EPN Time Series after the introduction of ITRF2005

or

"*the life after ITRF2005*"

A. Kenyeres

Why we needed a new ITRF?

- **better frame (CRD and VEL)**

  problematic EPN sites in ITRF2000

- **critically low number of ITRF2000 reference sites without offsets**

  EPN “maintenance” problems (realization of the minimum constraints)

Are we happy after having ITRF2005?

YESSS!

but ...

Are we happy after having ITRF2005?

YESSS!

but ...

inconsistencies are expected due to

- reference frame alignment (crd&vel; NUVEL)
- REL to ABS PCV (TS discontinuities at wk 1400)

EPN TSSP cumulative solution

CATREF, minimum constraint

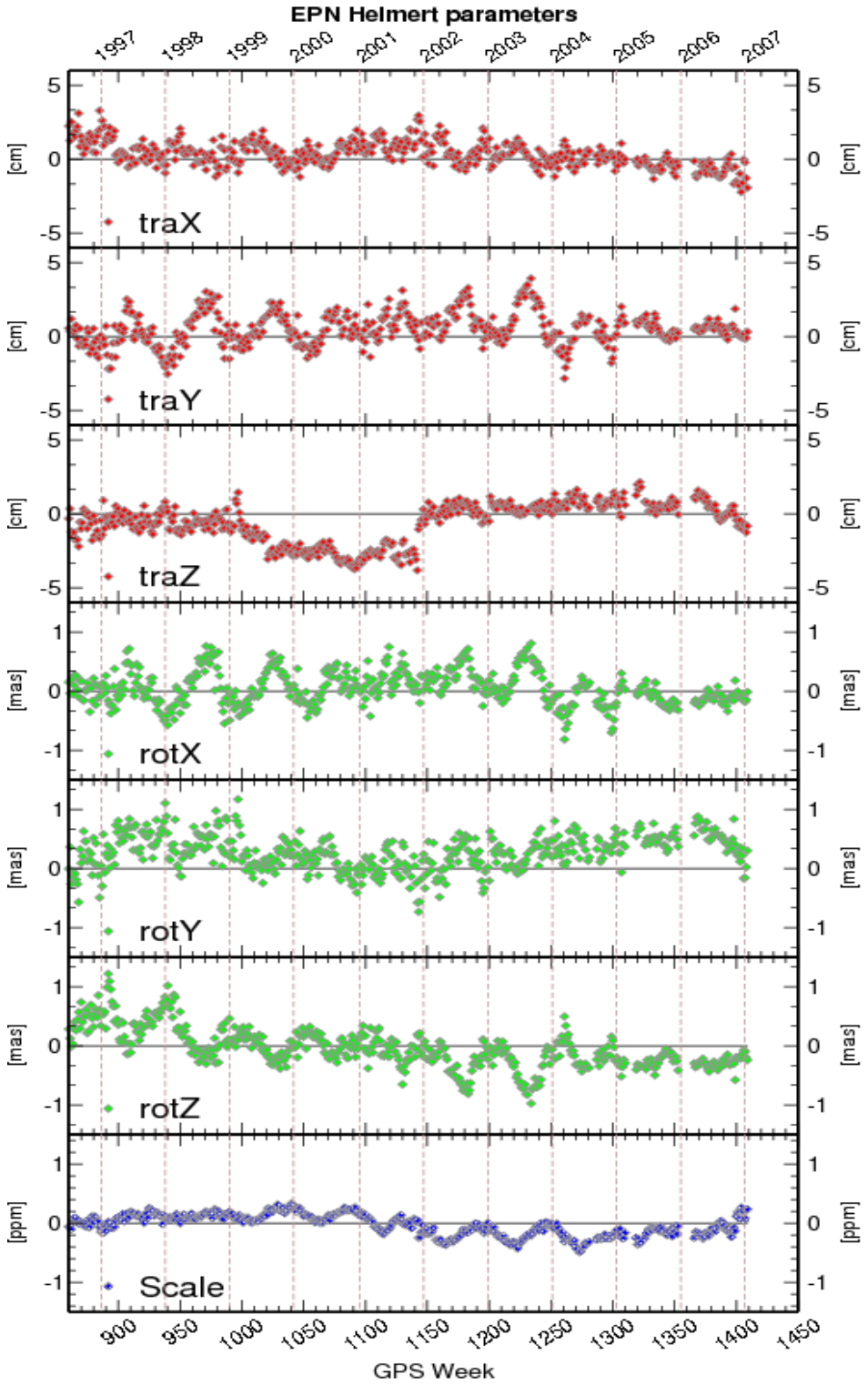
ITRF2005 reference sites (17):

BRUS(1,2); GLSV; GRAS(1,2,3); HOFN(1,2); JOZE(1,2); **MAS1; METS**; NOT1; ONSA(1,2,3); **POTS**; PENC(1,2,3); RABT; SOFI; TRAB; TRO1(1,2,3); VILL(2,3,4,5); ZIMM(1,2)

- **ETRF2005 maintenance**
  - **validation:** 860-1399 (solution numbers)
  - **solution upgrade:** at least each 6 month
- **”routine” time series analysis**

