

Title (en)
POWER LOSS DYSFUNCTION CHARACTERIZATION

Title (de)
CHARAKTERISIERUNG VON LEISTUNGSVERLUSTDYSFUNKTION

Title (fr)
CARACTÉRISATION DE DYSFONCTIONNEMENT À PERTE DE PUISSANCE

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Abstract (en)
[origin: CN107709702A] The invention relates to a method, system and apparatus for determining real-time drilling operations dysfunctions by measuring the power-loss of signal propagation associated with a drill string in a wellbore. The invention comprises acquiring a first time series from a mid-string drilling sub sensor associated with a drill string in a wellbore and acquiring a second time series from a sensor associated with the drill string wherein the sensor is on or near a drill rig on the surface of the earth. The process further comprises determining the geometry of the wellbore and determining model parameters alpha and beta for characterizing a wellbore using the first time series, the second time series and the geometry of the wellbore by deriving a power loss of signal propagation. The model parameters may then be used for drilling a subsequent well using surface sensor acquired data to detect drilling dysfunctions.

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