



National Report of Germany 2005

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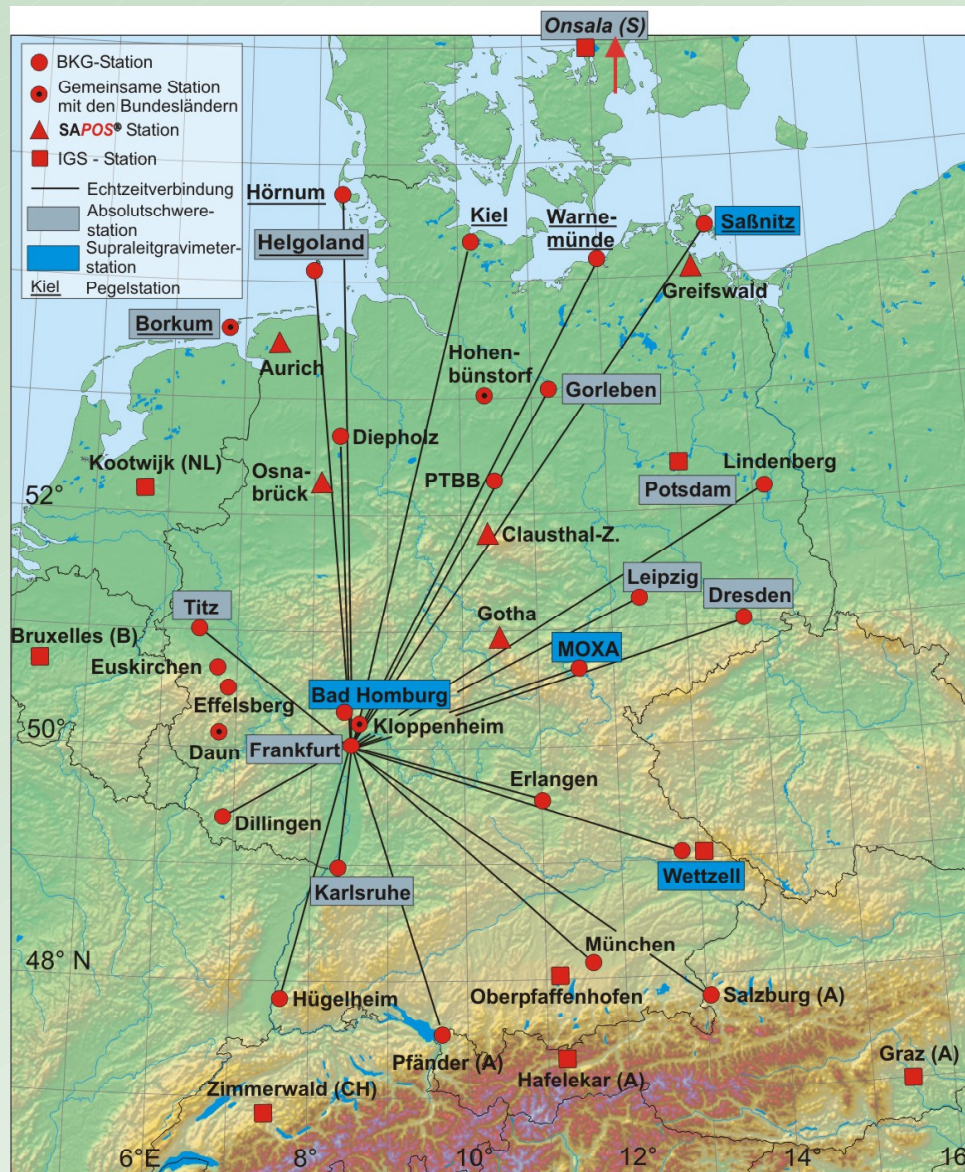
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EUREF Symposium 2005



Continued Development of GREF



Integrated German Reference Network GREF (densification of EPN):

- GPS/GLONASS
- Absolute gravity
- Tide Gauges
- Real-time networking
- Local backup networks

