



Report on the EPN Reprocessing Project

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Internationale Erdmessung
(BEK)



The Working Group

(currently 30 members - each LAC is represented!)

Alessandro Caporali (UPA) - Ambrus Kenyeres (SGO) - Andrzej Araszkievicz (MUT) - Bruno Garayt (IGN) - Carine Bruyninx (ROB) - Carmela Ferraro (ASI) - Christof Völksen (BEK) - Cornelia Aichhorn (OLG) - Daniel Ineichen (LPT) - Elmar Brockmann (LPT) - Günter Stangl (OLG) - Heinz Habrich (BKG) - Jan Dousa (GOP) - Jan Hefty (SUT) - Juliette Legrand (ROB) - Karolina Szafranek (MUT) - Lotti Jivall (NKG) - Marcelino Valdes (IGE) - Mariusz Figurski (MUT) - Martin Lidberg (NKG) - Miguel A. Cano (IGE) - Miroslava Igondova (SUT) - Robert Odolinski (NKG) - Rolf Dach AIUB /(Code) - Rosa Pacione (ASI) - Rui Fernandes (DEO) - Stefan Schaer (LPT) - Tomasz Liwosz (WUT) - Vratislav Filler (GOP) - Wolfgang Soehne (BKG) -

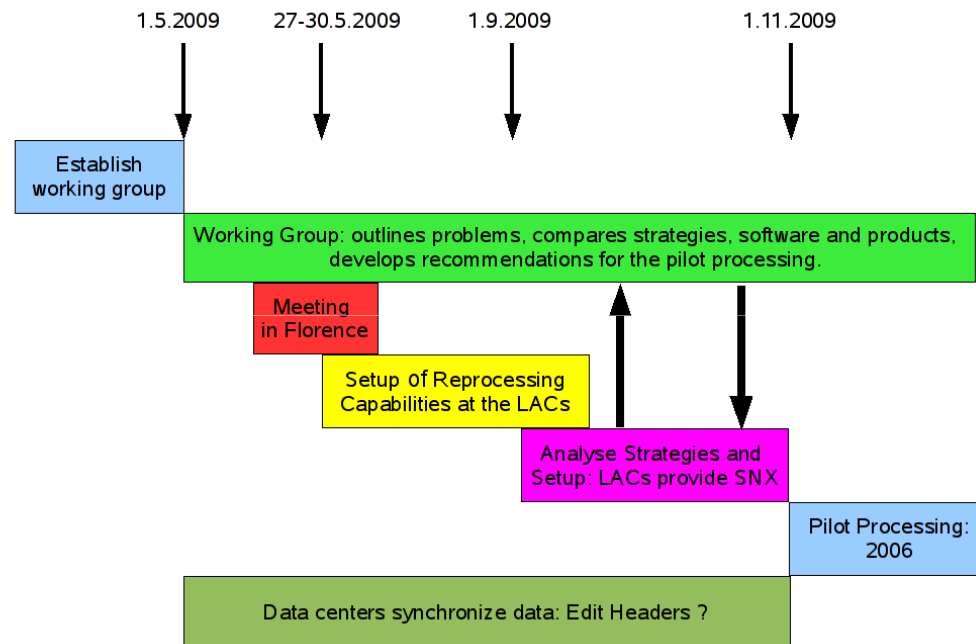


Participants Contribution

Organisation	LAC	Software	Data Center	Combination Center	
				NEQ	Trop.
ASI	X	MicroCosm/GIPSY	X	-	-
BEK	X	Bernese	-	-	
BKG	-	Bernese	X	X	X
DEO	X	GIPSY/OASIS	-	-	-
GOP	X	Bernese	-	-	-
IGE	X	Bernese	X	-	-
IGN	X	Bernese	X	-	-
MUT	X	Bernese/GAMIT		-	-
NKG	X	Bernese/GAMIT	-	-	-
OLG	X	Bernese	X	-	-
ROB	X	Bernese	X!	-	-
SGO	X	Bernese	-	-	-
LPT	X	Bernese	-	-	-
SUT	X	Bernese	-	-	-
UPA	X	Bernese	-	-	-
WUT	X	Bernese	-	-	-
AIUB/CODE	Software updates; consultation for Bernese				



