Application of the Hartley transform to the interpretation of magnetic anomalies due to two-dimensional dyke bodies

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Abstract

This study deals with the application of the Hartley transform in the inversion of total field magnetic anomalies due to a two-dimensional dyke model. The ratio of the Hartley transform to the amplitude spectrum gives the function from which the centre, magnetisation angle and dip may be determined. The depth and width of the dyke are determined from the amplitude spectrum.

Tests using theoretical anomalies have shown that most of the estimates of the parameters are in agreement with parameters used to compute the anomalies. Proper scaling of the transform is required to better estimate depth and intensity of magnetisation.