

Gellérthegey (Gellértberg)

Beschreibung: Der Geodätische Hauptkontrollpunkt der ungarischen Landesvermessung befindet sich in Budapest auf dem Gellértberg innerhalb der Mauern der Zitadelle von Gellért. Der Punkt ist durch eine 40 x 40 cm große Kalksteinmarke an der Erdoberfläche mit einem Bronzestift in der Mitte markiert. Die unterirdische Marke befindet sich 80 cm unter der oberirdischen Marke und ist durch einen Bronzestift markiert, der in einem 140 x 140 cm großen Betonfundament in einen Kalkstein eingelassen ist. Unter diesem Betonfundament, 45 cm befindet sich eine weitere Marke (ein Bronzestift) in einem Kalkstein.



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Die Vermessungsarbeiten zur Anlegung des Stablen Katasters in den Ländern der Stephanskronen wurden durch ein eigenes kaiserliches Dekret im Jahre 1856 begonnen. Ungarn bekommt ein eigenes Koordinatensystem. Als Nullpunkt des Koordinatensystems wird der östliche Turm der Sternwarte Urani am Gellértberg in Budapest angenommen.

Für die östliche Reichshälfte der Monarchie gab es außerdem noch drei weitere Koordinatensysteme :

Tabelle 25.3

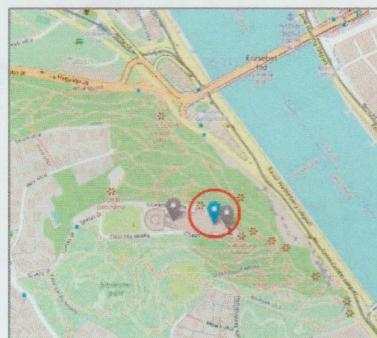
Land	Ursprung	geographische	
		Breite	Länge (Ferro)
Ungarn	östlicher Turm der Sternwarte auf dem Gellérthegey in Budapest	47°29'14,93"	36°42'51,69"
Kroatien und Slawonien m. Kom. Syrmien	Turm des Klosters Ivanič	45°44'21,25"	34°05'09,16"
Siebenbürgen	Observatorium Vizaknaihegy bei Hermannstadt	45°50'25,130"	41°46'32,713"

Quelle: Zeger, Die historische Entwicklung der staatlichen Vermessungsarbeiten (Grundlagenvermessung) in Österreich, Band 2, Triangulierungen für Katastervermessungen, Wien 1991, 297, 396 und 401.

3.5 Hungary

3.5.1 Main Geodetic Control Point on Gellérthegy

Geographical Description: The main Geodetic Control Point is situated in the heart of Budapest, the capital of Hungary, on the top of Gellérthegy (Gellért Hill), within the walls of the Castle of Gellérthegy, called Citadel.



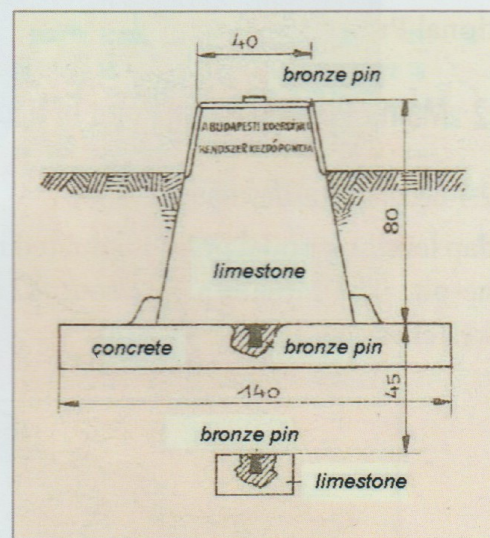
3.5.1.1 Geographic location of Gellérthegy

Point Coordinates (ETRS89): Cadastral Parcel Number: 5412 (Budapest, XI. District)

Latitude: 47.48688 Longitude: 19.04745



Gellérthegy Point within the Citadel (Tamás SEBŐK)