Old Plan 2009

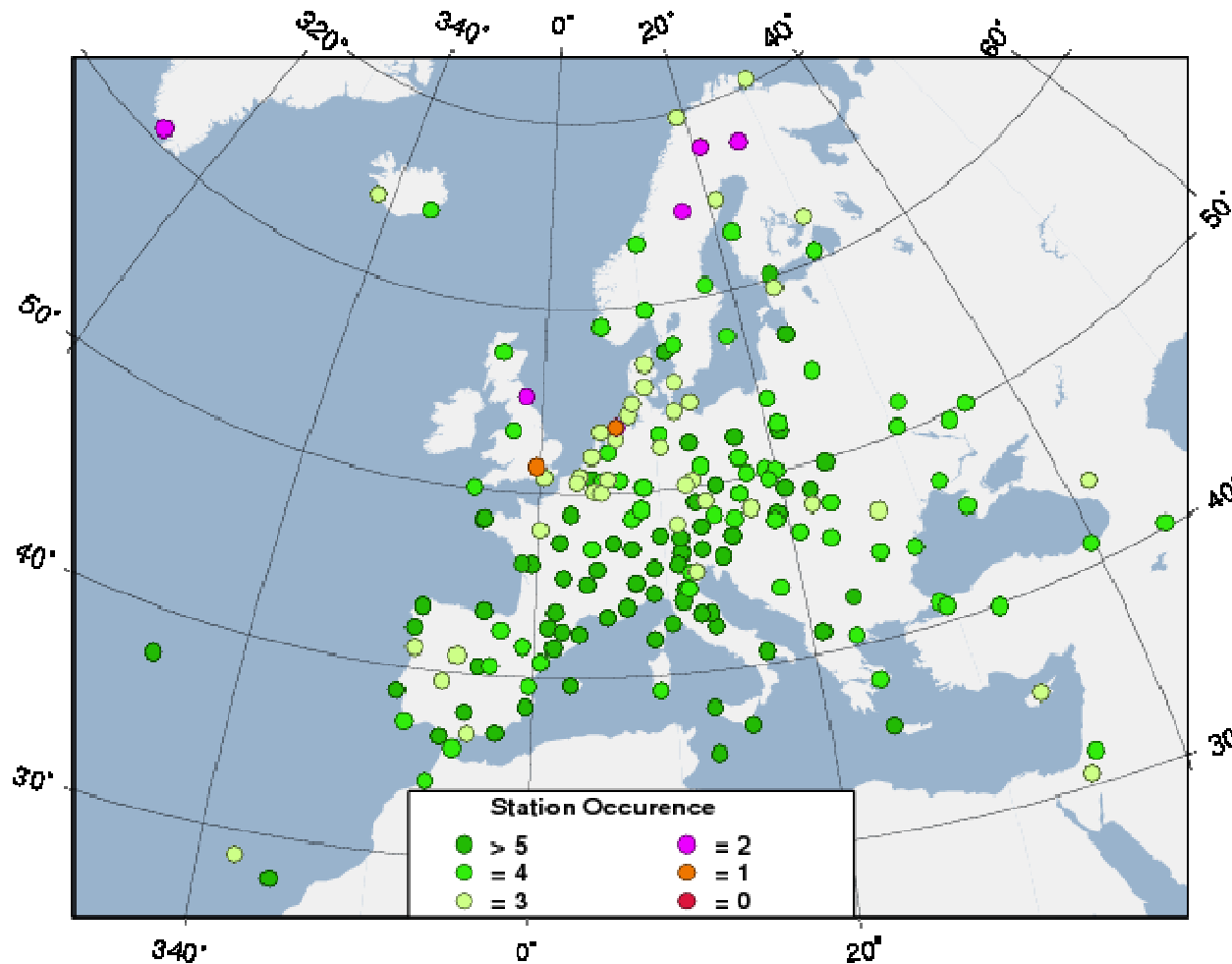


Status May 2010:

- Pilot Processing underway (50%)!
- Selection of strategies still open!
- Open questions
 - Analysis strategy
 - Standards to be used
 - Orbits to be used (IGS: repro1)
 - Network configuration (almost finished)
 - Additional sites



Network (Site distribution)



Critical Sites:

- (1): BORJ, NPLD
 (2): BORK, KIRU, MORP
 QAQ1, SODA,
 VILO

Commonness	#
1	2
2	6
3	42
4	72
5	45
6	19
7	6
8	2



Products used for the Reprocessing

Potsdam-Dresden reprocessed orbits, clocks, and ERP!