  (860-) : now up to 1402 & 1409

Helmert parameter series

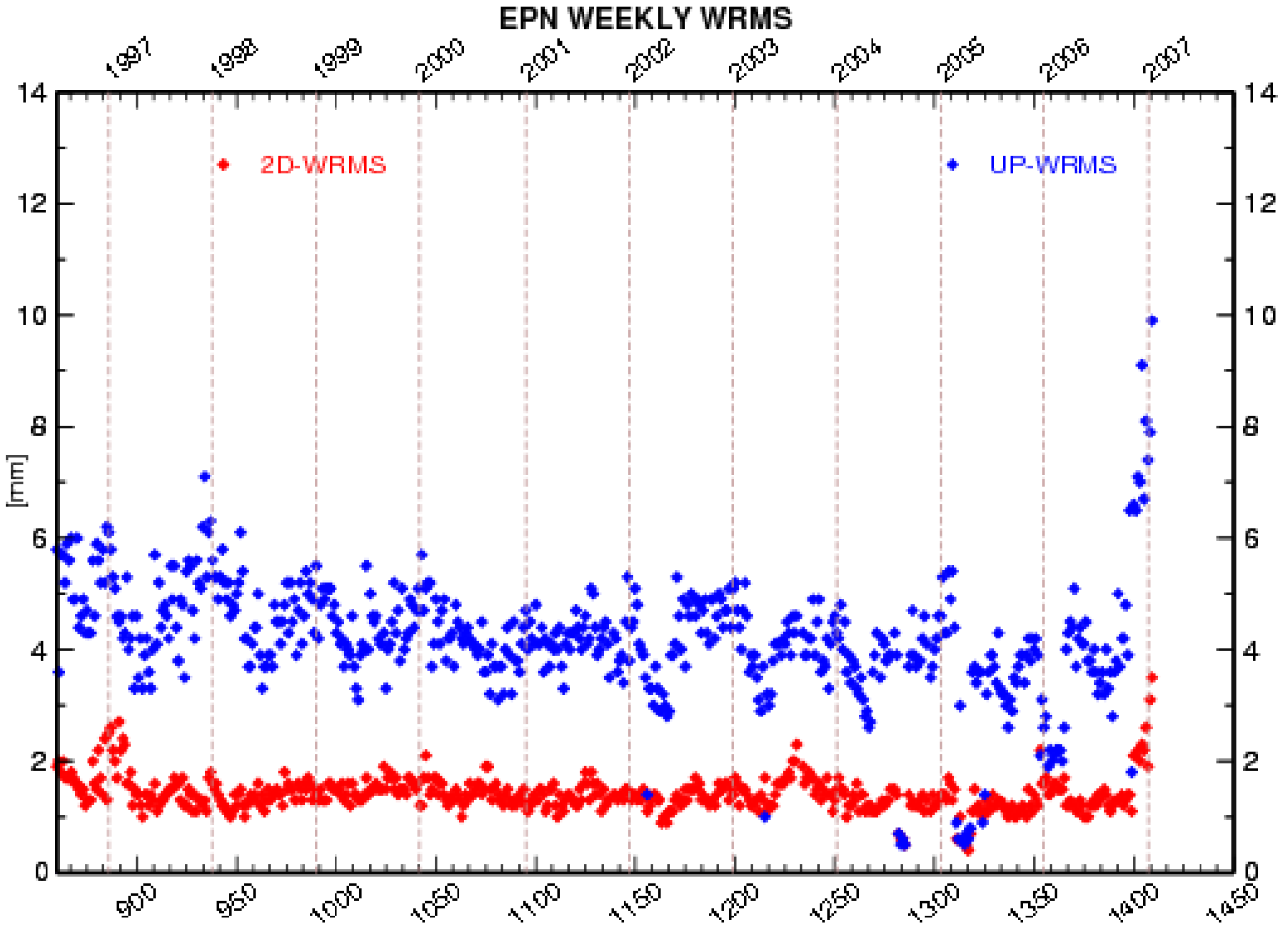


~ rotX

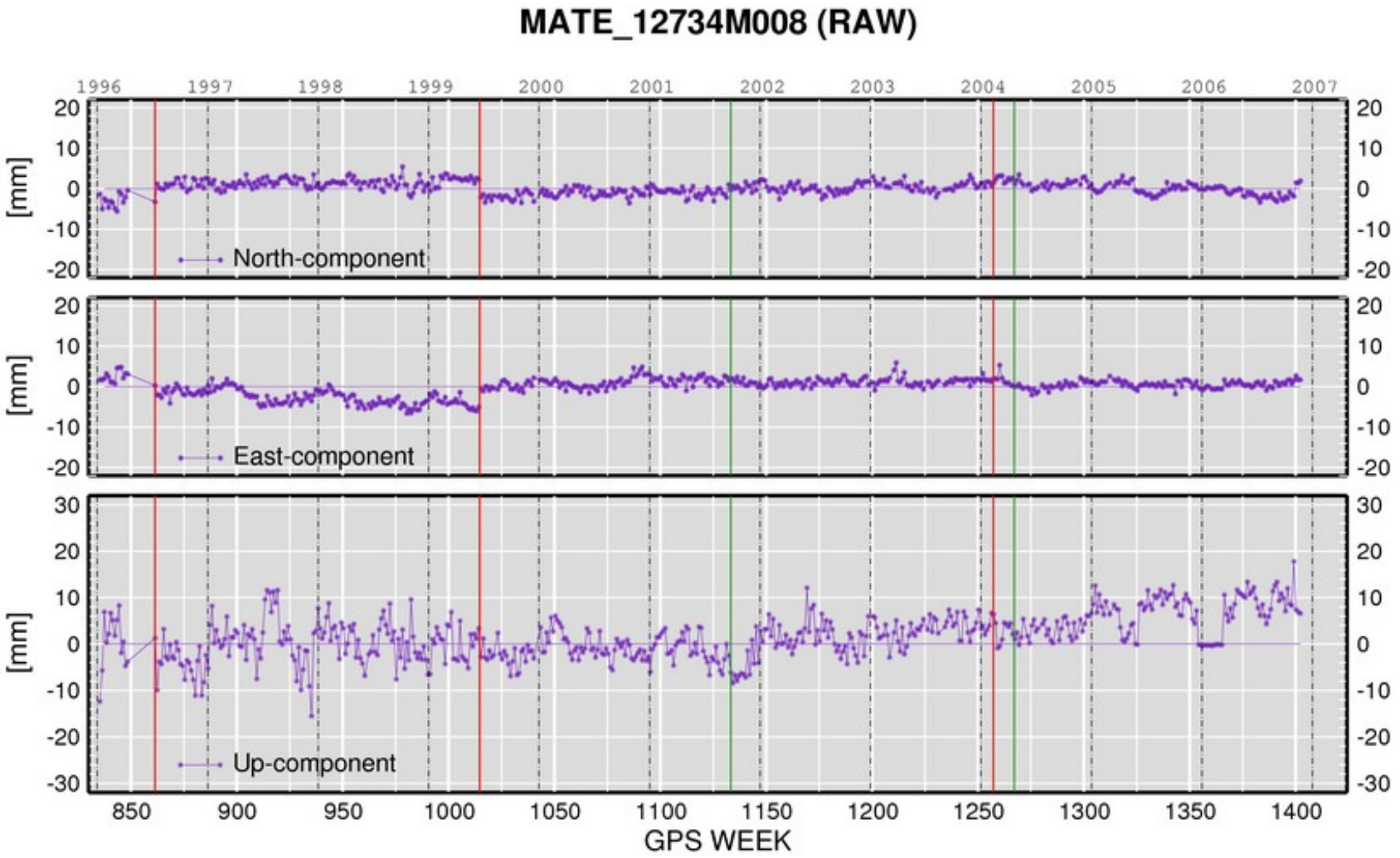
ITRF2000 offset

Bernese tidal bug &
ITRF2005 offset

EPN WEEKLY WRMS



