

# Analysis of the vertical differences between the DEOS and the EPN solutions

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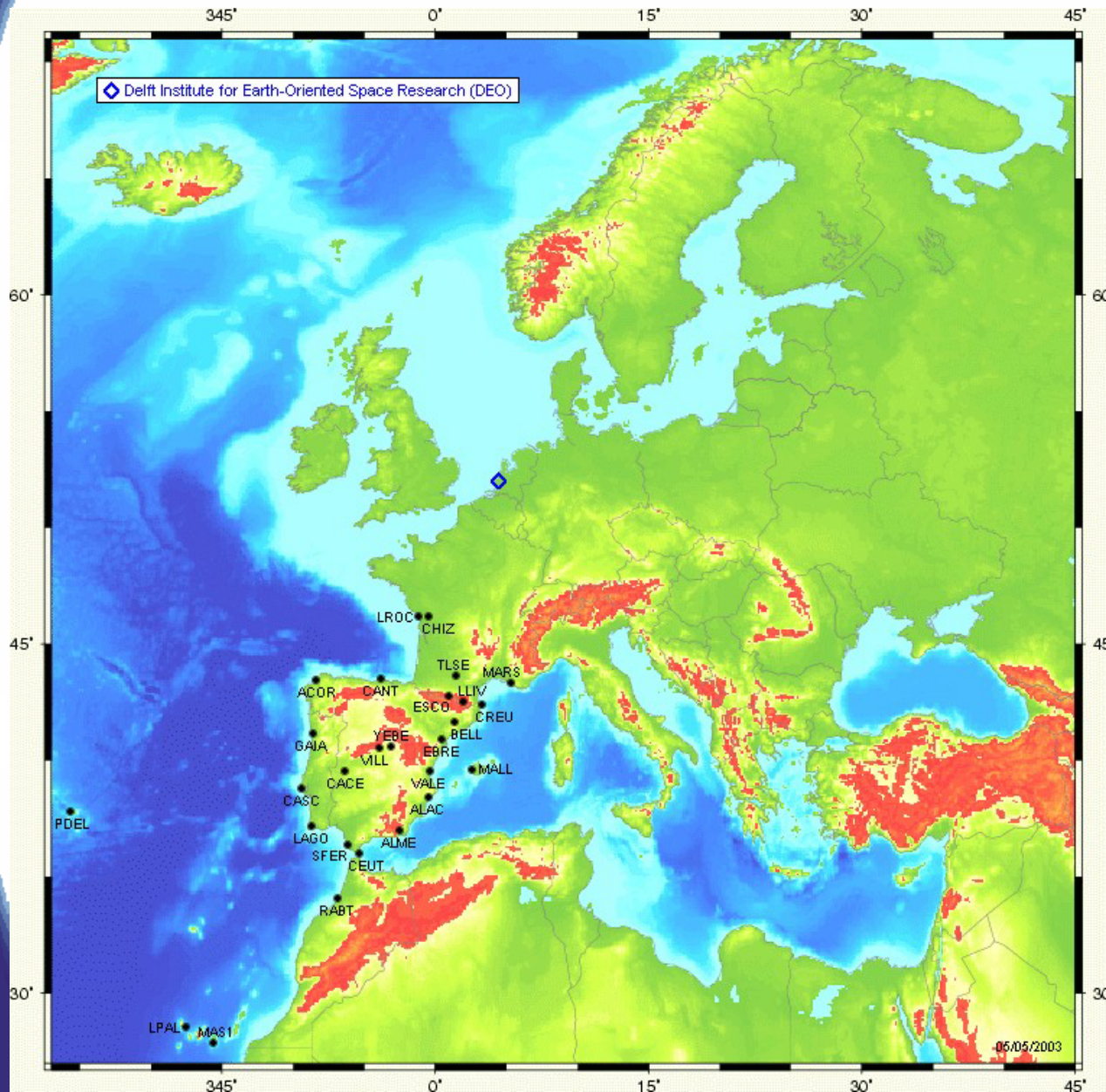
DEOS - TU Delft  
The Netherlands



# DEOS Contribution

**Since:**  
week 1101  
January 2001

**Major fact:**  
Unique LAC  
to use GIPSY



# The Question ?

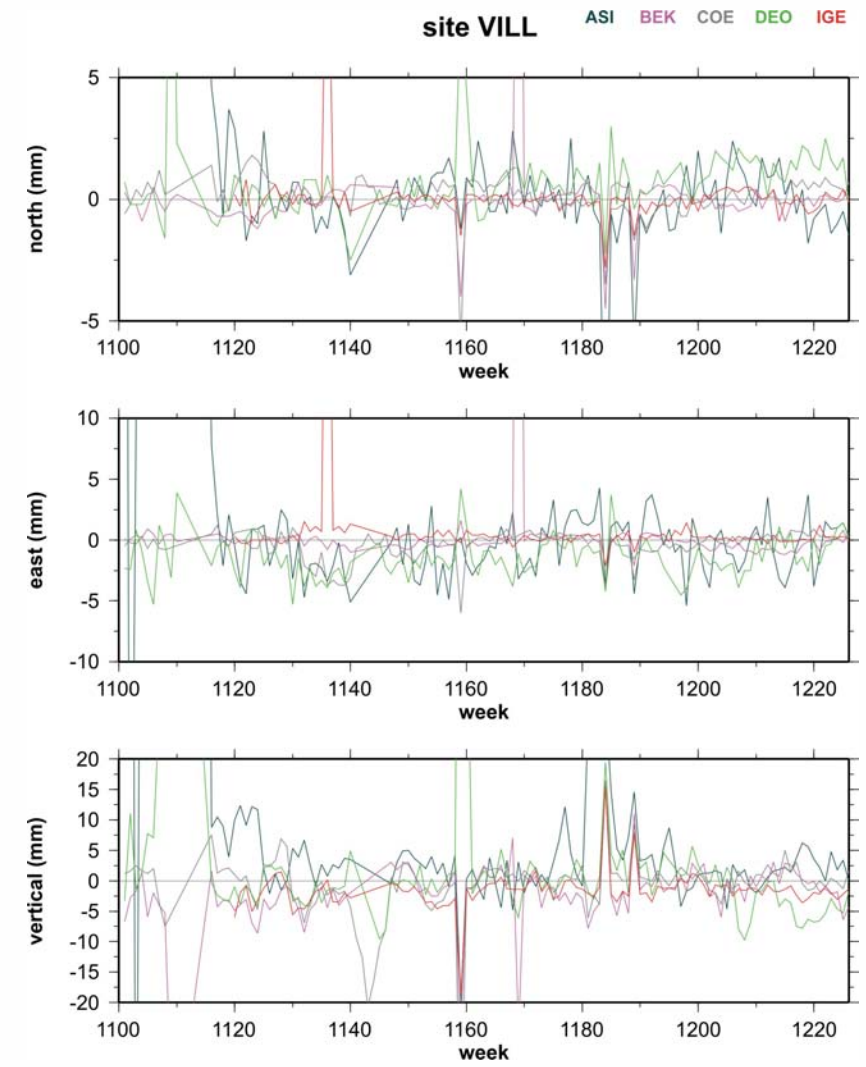
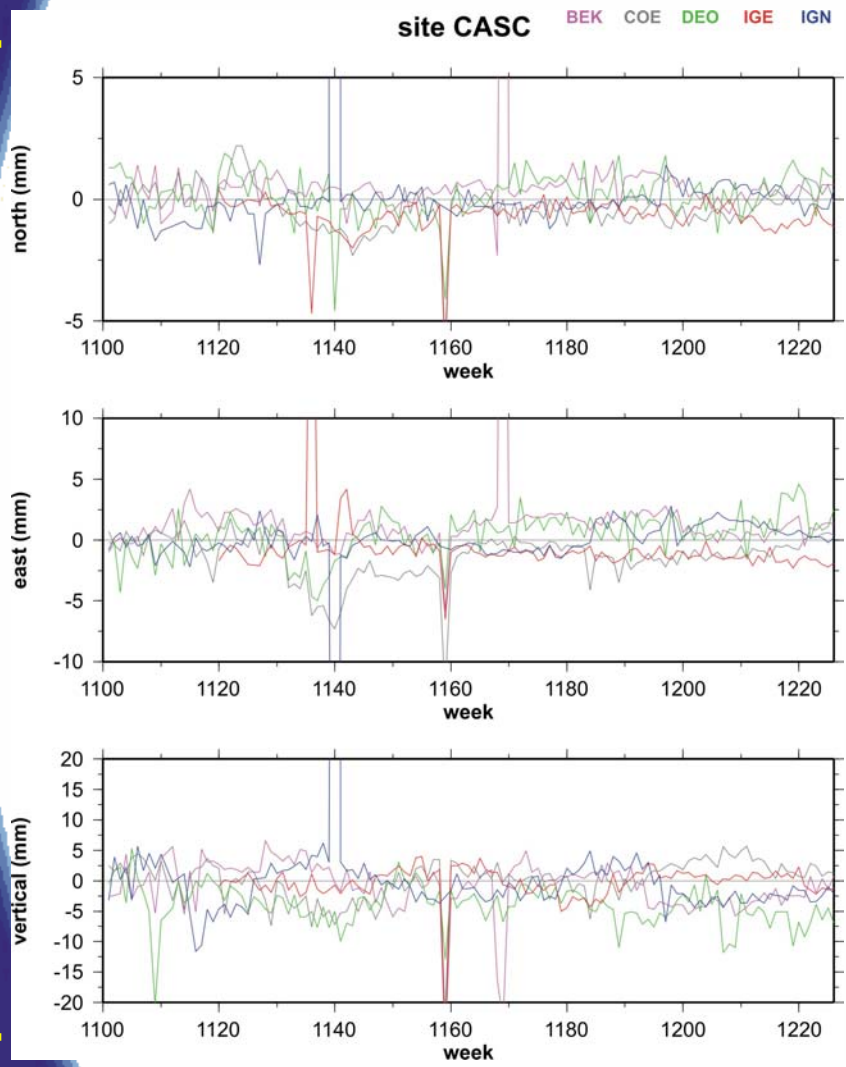
What is the reason why for some stations, the vertical component (in particular) of the DEOS solution differs from the other LAC solutions significantly?