- Available for 1994 - 2007
- Realized in the PDR05 ~ ITRF2005

REPRO1 products are available since April 2010

- Reprocessed products of the individual analysis centers (e.g. JPL for GIPSY/OASIS)
- Combined IGS - products (IG1) realized in ITRF2005 (IGS05)
- Combined weekly solutions for a global system of GNSS-sites
- CODE repro1 products (provide GLONASS orbits/ n.y.a.)

Future reprocessing activities "**REPRO2**" (2012?)

- ITRF2008/IGS08
- Improved orbit modeling
- Implementation of the new IERS conventions
- Higher order ionospheric corrections
- Atmospheric loading

But software not yet available!



Contribution May 2010

LAC	Solution Abbr.	Weekly	Daily	Products	# Sites	SINEX		Software
				Repro		COV	NEQ	
ASI	as0	-	-	IGS	-	X	-	MicroCosm
	as1	-	X	JPL	all	X		GIPSY/PPP
BEK	be0	X	X	PDR	67	-	X	Bernese
IGE	ig0	X	X	?	71	-	X	Bernese
MUT	mu0	X	X	IGS	All	X	-	Bernese
	mu_	X	X	IGS	30	X	-	GAMIT
NKG	nk0	X	X	?	44	-	X	Bernese
	-	-	-	?	-	-	-	GAMIT
ROB	ro0	-	X	CODE	51	-	X	Bernese
SGO	sg0	X	X	IGS?	30	.	X	Bernese
UPA	up0	X	X	PDR	34	X	-	Bernese
WUT	wu0	X	X	IGS	52	-	X	Bernese