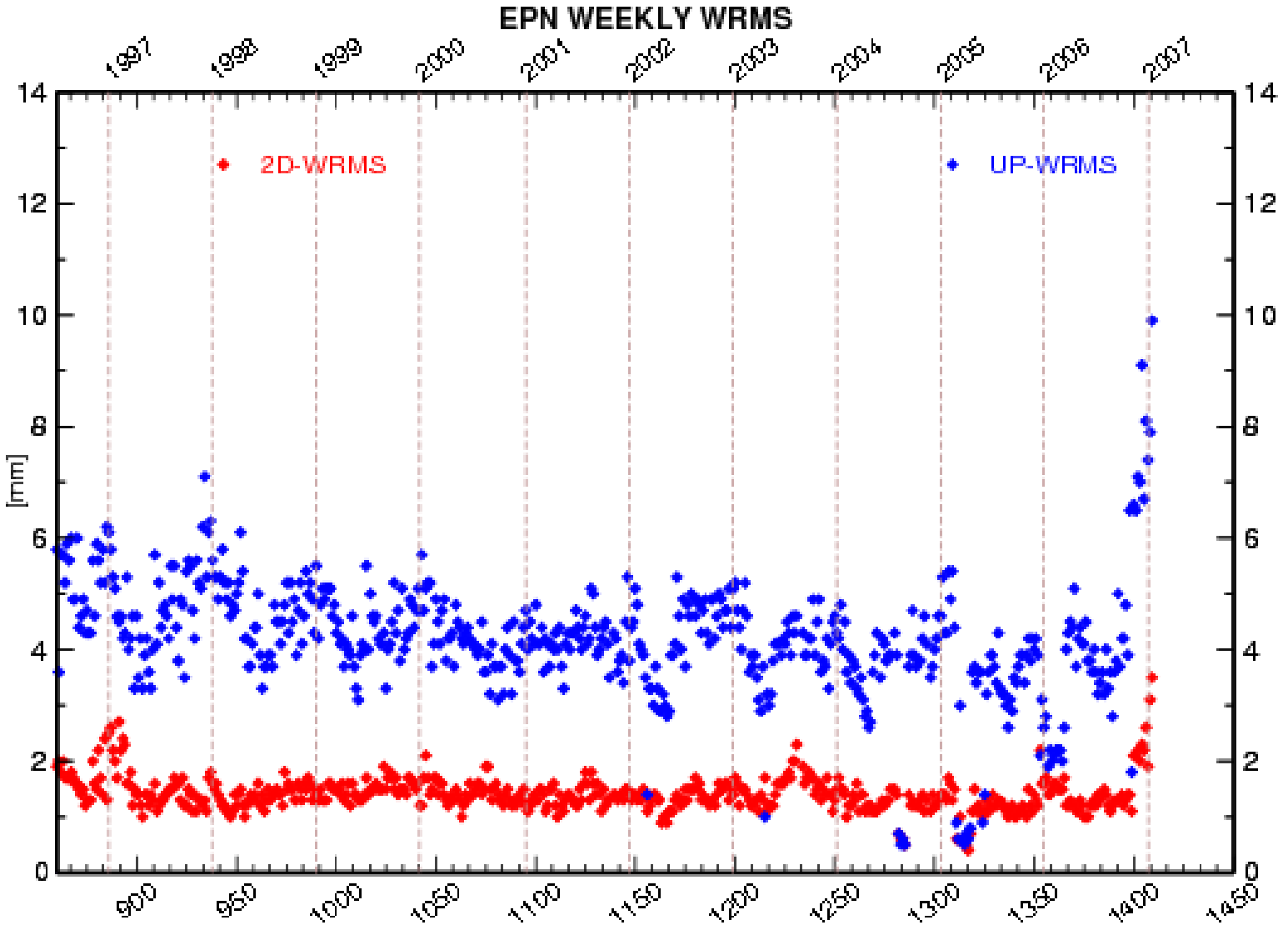
MATE RAW TIME SERIES



EPN CB

Tue Feb 13 13:10:27 2007

EPN WEEKLY WRMS



PENC CL/DT TIME SERIES

TRM41249.00 NONE

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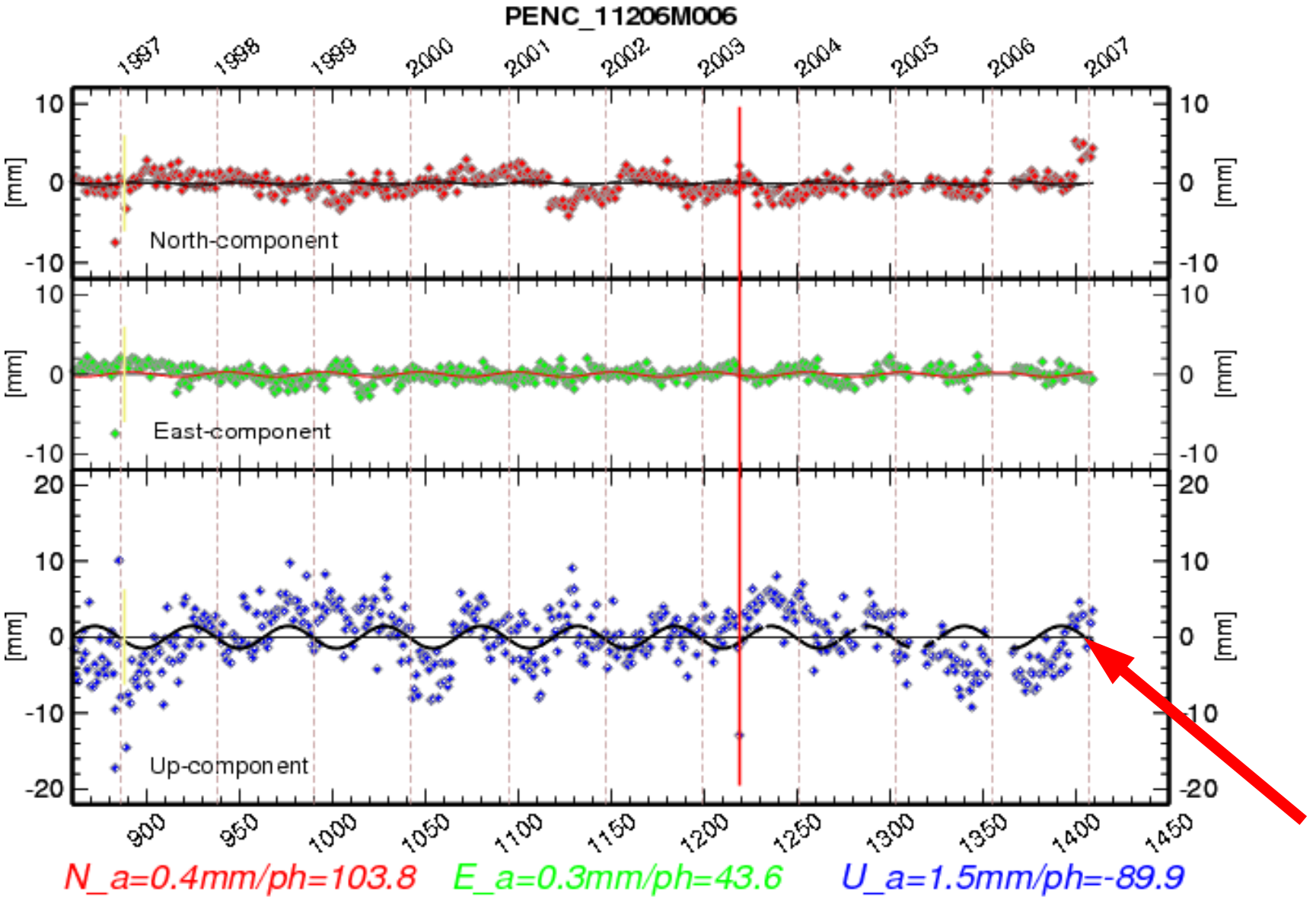

