

Considerations Regarding Romania's Leveling Network

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SUMMARY

The leveling network of Romania was determined between 1960 and 1965 by the Military Topographic Directorate and continued by the Institute of Geodesy, Photogrammetry, Cartography and Territorial Organization. Now the current topography, cadastre and photogrammetry works are based on the permanent stations of the National Agency for Cadastre and Land Registration (ANCPI) for both planimetric and altimetric positioning. These stations were linked to the national leveling network.

The study aims to establish the degree of precision of altitude determination using the network of permanent stations managed by ANCPI in different areas of Romania.

The accuracy of determining the altimetric position in surveying works is ± 5 - ± 7 centimeters for the points in the geodetic network. For the Digital Terrain Model, the accuracy is ± 20 - ± 30 centimeters.

ANCPI through the ROMPOS application provides altitudes referenced to the nearest permanent station for any point within its range. In practice, on station the GNSS receiver on any point and get directly the altitude. The accuracy check is carried out by directly stationing the GNSS receiver on a point in the national leveling network and comparing the values: measured and from the inventory. If this is not possible, a nearby point is chosen. Here the elevation will be determined directly from the grid point by geometric or trigonometric leveling.

The purpose is to determine whether the accuracy of determining point attitudes differs from one area to another.