

Title (en)

Method and system for real time estimation of at least one parameter connected to the performance of a downhole tool

Title (de)

Verfahren und Einrichtung zur Echtzeit-Einschätzung von mindestens eines Parameters, der mit dem Verhalten eines Bohrlochwerkzeuges zusammenhängt

Title (fr)

Méthode et système d'estimation en temps réel d'au moins un paramètre lié au comportement d'un outil de fond de puits

Publication

EP 0816630 B1 20030521 (FR)

Application

EP 97401298 A 19970609

Priority

FR 9607913 A 19960624

Abstract (en)

[origin: EP0816630A1] The method of estimating the effective behaviour of a drill bit fixed at the end of a drill string and rotated in a shaft by surface motors, using a non linear physical model based on general mechanical equations with the following stages: the parameters of the model are identified taking into account the parameters of the shaft and the drill string; the model is reduced to a functional point; the linearised model is reduced, keeping only some of the proper modes of the matrix, and the displacement of or force on the drill bit is calculated in real time using the reduced model and at least one parameter measured at the surface. System of estimating the effective behaviour of such a drill bit using only the traction and compression of the drill string and the speed of rotation, vertical acceleration and/or the tension of the drill string.

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