SOFI CL/DT TIME SERIES

AOAD/M_T NONE

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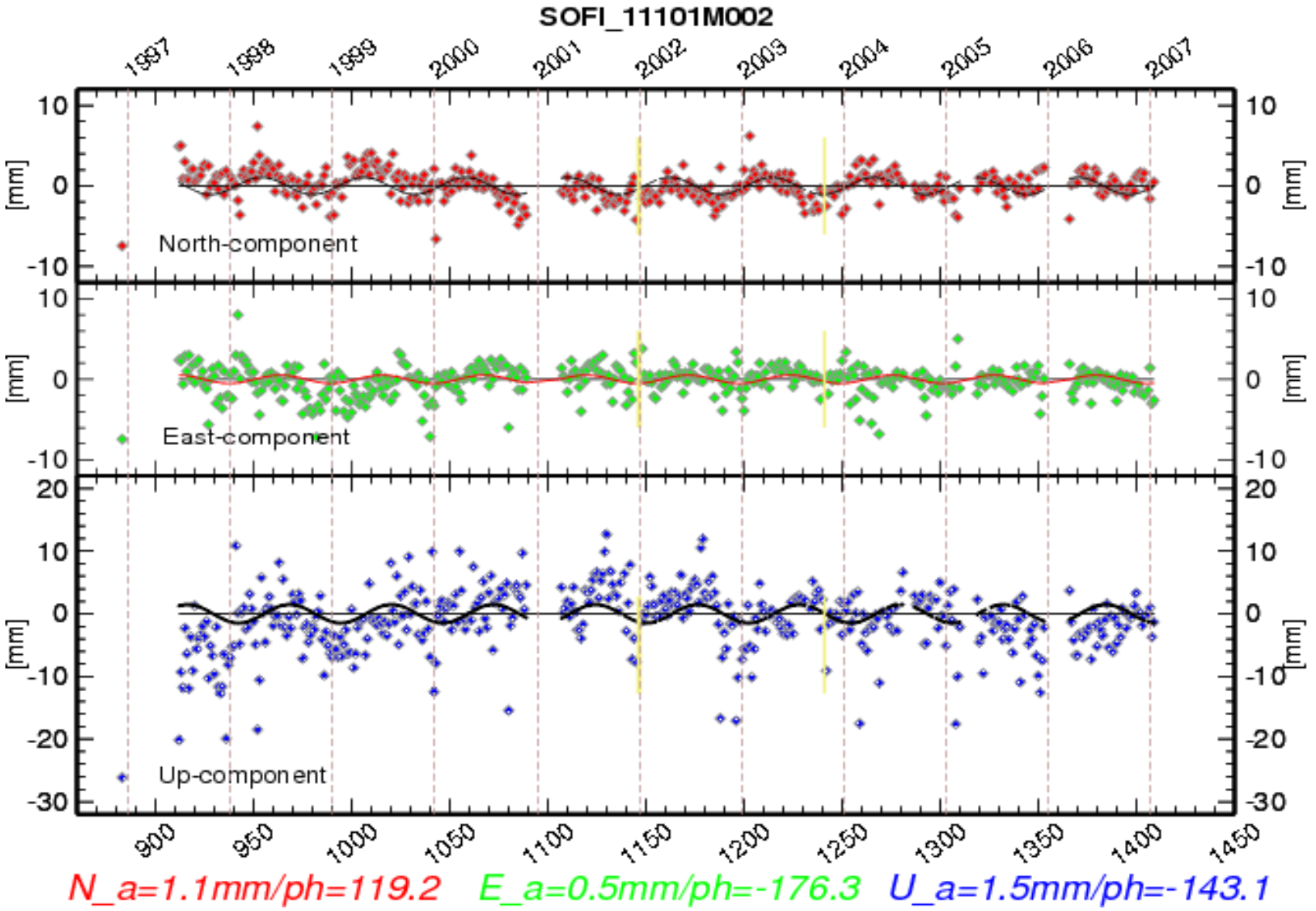
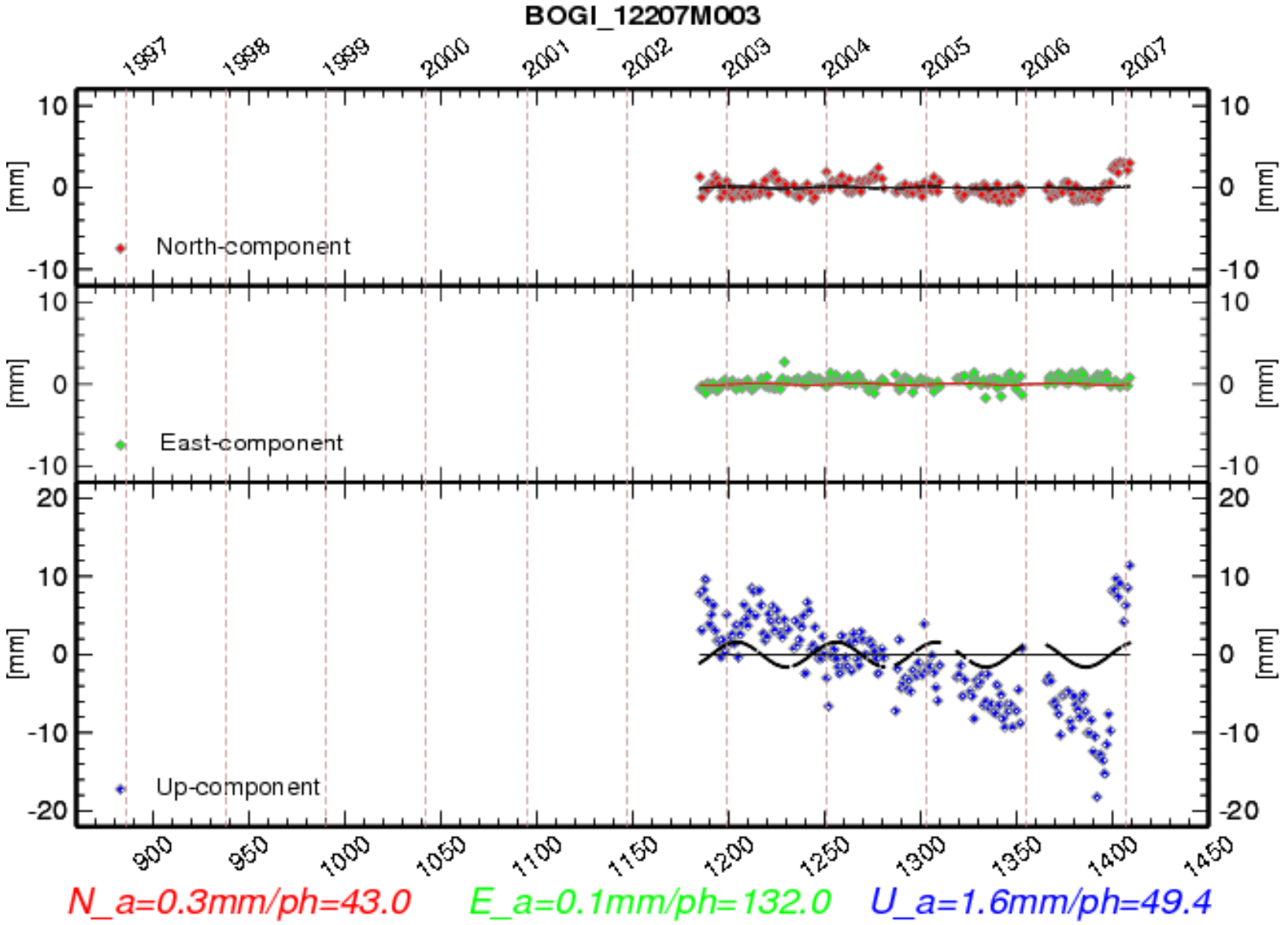


