

National Report of Italy L. Baroni, M. Carroccio







National GNSS infrastructure: RDN2

RDN2 Network

It consists of **185** GNSS stations covering the italian territory

75 stations of the former RDN network
36 EPN stations (30 class A, 6 class B)
85 stations from regional RTK networks

~20% stations from commercial networks

IGM2 station co-located near IGMI class A EPN station

IGM2 has been accepted as EPN station in November 2018









National GNSS infrastructure: RDN2

RDN2 network has worked since 01/01/2008, it is the materialization of the official reference system in Italy:

ETRF2000 epoch 2008.0

During 2017, a multi-year cumulative solution has been computed :

- 9 years temporal series
- updating positions
- detecting discontinuities
- estimation of stations velocities

ftp://37.207.194.154/products/positio ns/RDN_IGb08_1920.RES









- National high precision leveling network
- established between 1948 and 1971
- it was formed by 13000 benchmarks at a mean distance of about 1 km

GE42 (1971)

In 1997 a project of remeasurement and densification

- up to 22000 points

In 2018

- continental Italy 16200 points
- Sicily 800 points











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Levelling and GPS static surveys (IGM95 points) performed in the area of Central Italy after the 2016 earthquake sequence

	When	Mag. W	Where
1	24 August 2016	6.0	Accumuli (Rieti)
2	26 October 2016	5.9	Visso (Macerata)
3	30 October 2016	6.5	Norcia (Perugia)
4	1 November 2016	4.8	Fiastra (Macerata)
5	18 January 2017	5.5	Campitignano (Aquila)









Network consists of 110 IGM95 points and 13 permanent stations, totally 221 baselines

GPS static surveys with occupation time longer than 2 hours

Up to 50 centimeters shifts have been measured in the area surrounding Norcia

East moviments









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North moviments









Vertical displacements have been measured by both GPS and leveling techniques.

On the western flank of the Mount Vettore, a subsidence reaching up to ~95 cm has been detected

In the surroundings of Cossito, about 6 km north of Amatrice, we measured a subsidence reaching up 80 cm

Vertical displacements









Thanks for your attention