<b>SITE</b>	<b># solutions removed</b>	<b># solutions submitted</b>	<b>%</b>
<b>ACOR</b>	<b>30</b>	<b>224</b>	<b>13.4</b>
<b>CREU</b>	<b>20</b>	<b>120</b>	<b>16.7</b>
<b>MARS</b>	<b>26</b>	<b>116</b>	<b>22.4</b>
<b>CACE</b>	<b>27</b>	<b>095</b>	<b>28.4</b>
<b>CEUT</b>	<b>36</b>	<b>080</b>	<b>45.0</b>
<b>MALL</b>	<b>83</b>	<b>122</b>	<b>68.0</b>

>> 6 out of 27 stations



# Some good stations (1)

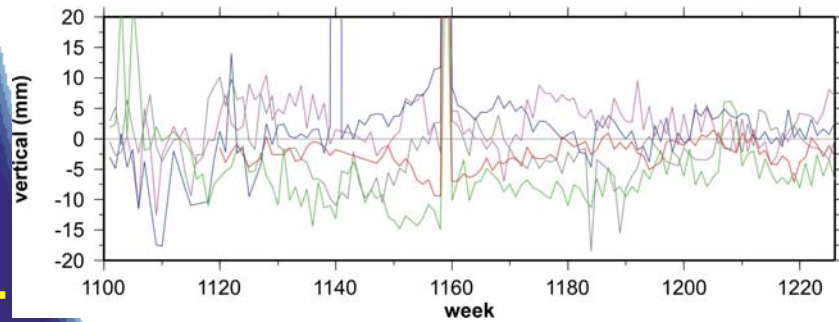
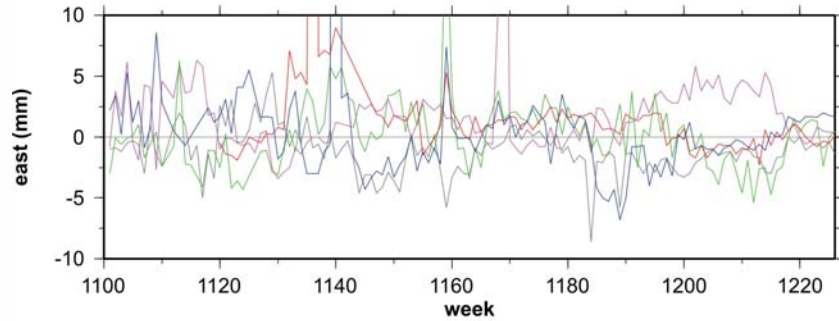
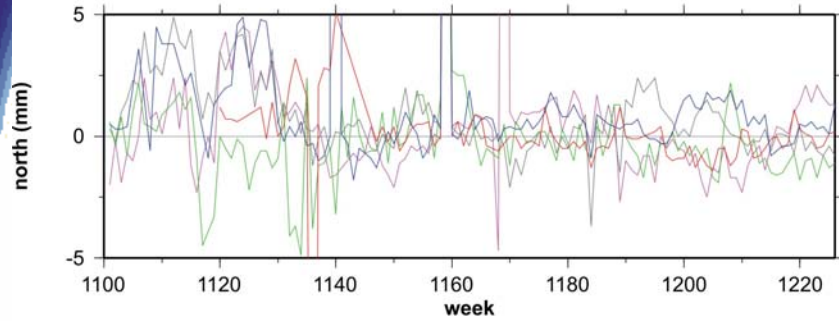


residuals w.r.t. combined solution

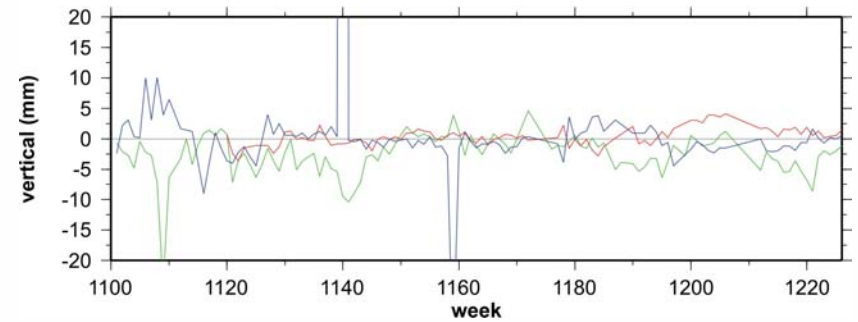
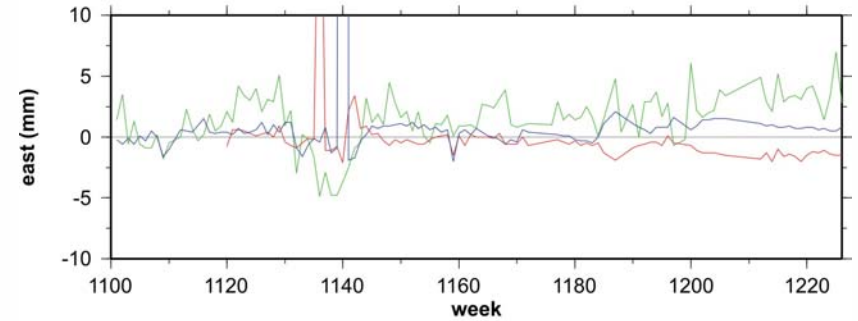
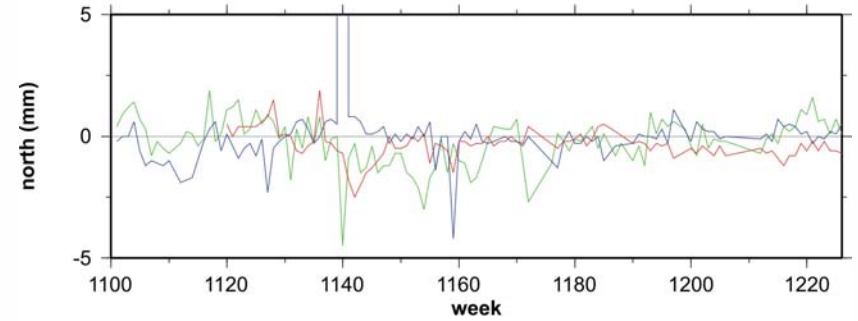


