



Status of the BEK LAC and other related Activities

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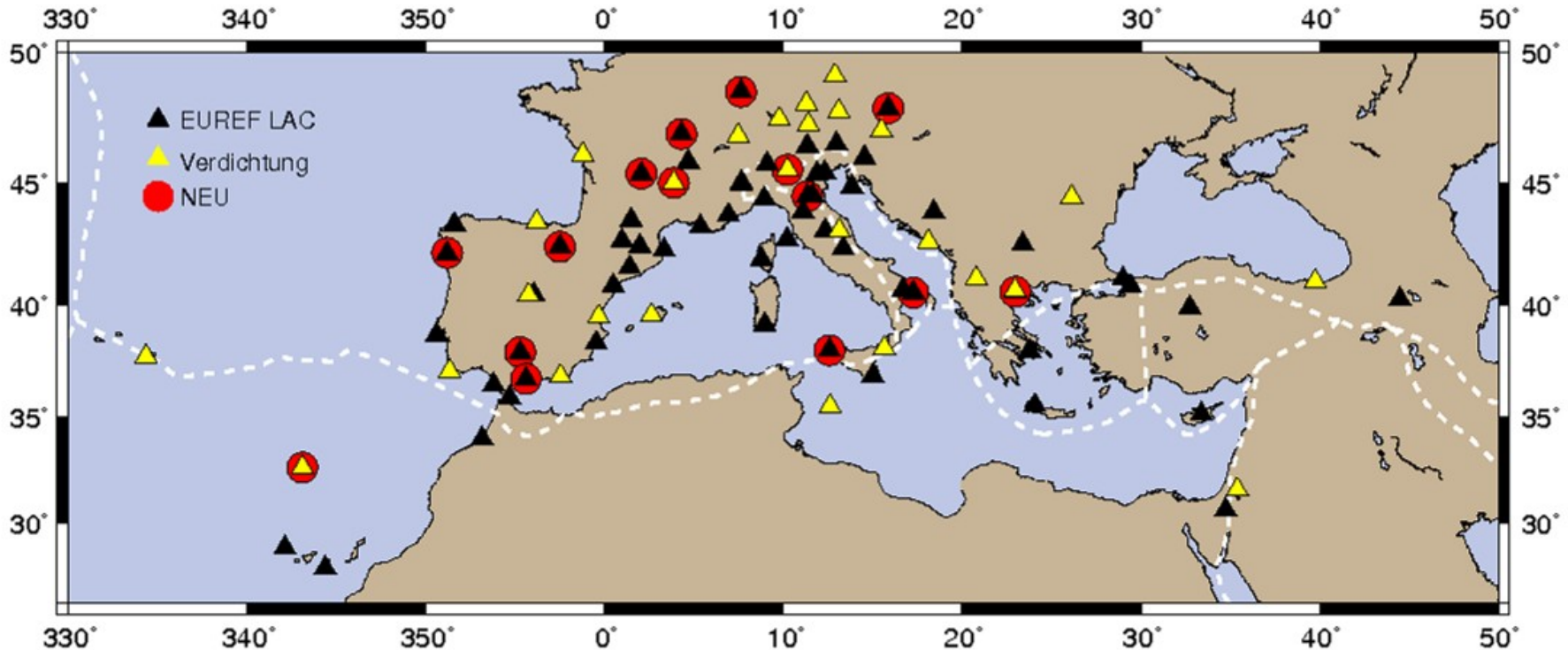


BEK Analysis

- Uses still BERNESE 4.2
- BERNESE 5.0 has been set up and is running: still undergoing tests (Test of abs. and rel. PCV were carried out with BERNESE 5.0)
- BEK analysis procedure:
 - Accumulate data in time
 - Start processing with CODE final Orbits and EOP`S in order to detect problems
 - Prepare data for final processing with IGS products
 - GOAL: send final results on Monday mornings to the EPN combination centre in Frankfurt
- No GLONASS included yet



