

# Use of Artificial Neural Network Method for Transformation of GPS Defined Elipsoidal Heights to Geoid Referenced Heights

Hakan KUTOGLU, Turkey

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## SUMMARY

With the increasing use of GPS in surveying, transformation of ellipsoidal heights, which are obtained by GPS, into height systems which are referenced to geoid has been one of the major problems of geodesy and surveying. This transformation requires modeling local geoid in the related field. For the solution of this problem, surveyors commonly apply to conventional polynomial methods. Advances in technology have also been offered an alternative tool, named Artificial Neural Network (ANN) method, to engineers for the solution of such a problems. In this study, both the conventional polynomials and ANN method are used for modeling local geoid in Istanbul city of Turkey. With the comparison of the results from the conventional method and ANN, the strong and weak aspects of ANN to the conventional polynomials are investigated.

## CONTACT

Dr. Hakan Kutoglu  
Assistant Professor  
Zonguldak Karaelmas University  
Engineering Faculty  
Department of Geodesy and Photogrammetry  
67100  
Zonguldak  
Tel.: + 90 372 2573501  
Fax: + 90 372 2574023  
Email: kutogluh@hotmail.com  
TURKEY