# Some good stations (2)

site MAS1 BEK COE DEO IGE IGN



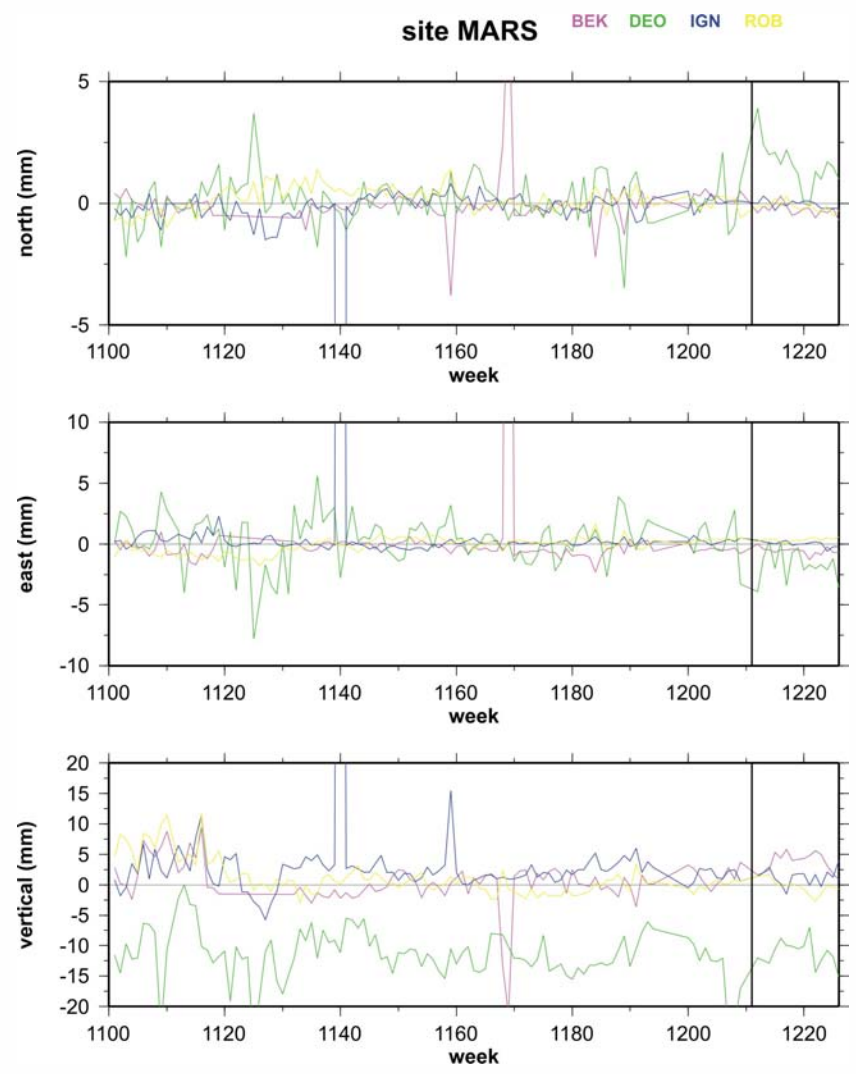
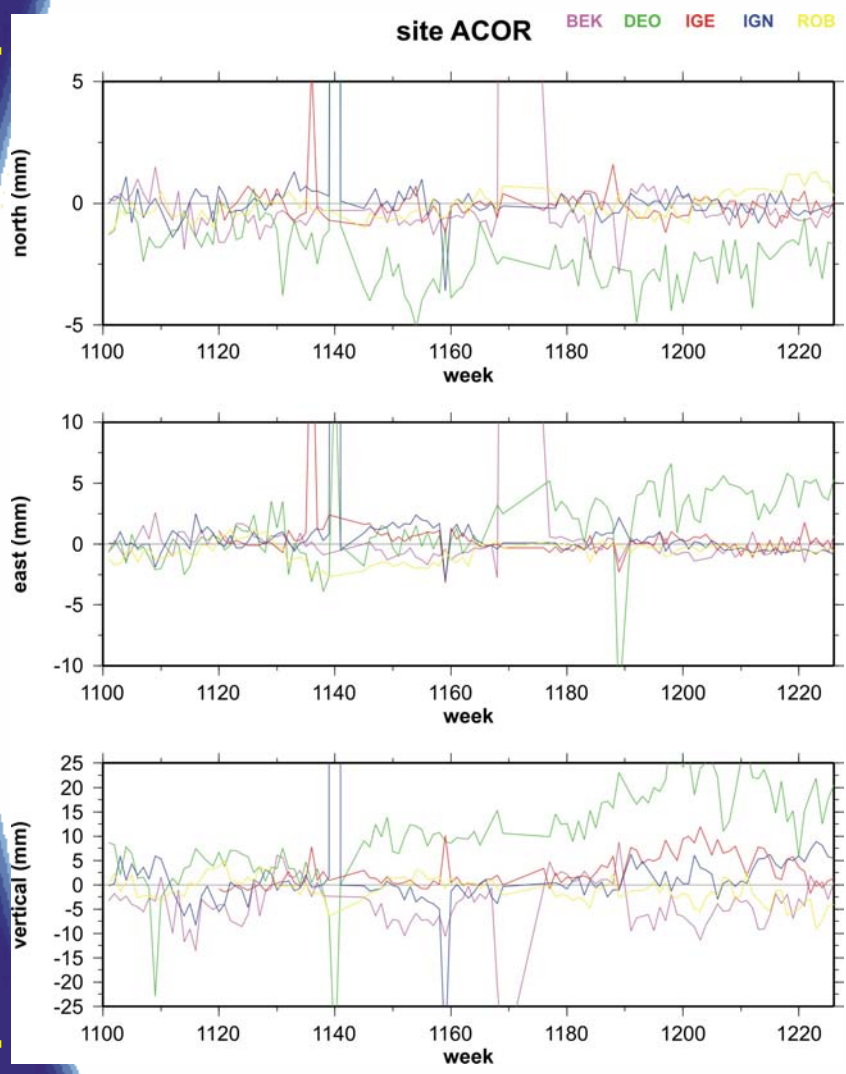
site GAIA DEO IGE IGN



