

Title (en)  
METHODS AND SYSTEMS FOR DETERMINING MANUFACTURING AND OPERATING PARAMETERS FOR A DEVIATED DOWNHOLE WELL COMPONENT

Title (de)  
VERFAHREN UND SYSTEME ZUR BESTIMMUNG DER HERSTELLUNGS- UND BETRIEBSPARAMETER FÜR EINE ABGELENKTE BOHRLOCHKOMPONENTE

Title (fr)  
PROCÉDÉS ET SYSTÈMES DE DÉTERMINATION DE PARAMÈTRES DE FABRICATION ET D'EXPLOITATION D'UN COMPOSANT DE Puits DE FOND DE TROU DÉVIÉ

Publication  
**EP 2986819 A4 20170208 (EN)**

Application  
**EP 14814632 A 20140117**

Priority  
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Abstract (en)  
[origin: WO2014204521A1] Systems and methods for determining manufacturing or operating parameters for a deviated downhole well component, including a method that includes representing a tubular string as nodes separated by segments, determining transfer matrices for determining an  $i$ th node's state vector from an  $i-1$  node's state vector, and defining initial state vector values for the reference node. The nodes are numerable from 1 to N with an initial, mechanically constrained reference node representable with  $i = 0$ , and each is associated with a state vector describing a corresponding node position and one or more forces present at said node. The method further includes applying the transfer matrices to obtain each of the state vectors' values, deriving from at least one of the state vectors a parameter value for said component, and specifying a component having said parameter value. The parameter value can include a centralizer or stabilizer composition, manufacturing dimensions, or position.

IPC 8 full level  
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Citation (search report)  
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• [A] MOHAMMAD FAZAEELIZADEH: "Real Time Torque and Drag Analysis during Directional Drilling", PHD THESIS, March 2013 (2013-03-01), pages 1 - 200, XP055331507, Retrieved from the Internet <URL:http://theses.ucalgary.ca/jspui/bitstream/11023/564/2/Ucalgary\_2013\_Fazaelizadeh\_Mohammad.pdf> [retrieved on 20161223]  
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• See references of WO 2014204521A1

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