

Title (en)

METHOD FOR TIME TRACKING AND POSITIONING OF SEISMIC SIGNALS OF SHAFTS WITH THREE COMPONENTS

Title (de)

VERFAHREN ZUR ZEITVERFOLGUNG UND POSITIONIERUNG VON SEISMISCHEN SIGNALEN AUS SCHÄFTEN MIT DREI KOMPONENTEN

Title (fr)

METHODE DE POINTE-TEMPS ET D'ORIENTATION DE SIGNAUX SISMQUES DE PUIITS A TROIS COMPOSANTES

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Application

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Abstract (en)

[origin: WO2010092249A2] The invention relates to a method for tracking the arrival time of seismic waves and to the use thereof for positioning the components of a multi-component sensor. - After acquiring the seismic data using a PSV method, by means of a multi-component sensor, a module signal is built by calculating the square root of the sum of the squares of at least two orthogonal seismic components. Next, the arrival times of a direct seismic wave are tracked on an amplitude extremum of said module signal. Based on said tracking, the seismic components can be positioned in a single frame of reference regardless of the depth of the sensor. For this purpose, a time window is defined on either side of the tracked arrival times, and the azimuth direction is then determined by maximising the energy of the horizontal components within said time window. Finally, the three components are positioned in a single frame of reference, defined relative to said azimuth direction, which is identical for every depth. - The invention can also be used in the exploration or production of an oil reservoir, for example.

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