residuals w.r.t. combined solution



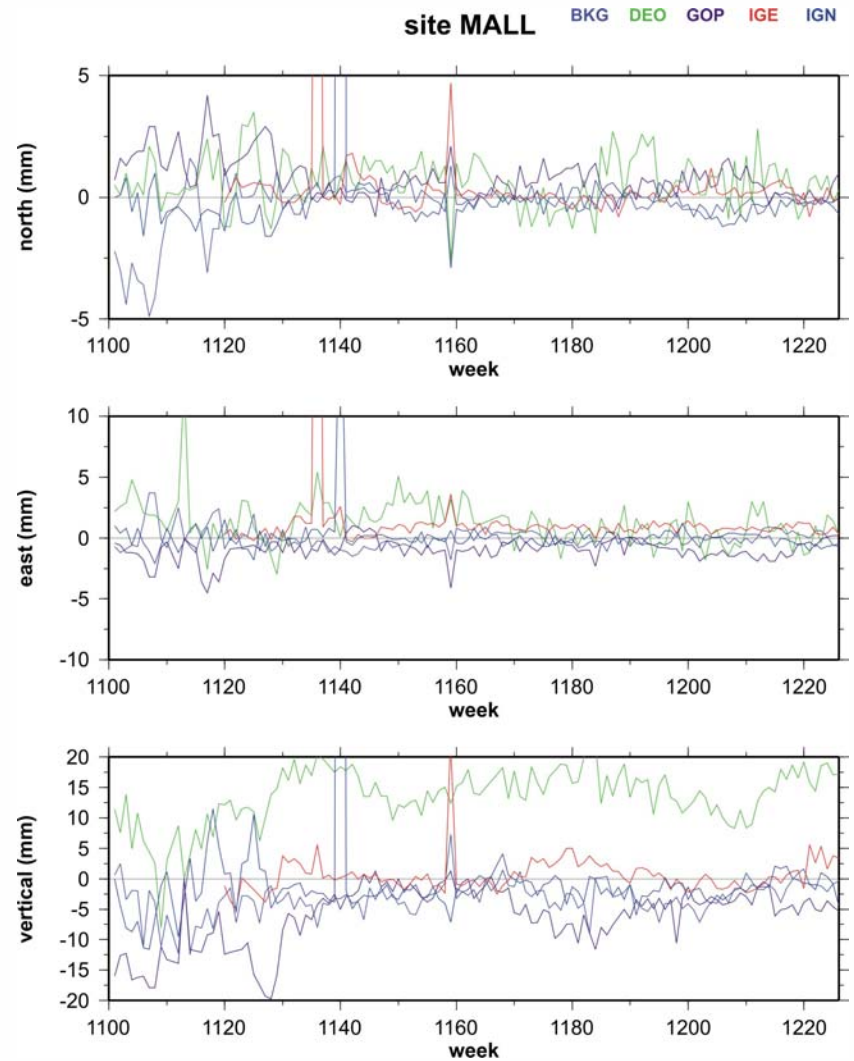
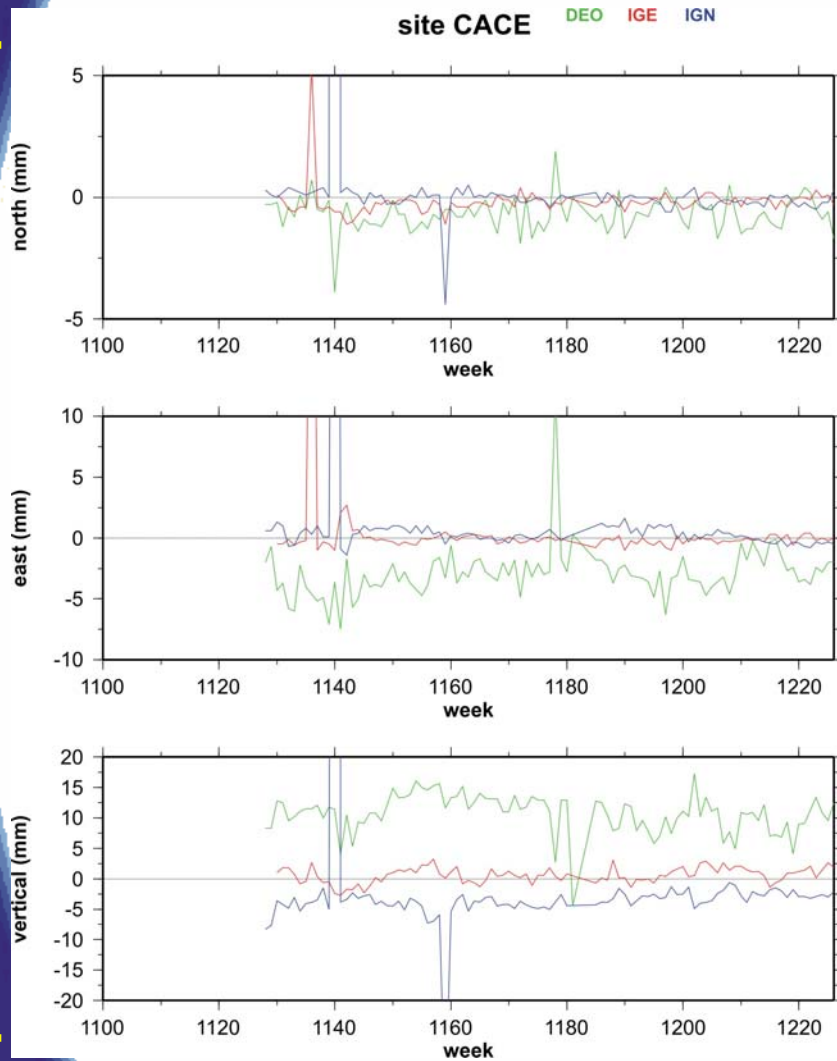
# Problematic stations (1)



residuals w.r.t. combined solution



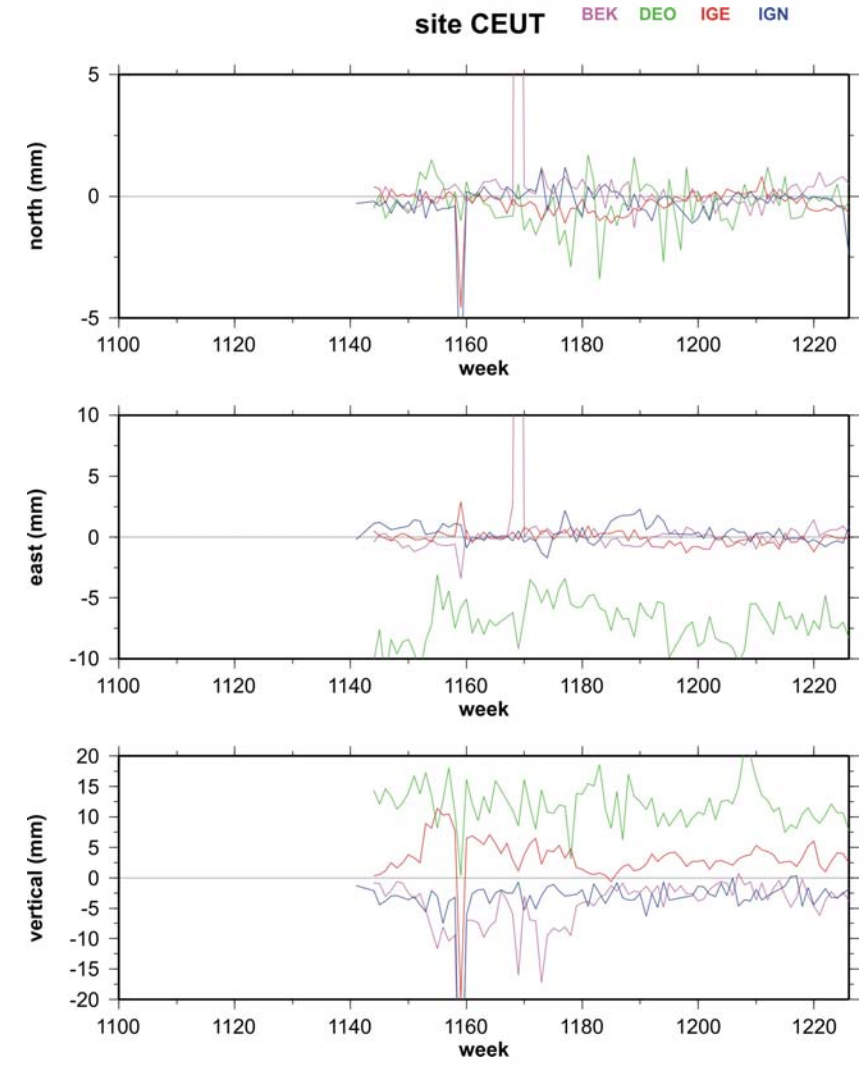
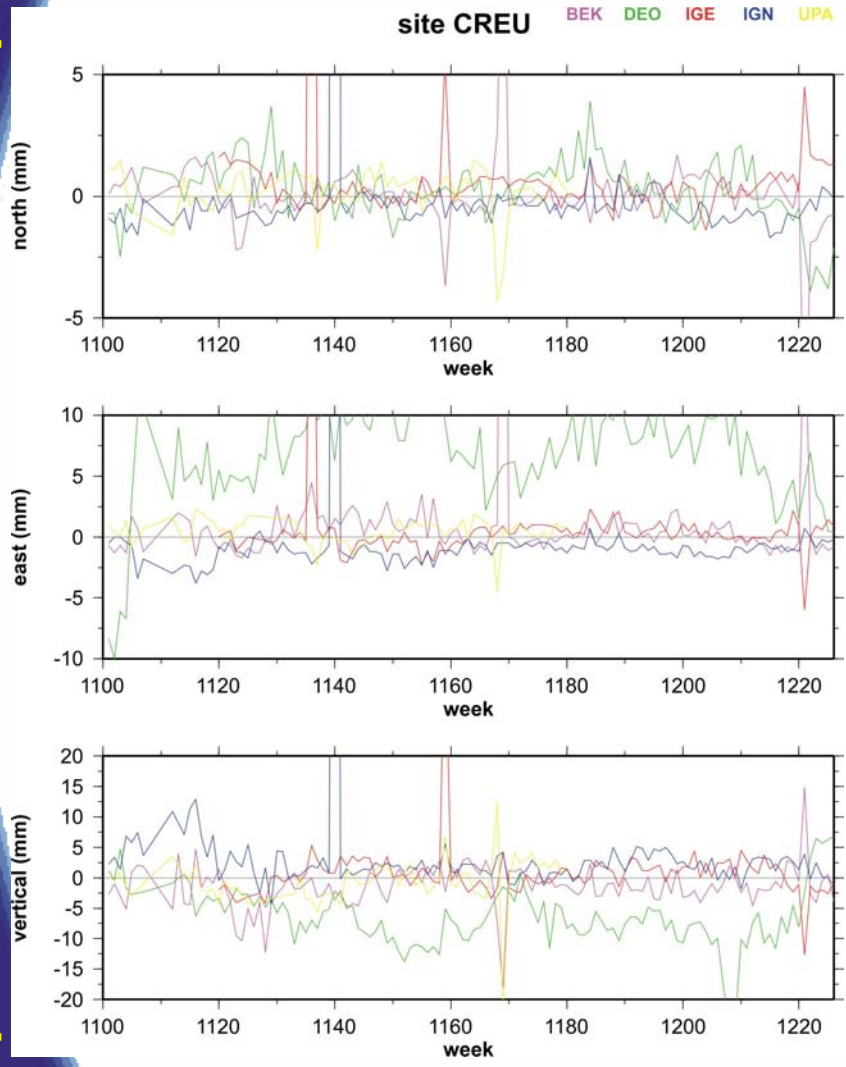
# Problematic stations (2)