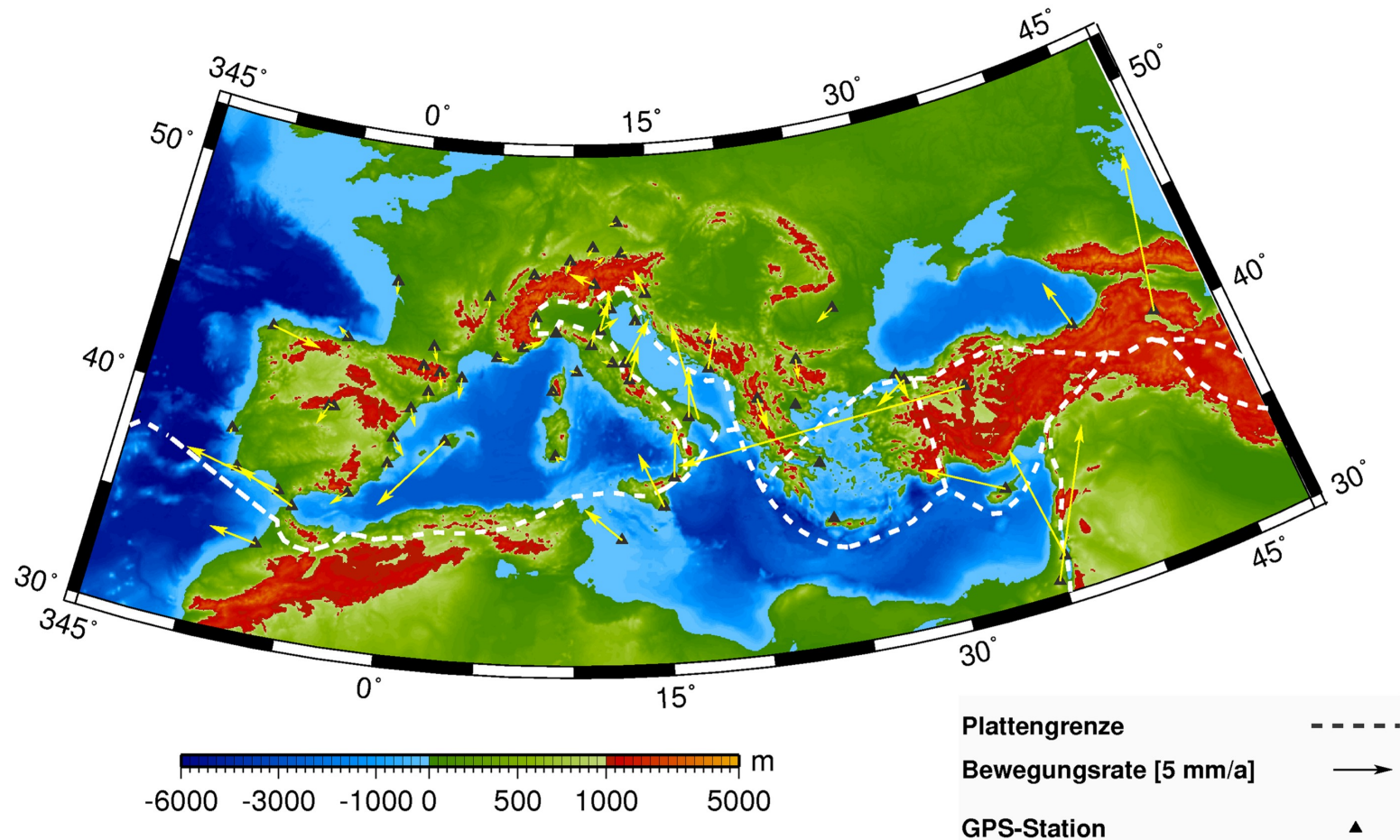
BEK network (2006)



Status:	2005/ (2004)	Missing: THES & IGD1, (Thessaloniki and Athens, Greece)
Official Stations (EUREF LAC):	62 (47)	
Stations used for densification:	27 (24)	
New Stations:	15 (5)	



Velocity field in ETRS89 (2002-2005)