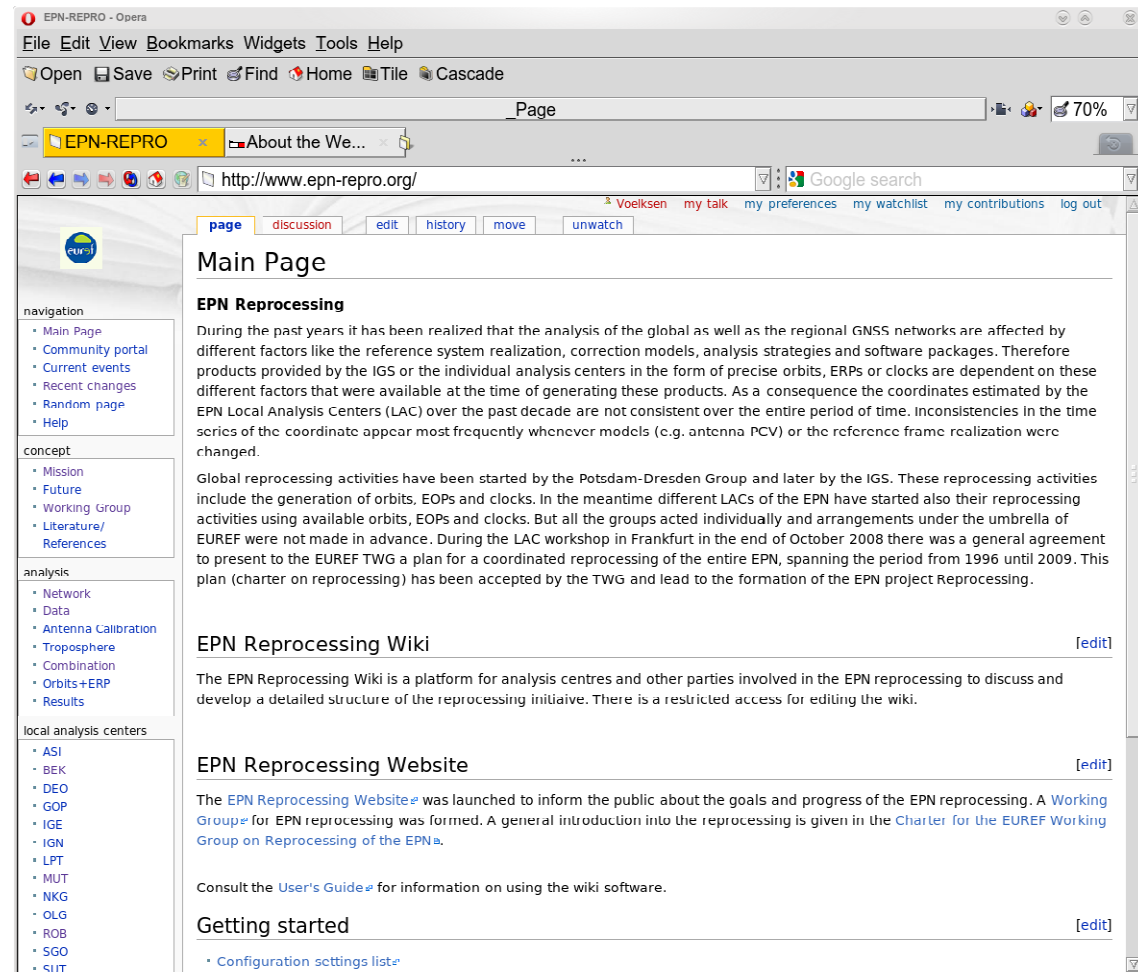
Realization of a WIKI

A Wiki is:

- Web-based tool
- shares information
- often used as forum
- maintained by many users

Access can be

- open or
- restricted
- open/restricted in parts





Simple editing of the WIKI

EPN-REPRO - Opera

File Edit View Bookmarks Widgets Tools Help

Open Save Print Find Home Tile Cascade

EPN-REPRO About the We... http://www.epn-repro.org/

Google search

Voelksen my tak my preferences my watchlist my contributions log out

page discussion edit history move unwatch

Editing Network

Navigation

- Main Page
- Community portal
- Current events
- Recent changes
- Random page
- Help

Concept

- Mission
- Future
- Working Group
- Literature/References

Analysis

- Network
- Data
- Antenna Calibration
- Troposphere
- Combination
- Orbits+ERP
- Results

Local analysis centers

- ASI
- BEK
- DEO
- GOP
- IGE
- IGN
- LPT
- MUT
- NKG
- OLG
- ROB
- SGO
- SUT

Network

Network distribution:

It is a goal to arrange a distributed processing of the entire EPN. Therefore at the minimum three LACs shall be appointed to process each site. A redistribution of sites will be necessary, since not all LACs will contribute in the same extent as they do in the weekly analysis of the EPN. Therefore each LAC shall compile a list of sites that it intends to reprocess. That will be the basis for redistribution of the sites to other LACs. There is the option to include additional global sites into the EPN reprocessing for purpose of datum definition. The appointment of such global sites to individual LACs needs to be discussed.

concept

The following figure shows the occurrence of each site in the different networks analysed by the LACs. Apparently it is necessary to distribute still a number of sites, which are shown in dark red, orange and purple. Obviously a number sites from the northern part of the network need to be assigned to different LACs.

[[Image:diatribn230/2.png|700px|border|center]]

Based on this figure a table has been generated with those site that need to be associated to additional LACs. Especially for the site NPLD we need three LACs for the processing of the data. For the sites with a single occurrence we need two additional LACs. It would be very helpful if we could find some volunteers that will add these sites to their network.

