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## “Native” wavelet transform data obtained on spherical earth’s surface

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### Abstract

© SGEM2014. All Rights Reserved. In this paper we considered the basic theory and real results of applying the technology of processing geophysical data based on continuous and discrete wavelet transform in the three-dimension case. Wavelets are a powerful tool for the analysis of signals in one or two dimensions. We give a brief review of the methods of constructing a wavelet transform on the sphere. Further, we discuss the advantages and disadvantages of these methods in terms of their application to geophysical problems solutions. The results of the application of wavelet transformation techniques for solving some applied problems for a plane and a sphere. The most important result is the technique for determining location and magnitude of the sources of the gravitational fields in its wavelet domain for the two- and threedimensional cases.

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### Keywords

Interpretation of geophysical data, Three-dimensional sphere, Wavelet transforms