N_a=1.1mm/ph=119.2 *E_a=0.5mm/ph=-176.3* *U_a=1.5mm/ph=-143.1*

BOGI CL/DT TIME SERIES

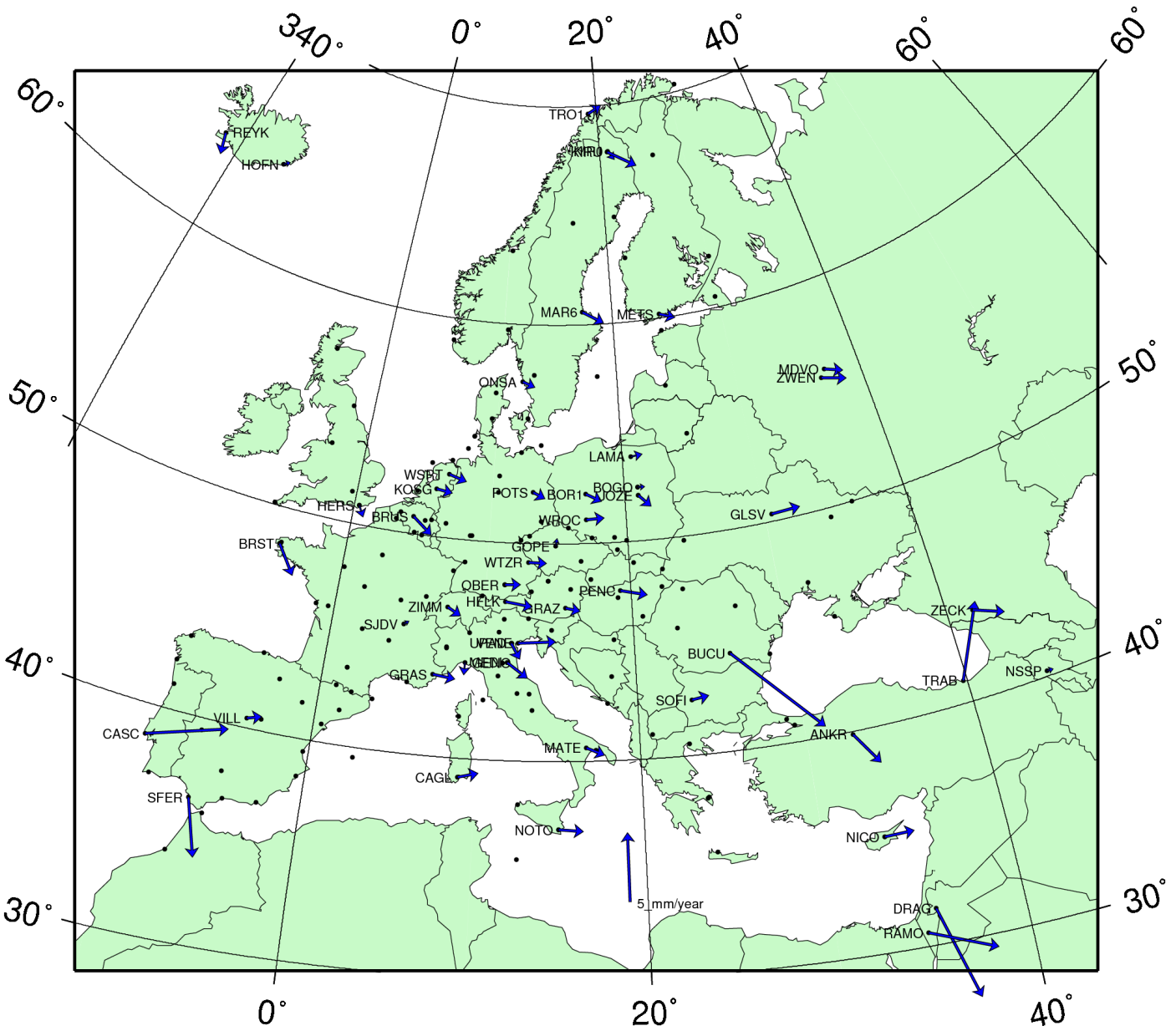
ASH701945C_M SNOW