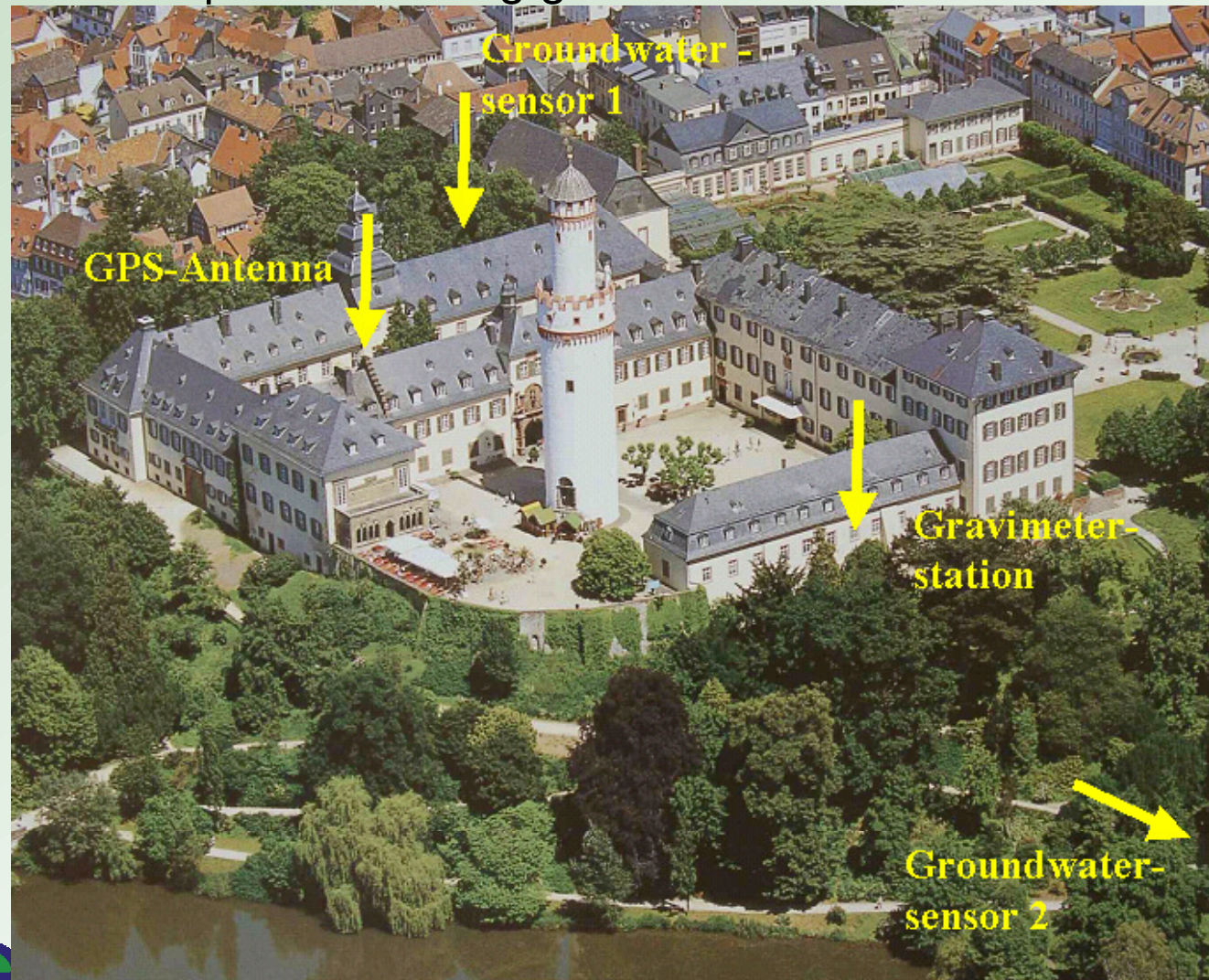
Main objective:

- Integration of GREF into EPN and basis for SAPOS monitoring

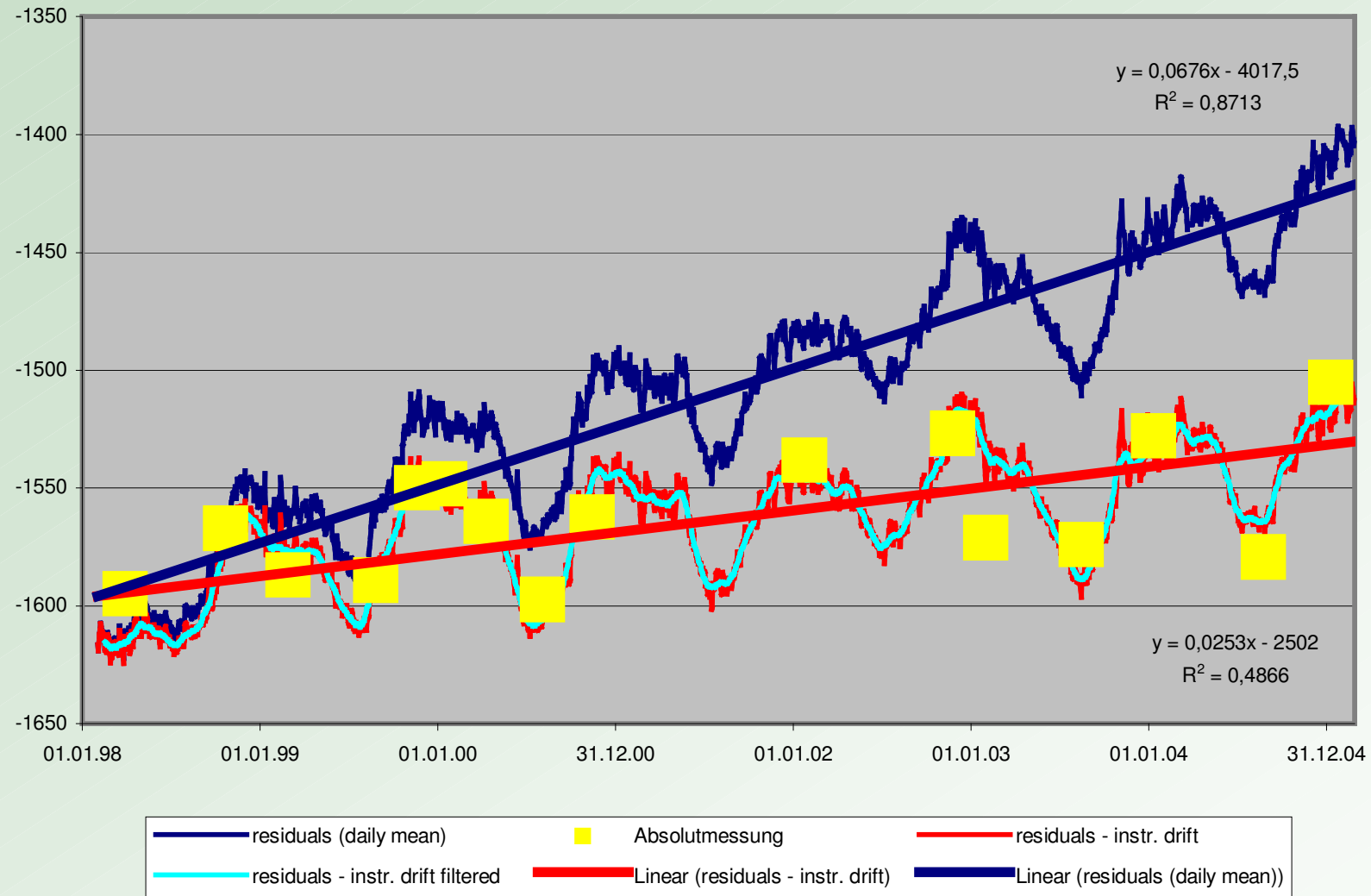
Gravity Reference System

Regularly performed absolute gravity measurements in combination with continuous registration of super-conducting gravimeters in

- Wetzell,
 - Bad Homburg,
 - Moxa and
 - Medicina
- (cooperation with university Bologna)