residuals w.r.t. combined solution



# Problematic stations (3)



residuals w.r.t. combined solution







# Function of equipment?

## RECEIVER

SITE	Start	End	Receiver / Antenna   Dome	
ACOR	98:340	01:353	ASHTECH UZ-12	
	01:353	00:000	ASHTECH UZ-12 III	
MARS	99:215	03:072	TRIMBLE 4000SSI	
	03:087	00:000	LEICA RS500	
CACE	01:339	00:000	TRIMBLE 4000SSI	
CEUT	01:236	00:000	TRIMBLE 4000SSI	
CREU	02:070	00:000	TRIMBLE 4000SSI	
MALL	00:133	00:000	TRIMBLE 4000SSI	
ACOR	98:340	00:000	ASH700936D_M	SNOW
MARS	98:197	03:072	TRM29659.00	
MARS	03:087	00:000	LEIAT504	
CACE	01:339	00:000	TRM29659.00	DOME
CEUT	01:236	00:000	TRM29659.00	DOME
CREU	97:169	03:154	TRM29659.00	DOME
	03:154	03:212	TRM29659.00	DOME
	03:212	00:000	TRM41249.00	
MALL	00:133	00:000	TRM29659.00	DOME

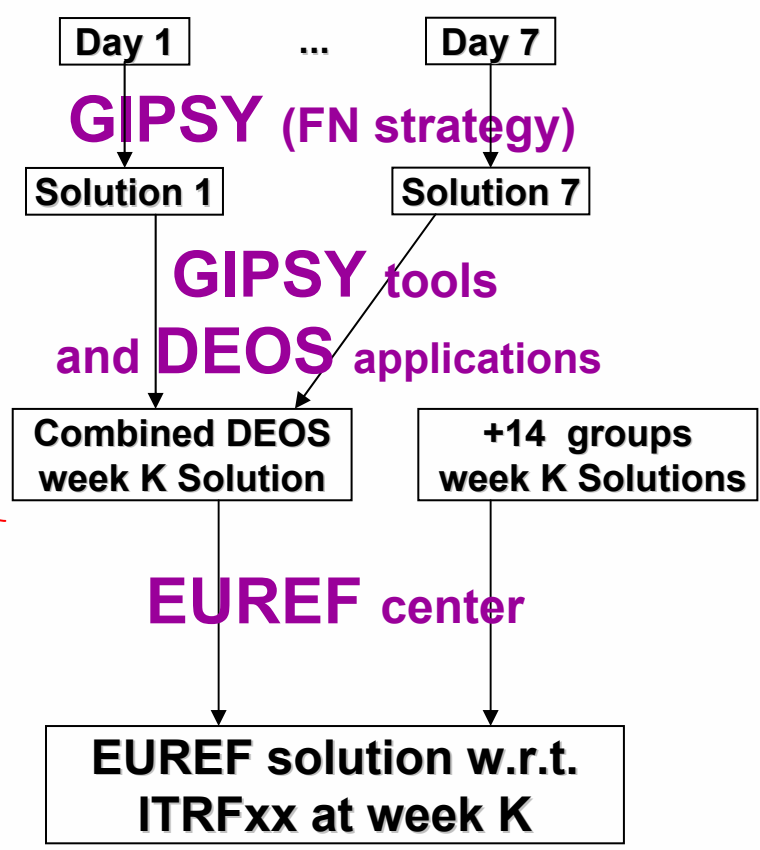
## ANTENNA

# Processing

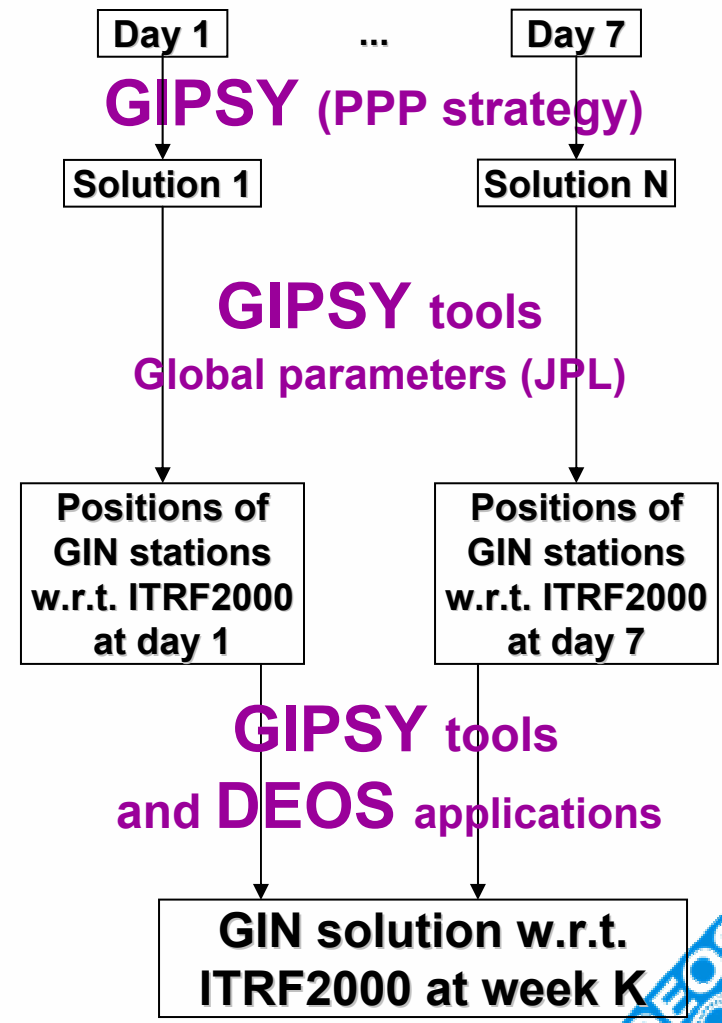
## GIN & EUREF networks

**EUREF  
(DEOS)**

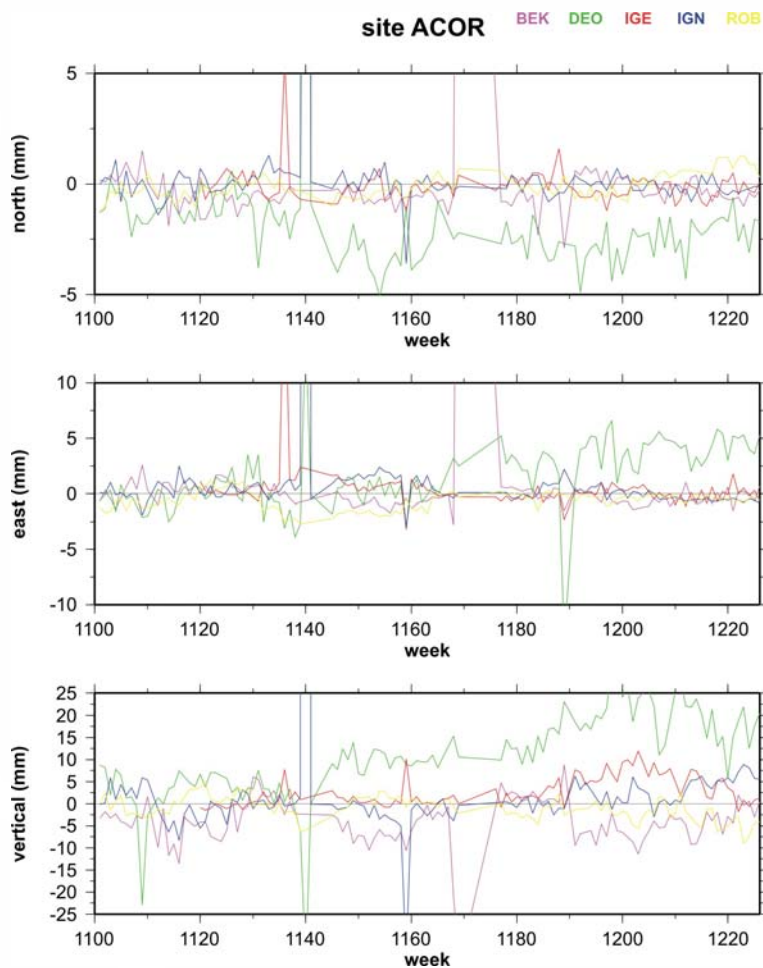
### EUREF



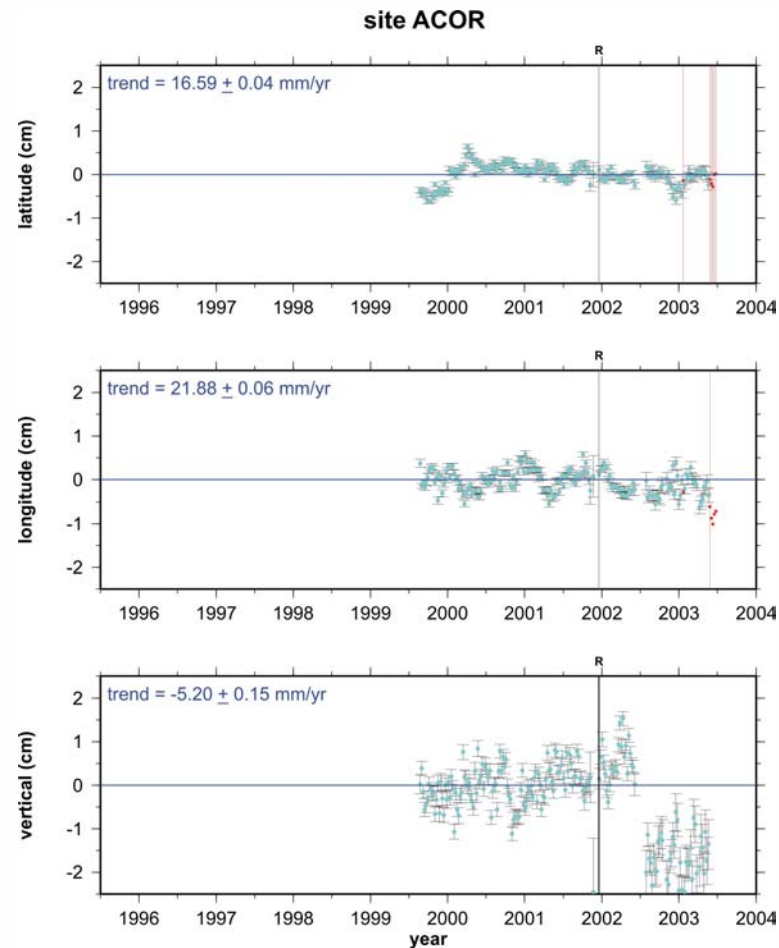
### GIN



# ACOR (change of receiver)

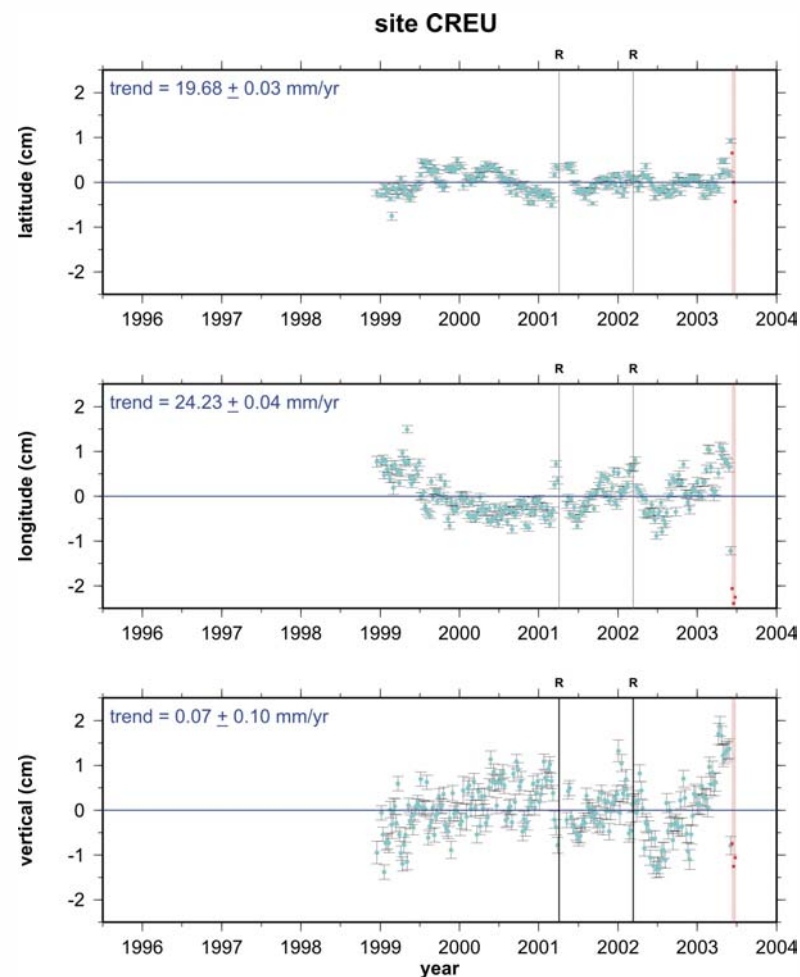
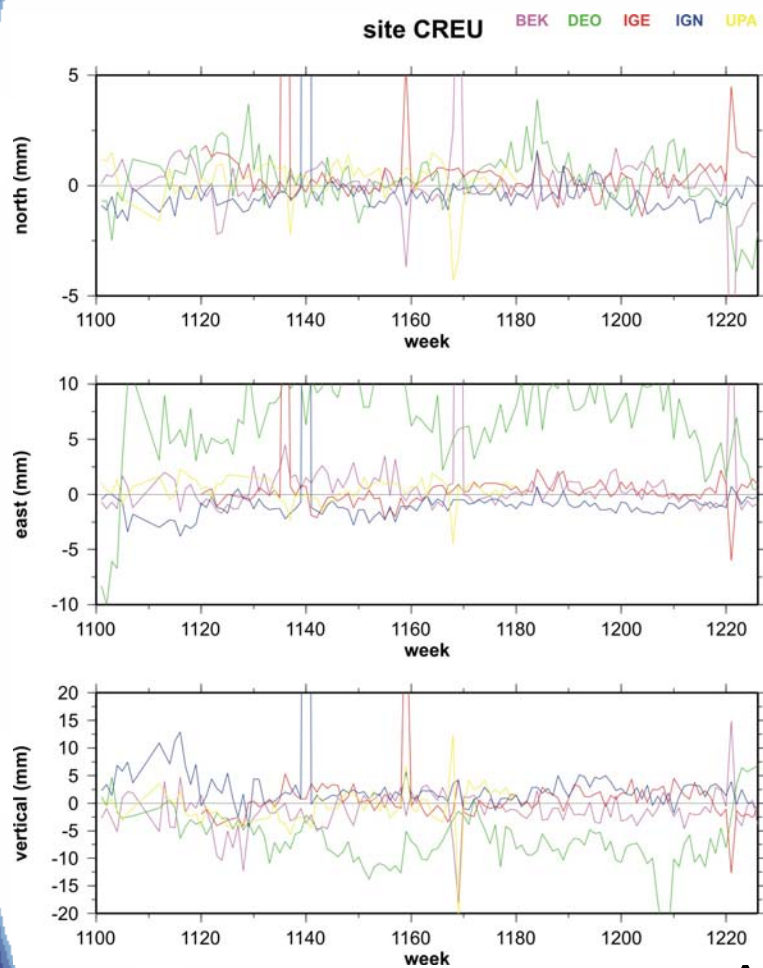