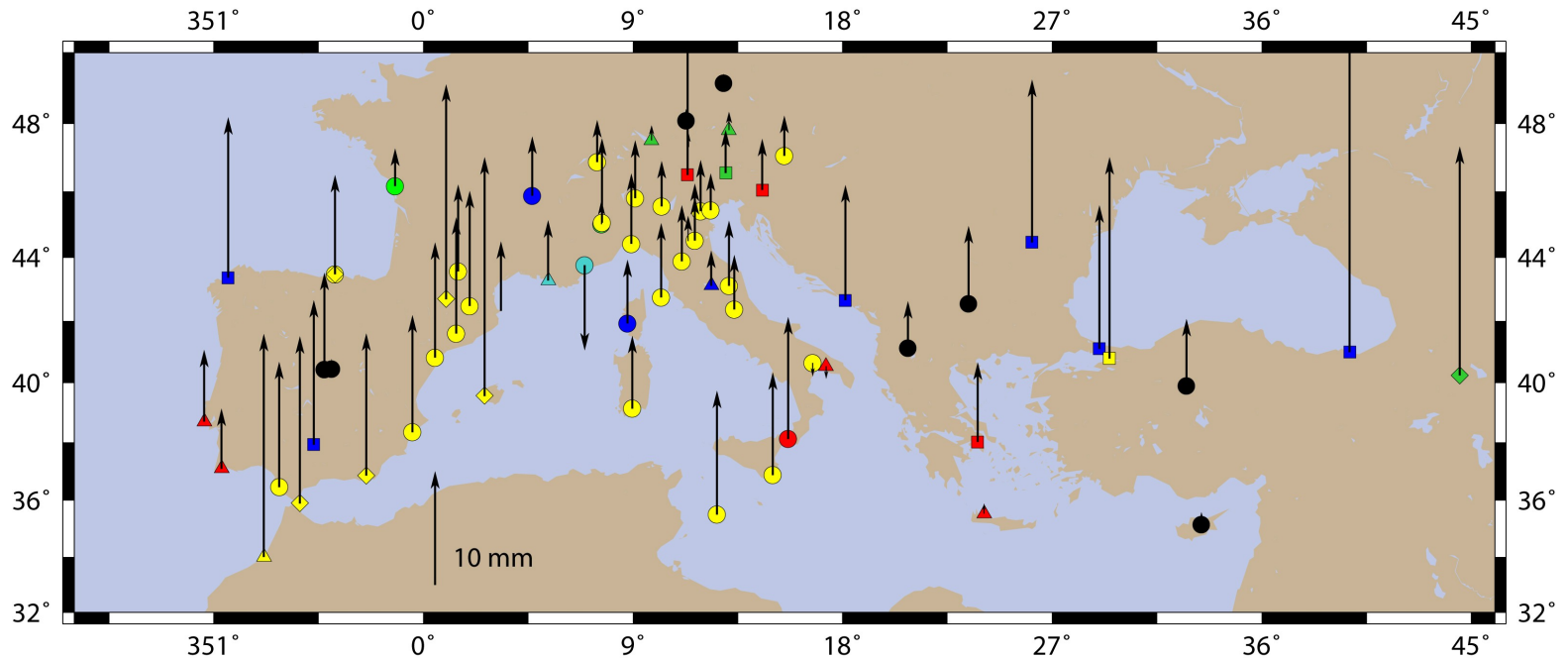
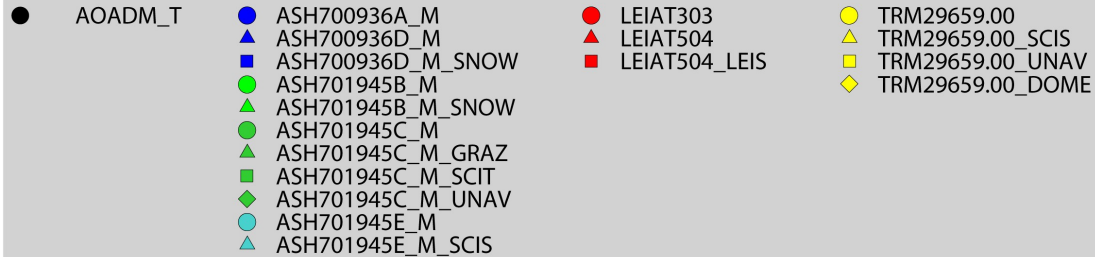
The Transition to Absolute PCV

- Absolute Phase Centre Variations (PCV):
 - Ground antennas (+ Dome) by robot calibrations [Geo++ / IfE]
 - Absolute PCV for missing antennas is computed from relative PCV and absolute PCV of the AOAD/M_T
 - Absolute satellite antennas PCV (azimuth and elevation) are computed independently by TUM/GFZ
 - Based on absolute PCV for ground antennas
 - Maintaining the scale of the network
 - New data set available since two weeks: igs05_1365.atx
- Problems:
 - There are still antennas, which are yet not calibrated (e.g. Dome type **GRAZ**)



Height Errors caused by neglecting the PCV of antenna domes

Transition from rel. PCV to abs. PCV





Coordinate changes due to the transition from rel. PCV to abs. PCV+Radome (Subnetwork BEK only)



Antenna Type/ Samples	East	North	Height
	[mm]		
AOAD/M_T / 8	$-0,7 \pm 1.9$	-0.6 ± 1.2	3.6 ± 3.1
LEIAT504 / 5	-3.1 ± 1.5	-1.2 ± 1.6	2.8 ± 3.5
LEIAT504_LEIS / 3	-2.3 ± 1.2	-0.7 ± 1.2	8.3 ± 5.1
TRM29659.00_NONE/ 24	1.4 ± 1.1	1.1 ± 0.6	6.5 ± 3.1
TRM29659.00_TCWD / 6	-1.9 ± 0.8	0.7 ± 0.6	15.5 ± 4.5
ASH700936D_M_SNOW /6	-0.3 ± 1.4	0.3 ± 0.5	15.0 ± 6.5





ALPS-GPSQUAKENET

“Alpine Integrated GPS Network: Real-Time Monitoring and Master Model for Continental Deformation and Earthquake Hazard”

Installation of a geodetic network in the ALPS with 40 CGPS for the analysis of:

- Recent crustal deformation [Uplift of the ALPS] (GPS),
- Earthquake hazard studies (GPS+ Seismic),
- Landslide detection (GPS und INSAR) and
- Meteorology (GPS)

Participating countries:

- France (2), Italy (8), Germany (2), Slovenia (1)



This project has received
European Regional
Development Funding
through the INTERREG III B
Community Initiative



Interreg III B

LAC Workshop Padua 2006



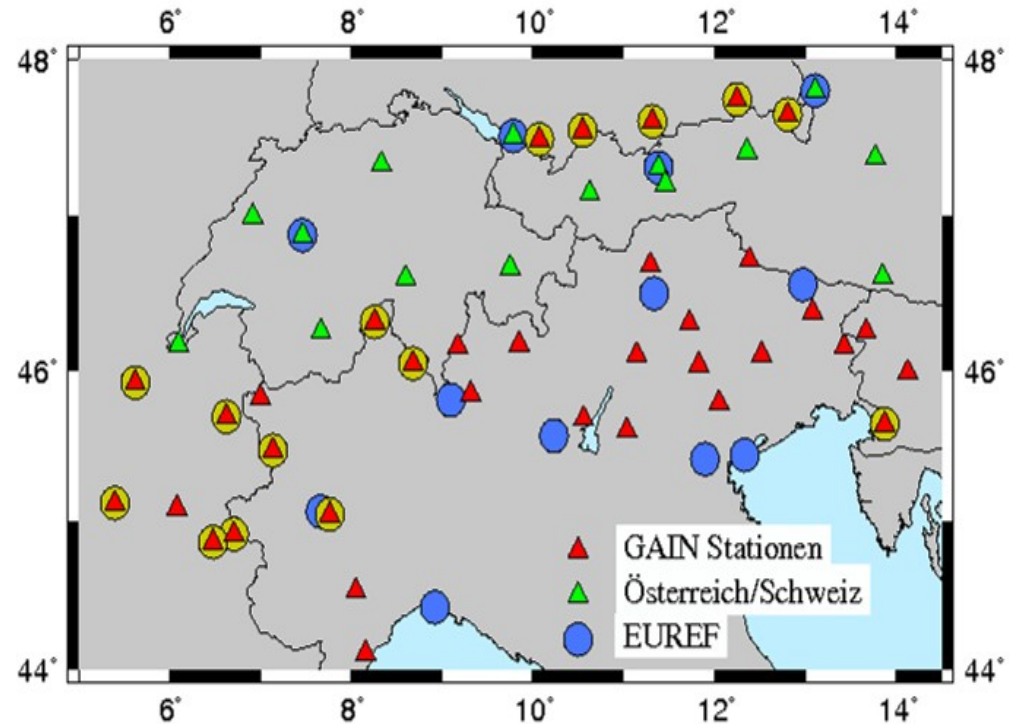
Dimension of the GAIN network

40 sites from the project.

Hopefully existing stations from Austria and Switzerland can be integrated into the network!

BEK: Plus 20 sites from the Bavarian SAPOS Network.

Processing is intended to use only GEO++ abs. PCV



Processing Centres in Grenoble, Milano and Munich

LAC Workshop Padua 2006



ALPS-GPSQUAKENET: Status & Outlook

- Stations on the German and French side are established
- The Italian and Slovenian CGPS are still not finished
- Reliable results will not be achieved within the duration of the project in the end of 2006
- Continuation of the processing is necessary above the time line of the project
- Further sites from Austria and Switzerland should be included





Re-Processing of the BEK-network „Mittelmeernetz“

- Goal: Estimation of consistent coordinates for the derivation of the velocity field and the analysis of non-linear effects based on data between 1996 and 2005.
- With:
 - Consistent orbits and EOP's
 - Correct antenna models
 - Consistent processing strategy
- Status:
 - Consistent Orbits & EOP's are available for the BEK since January 2006 (Source: TU Munich/GFZ and TU Dresden)
 - Absolute antenna PCV for SV's and ground antennas are usable
 - Start of processing is envisaged for Spring 2006



Re-Processing II

- Re-Processing will be based on consistent datum realisation
- Jumps due to different elevation cut-off angles might be reduced due to the use of absolute PCV (changes in elevation cut-off angles occurred several times between)
- Inconsistencies due to antenna exchanges will still be visible but might be reduced (MP environment)
- Offers the opportunity to test many different processing strategies (e.g. mapping functions etc.)



Outlook for 2006

- BERNESE 5.0 will be used for future analysis of the BEK subnetwork (proposed for Spring 2005)
 - Integration of abs. PCV for SV's and antennas
 - Decision on the antenna domes is necessary!
 - Shall we include stations with unknown PCV-pattern?
 - New Realisation of the datum (ITRF05?)
 - Later Integration of GLONASS possible
- Re-Processing of the BEK subnetwork
 - Start is intended in the next weeks