Created by A.Kenyeres *Version:02/21/07*

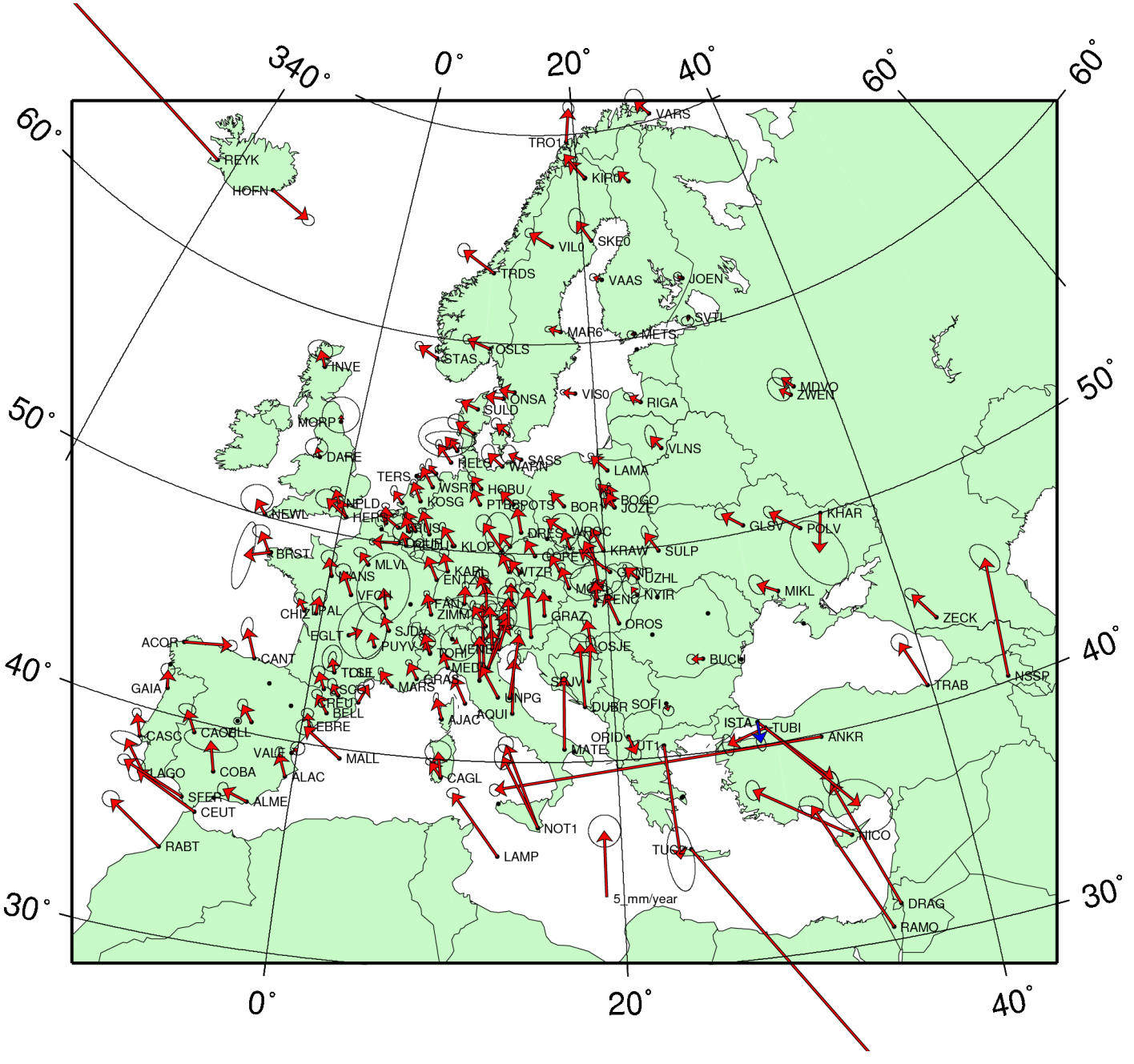


N_a=0.3mm/ph=43.0 *E_a=0.1mm/ph=132.0* *U_a=1.6mm/ph=49.4*

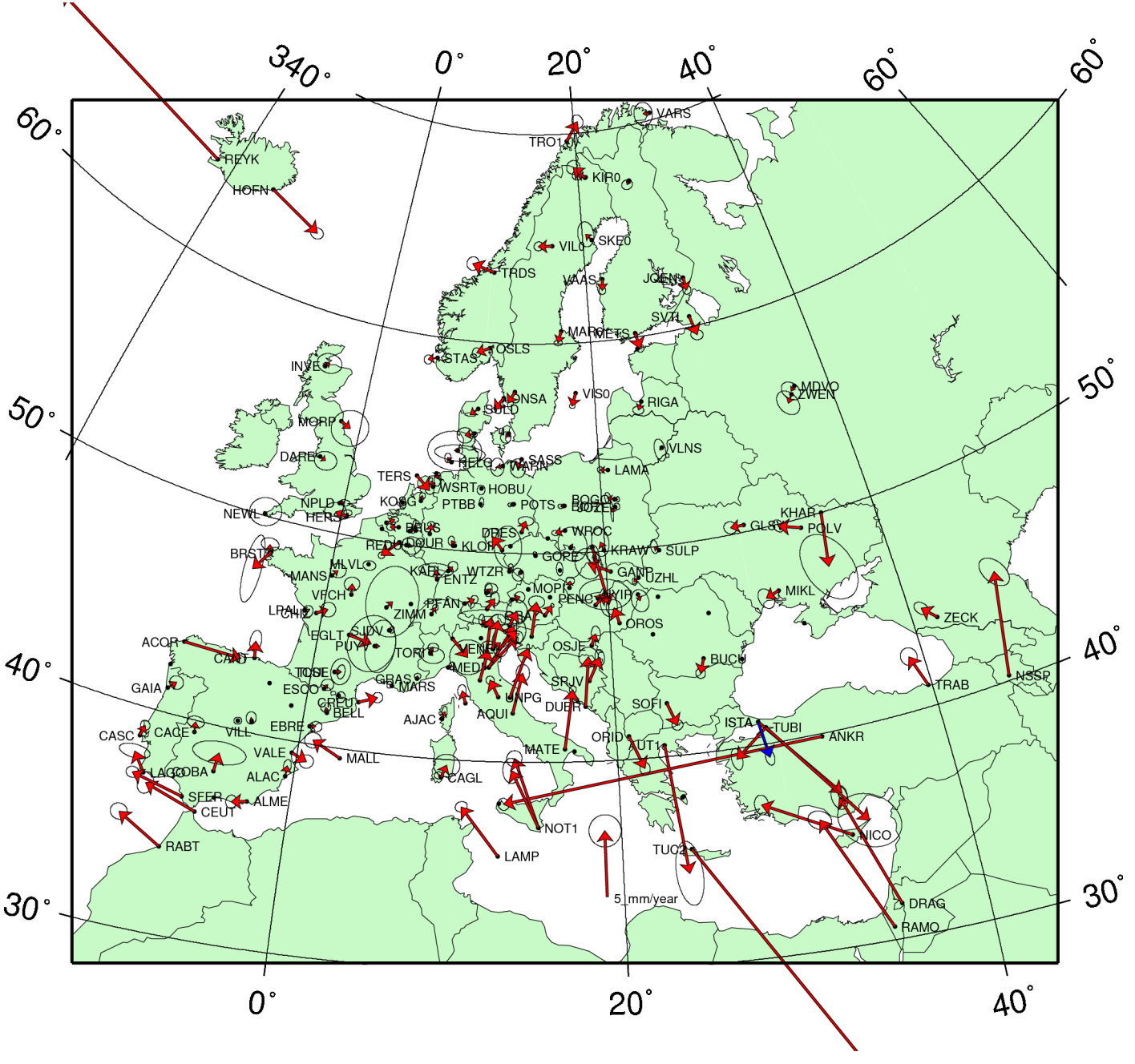