↑  
receiver replacement

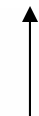




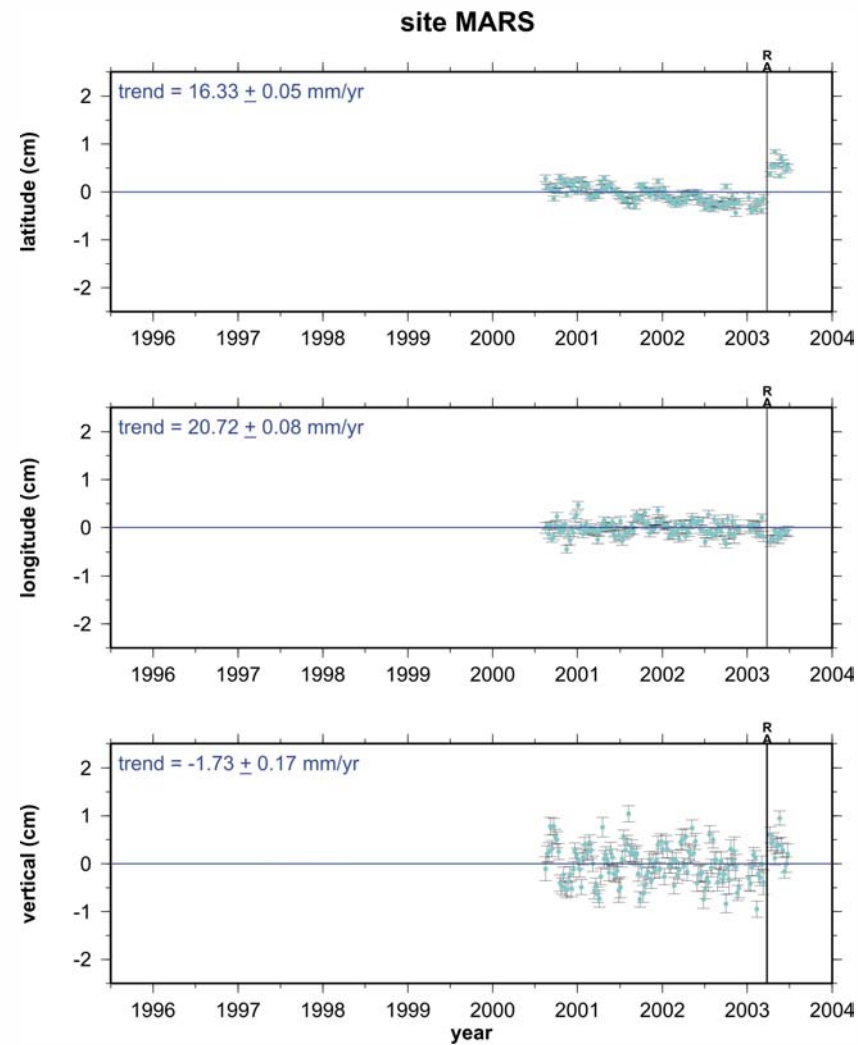
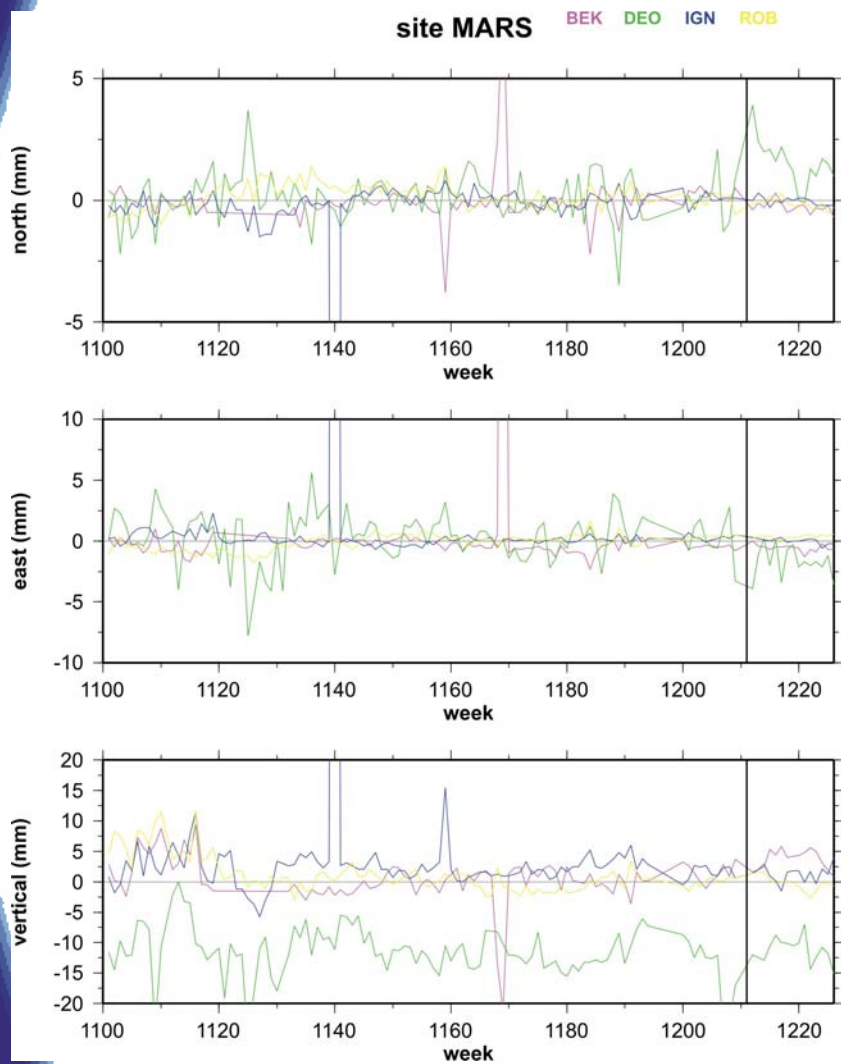
# CREU (change of antenna)