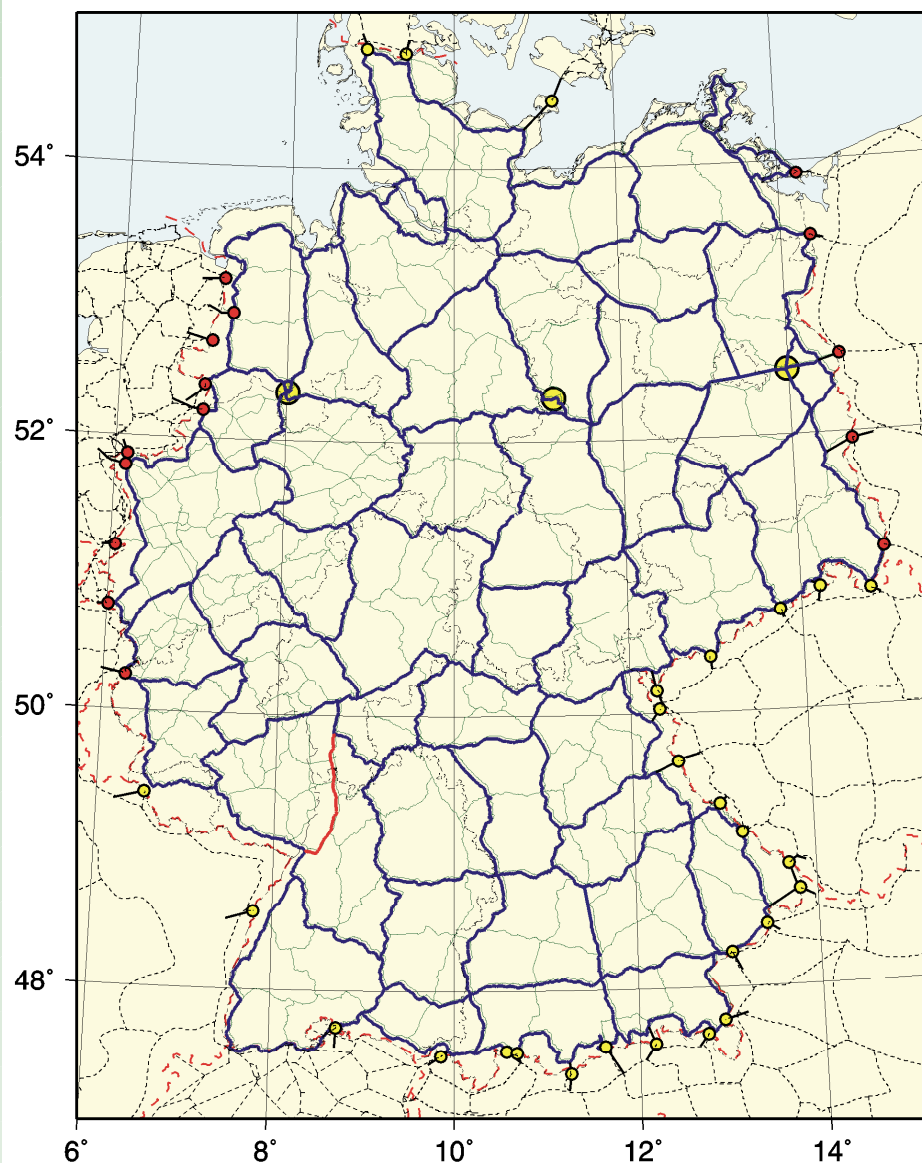
Separation of instrumental drift of SG and geophysical gravity change (Medicina)



SAPOS Positioning Service

- ~260 permanently recording and networked reference stations in ETRS89
- Standard transmission medium for „cm“ accuracy is GSM, but some member authorities are testing in parallel the NTRIP method
- Establishment of the Central Office SAPOS in 2003 for management of German-wide activities
- Data exchange at the borders to 3 foreign countries (Netherlands, Switzerland and Austria) has been established, ongoing discussions with other countries

1st Order Vertical Control Network



- New measurement of DHHN92 from 2006 to 2010
- Digital geometrical precise levelling
- High-precision GPS measurements at stable points
- Absolute gravity determination at stable points

Objective:

- Precise geoid will improve satellite-based height determination