200820

DOCDB simple family (application)  
**EP 19156494 A 20190211**; EP 2020053341 W 20200210; US 202016786095 A 20200210