VELOCITY DIFFERENCES DUE TO FRAME CHANGE - 2D



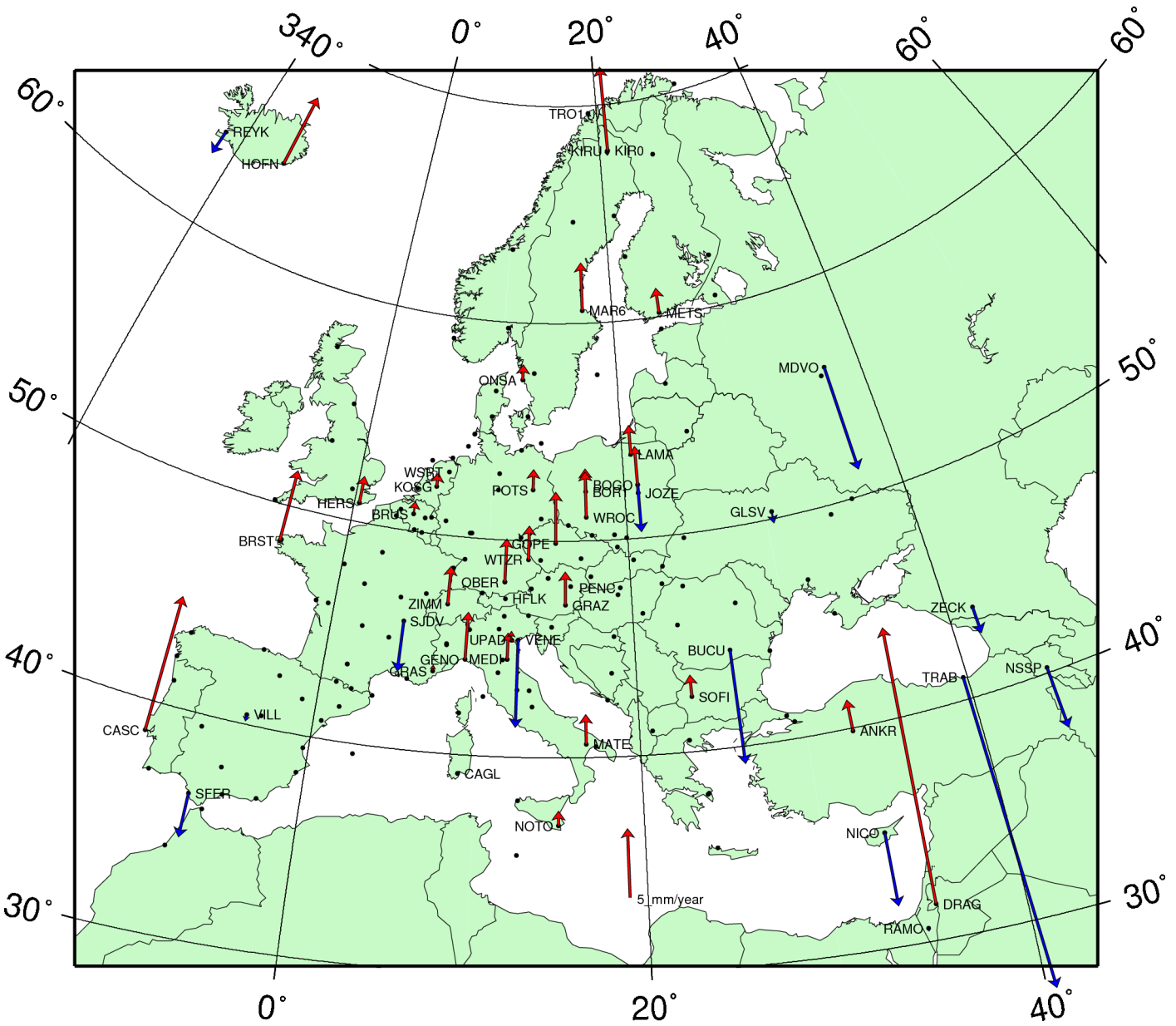
EPN VELOCITIES wrt to EURA NUVEL/ITRF2000 model- 2D