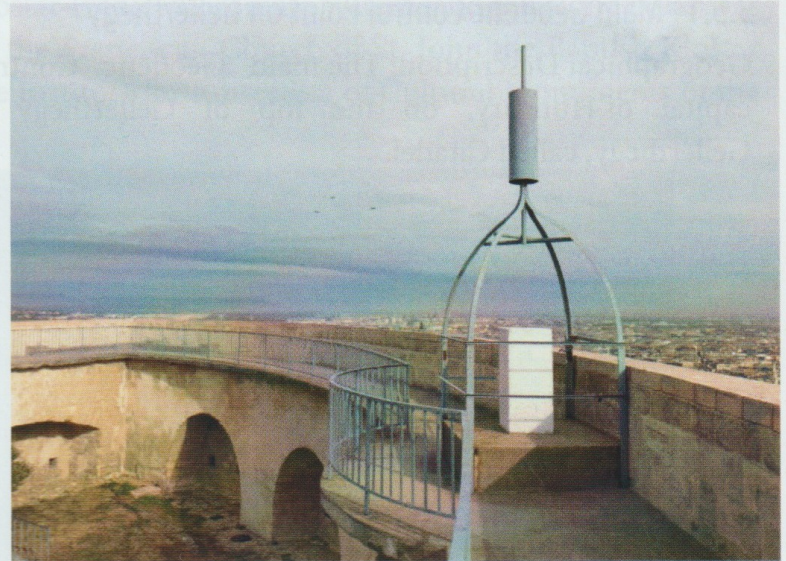
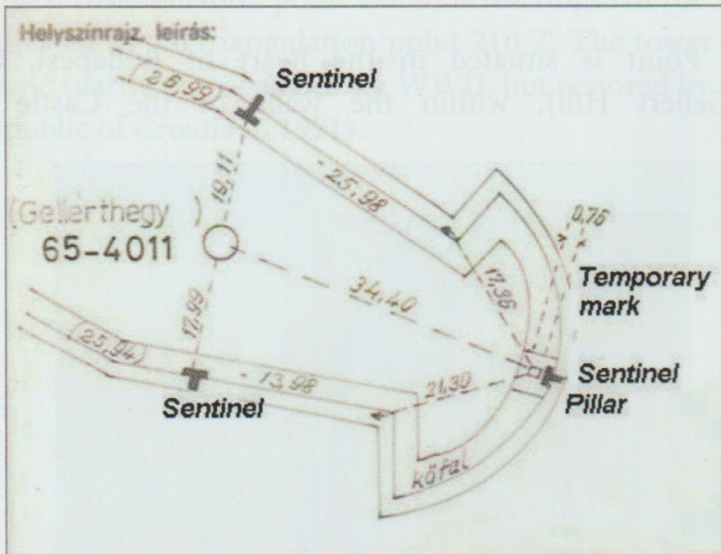
3.5.1.2 Physical Description

The point is marked by a limestone, 40cmx40cm mark on the surface of the Earth, with a bronze pin in the center. The monument is protected by a steel fence. The underground mark is 80cm below the surface mark, marked by a bronze pin, which is sunk into a limestone rock in a concrete bed 140cmx140cm.

Under this concrete bed, 45cm below there is an additional mark (a bronze pin) in a limestone rock.

The surface mark and the concrete bed are connected by a limestone prismoidal rock.

For practical reasons (difficult observation of the control point), a satellite point was fixed on the Citadel wall.



The satellite point on the wall of Citadel (Tamás SEBŐK)

3.5.1.3 Background Information

The geodetic importance of Gellérthegy Point goes back to Miksa Hell (Maximilian Hell, 1720-1792), astronomer, mathematician, physicist, who started his astronomical observations at this place in 1769.

The original point was the Eastern Tower of Urania Astronomic Observatory, which was established in 1815. The Observatory was badly damaged in Habsburg's cannonade in 1849. After then the Observatory was blown up, and the Citadel was built on the place of the Observatory between 1850 and 1854.

The present point was finally mounted in 1934. Gellérthegy Point marks the origin of the Budapest Stereographic Projection System, which was one of the projections, which was established for the cadastral surveying of Austro-Hungary. It is also the origin of Budapest Central Triangulation Network, which was established for the high-precision cadastral surveying of the capital city Budapest. The Satellite Point of was established together with the final marking of Gellérthegy Point in 1934. Gellérthegy Point has an important role nowadays as well, since it is used as one of the highest order triangulation point of the new (presently used) projection system EOVS (Unified National Projection System).

3.5.2 Main Levelling Nodal Point in Nadap

3.5.2.1 Geographical Description

Nadap levelling nodal point is situated near Nadap (small village in Fejér County, Hungary) in the area of a former stone-pit. The situation is about 42 km southwest of the capital City Budapest and 17 km northeast of Székesfehérvár.