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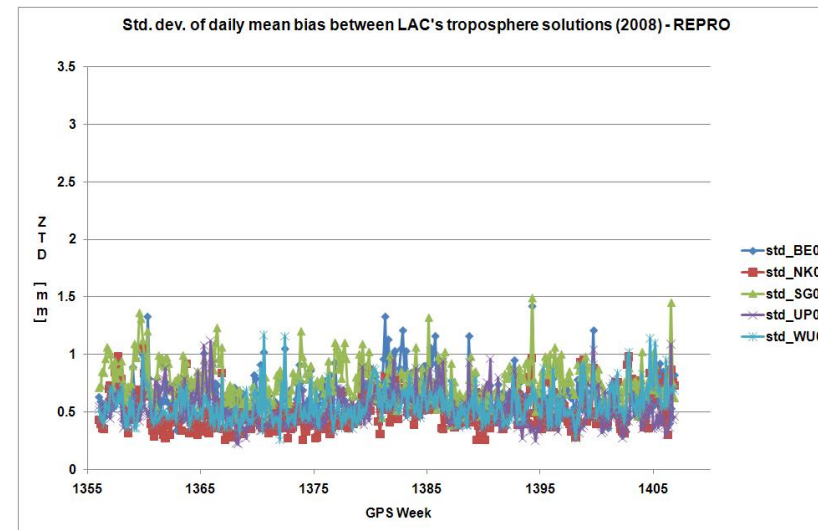
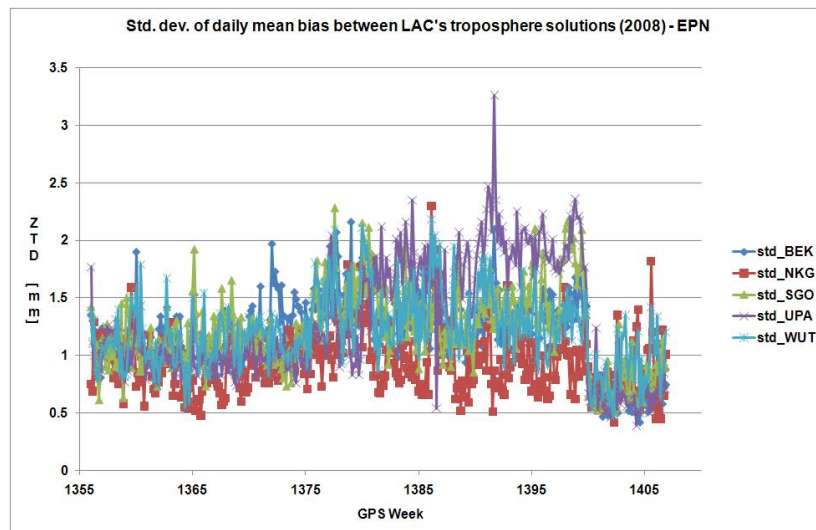
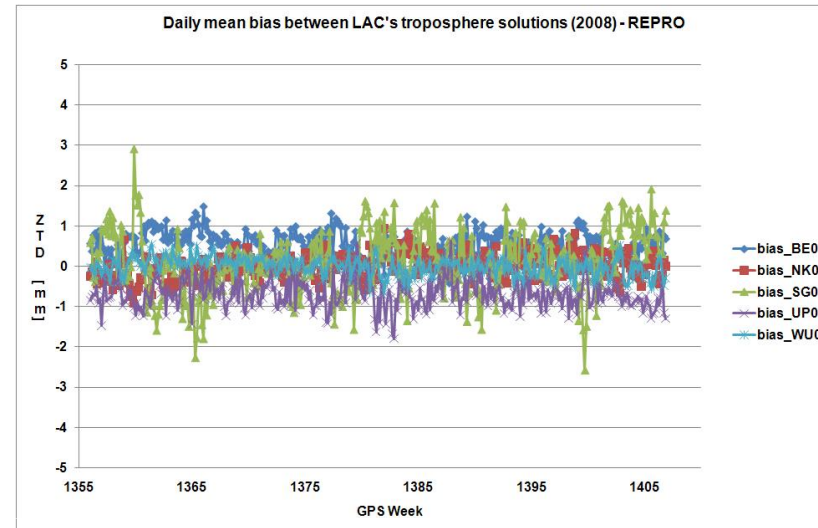
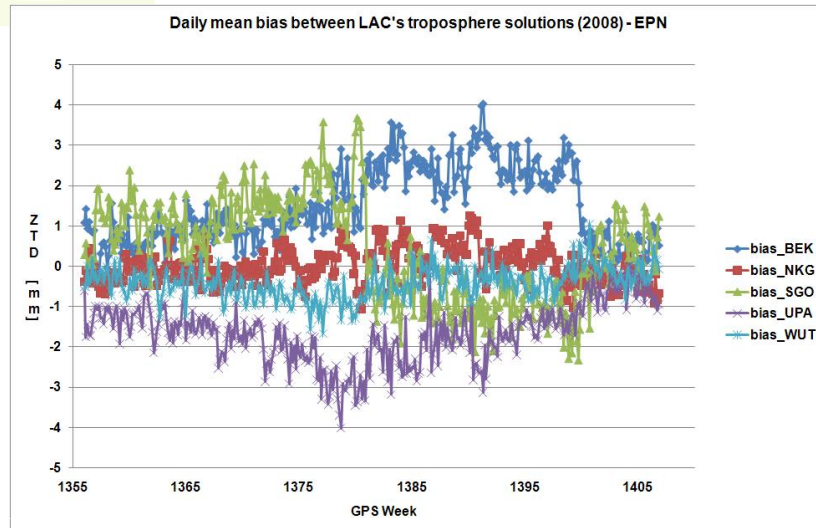
Summary:

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First Results Troposphere (weekly solutions) [from Wolfgang Söhne, BKG]

