The Determination of Best Fitting Polynomial: A Case Study of Samsun

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SUMMARY

Geoid determination is the modelling that enables us to determine the height of a point whose position is known. Geoid determination has made important problem of Geodesy with GPS tecnologies. One of the geoid determination method is polynomial method which is the main purpose of expression of the work area with a single function that has become one of the most widely used techniques. At first sight which degree polynomial surface will be used or appropriate point distribution is unknown for the work area. In order to determine the appropriate polynomial surface, coefficients of polygons are obtained by adjustment method and the fixed observation group can be set based on result of the adjustment method.Gross error which is detected at least in one measurement and closed to random measurement errors cannot be easily realised. Also gross error affect negatively adjustment. Therefore outliers must be apply in the test. For setting or calculations of the best fit polygons it is viewed the changing valuation of the posteriori variance or the signifance test for the parameters.In case alternative hypothesis is valid, value is decided as a signifance. In this paper it is tried to determine identify the best fit polynomial geoid for Samsun.