

Neftyanoe khozyaystvo - Oil Industry 2013 N6, pages 19-23

Application of "native" wavelet transform of gravity data for investigation of structure the sedimentary cover and crystalline basement

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Abstract

In this study authors have considered the basic theory and some real-world results of applying the technology of processing gravimetric data based on continuous and discrete wavelet transform with special "native" basic function. The most important result of this study is the technique for determining location and magnitude of the sources of the gravitational field in its wavelet domain for the two and three-dimensional cases. Synthetic examples demonstrate that this problem can be successfully solved for a large number of sources even with significant noise present in the gravimetric data.

Keywords

Gravimetry, Inverse problem, Wavelet transform