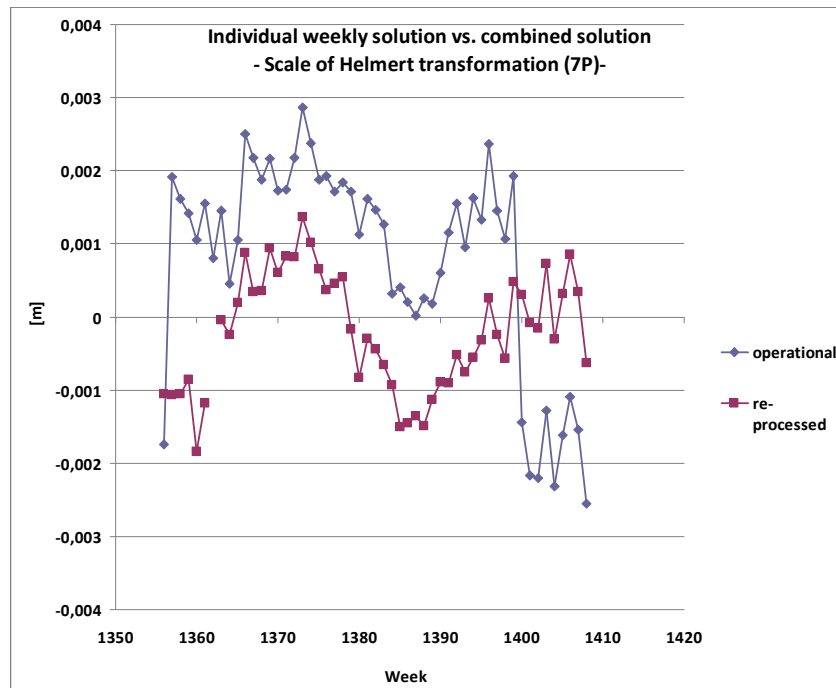




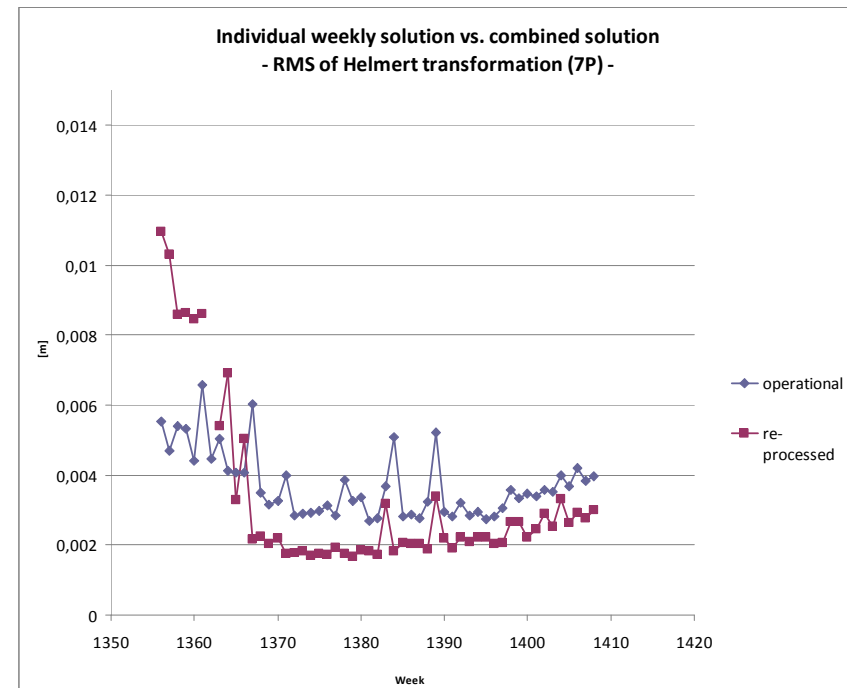
First Results Coordinates

[from Heinz Habrich, BKG]

Scale old/reprocessed Weekly solutions



RMS old/reprocessed Weekly solutions





Outlook

- Pilot processing will be finished within a few weeks
- Analysis of the results and then proceed with the remaining years
- "Reprocessing and LAC Workshop" will take place in Warsaw in November 2010 to answer some of the questions
- The ITRF2008 will be released soon
- The IGS intends to carry out a repro2 campaign (2012?)
 - Is there a need for reprocessing of the entire EPN in ITRF2008 with the upcoming repro2 products?
- GLONASS is not yet taken into account (REPRO2)
- Available software does not meet future requirement of the IGS
 - Improved analysis packages are required



We are back on track!