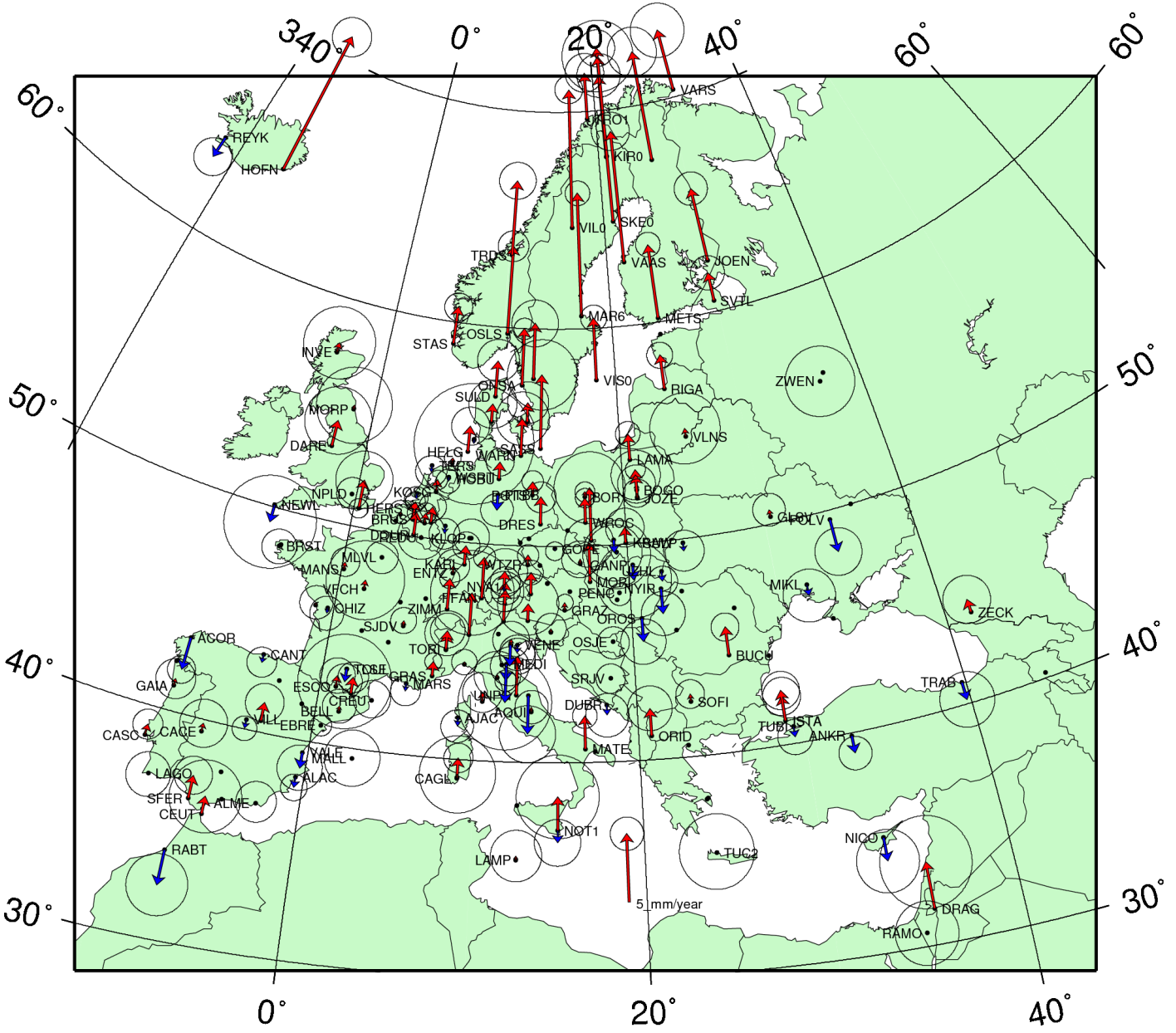
EPN VELOCITIES wrt to EURA NUVEL/ITRF2005 model- 2D



VELOCITY DIFFERENCES DUE TO FRAME CHANGE - UP



ESTIMATED UP EPN VELOCITIES



COMPARISON OF VELOCITIES

	NKG_LU	ITRF2000	ITRF2005	EPN_TSSP
JOEN	3.8	2.2		5.3
KIR0	6.5	2.9	9	7.9
KIRU	6.5	7.2	6.9	5.9
MAR6	7.4	4.9	8.4	8.9
METS	4.1	3.5	5.2	5.4
ONSA	2.3	2.6	3.7	4.1
OSLS	4.4			6.4
RIGA	0.8			2.5
SKE0	9.7			12.1
SODA	7.1	7.2		8
SPT0	2.9		5.8	4.1
STAS	0.99			2.7
SVTL	2.3	-1.4		2.1
TRDS	4.5			5.4
TRO1	2.4	2.6	2.4	3.4
VAAS	9	9.9		9.6
VARS	2.2			4.5
VIL0	8.7	6.6		10
VIS0	2.9	1.5		4.5