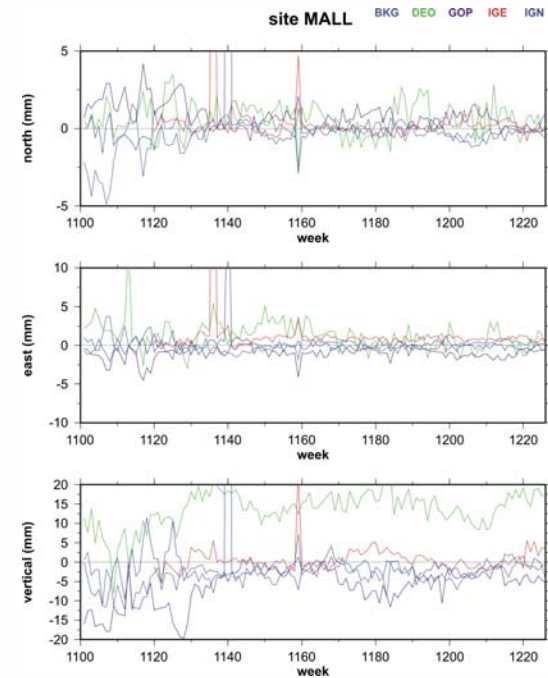
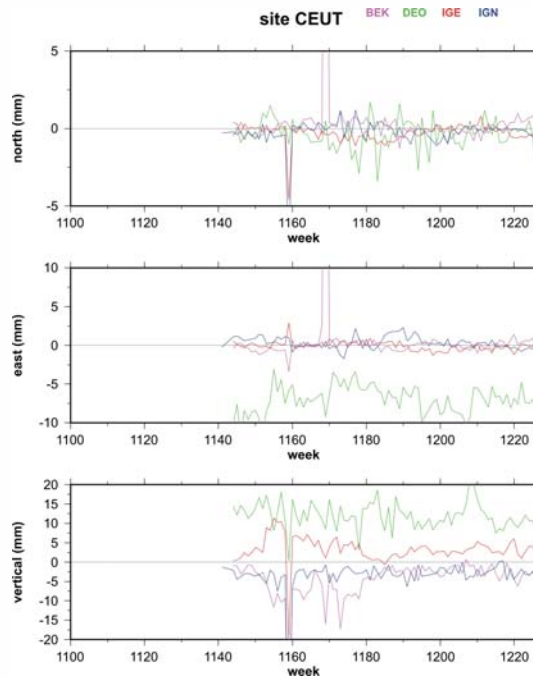
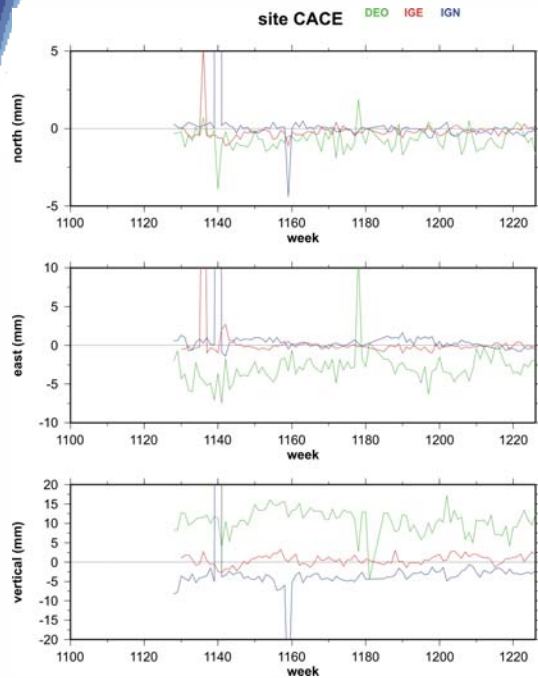
antenna replacement



# MARS (change of receiver/antenna)

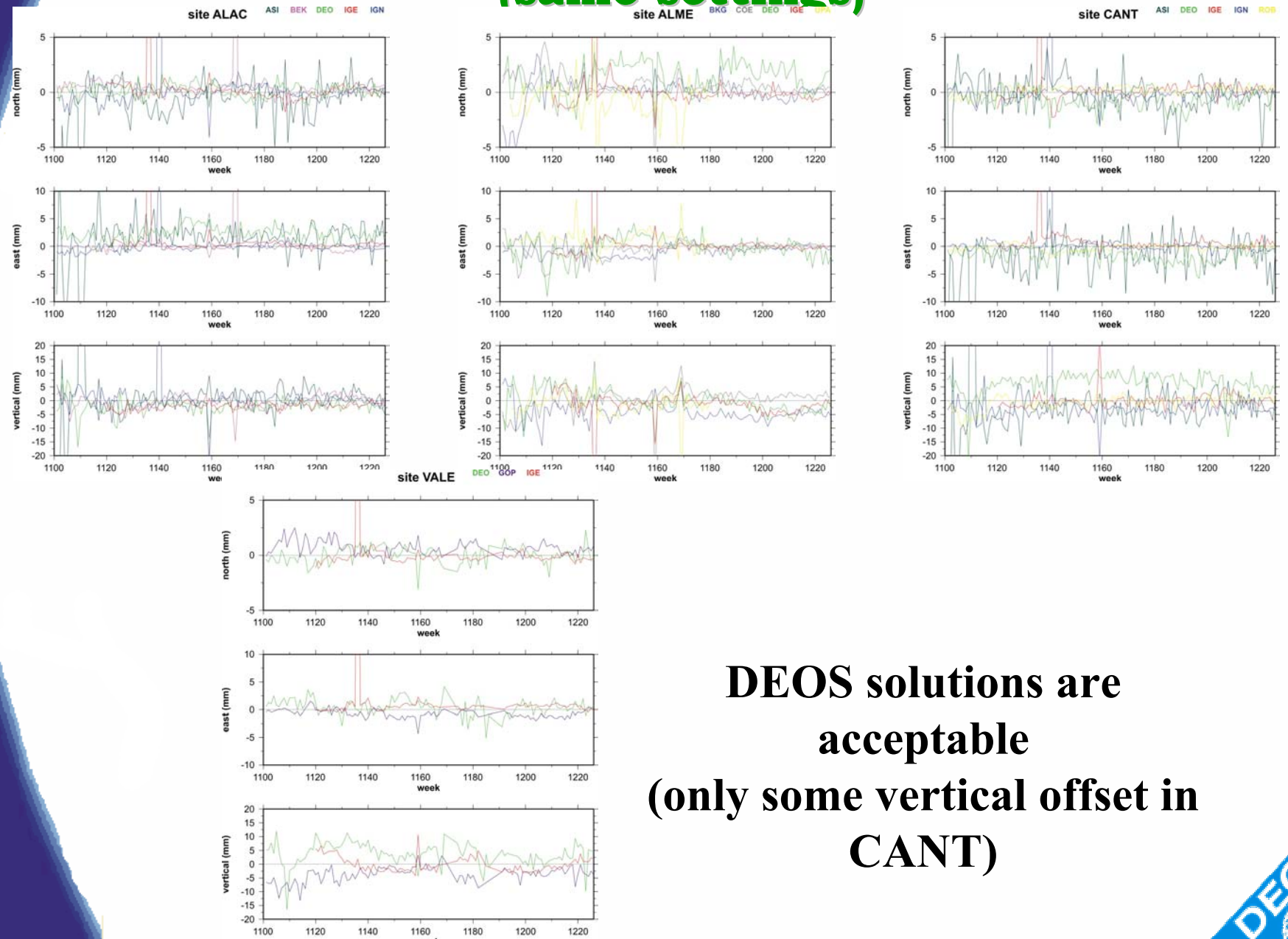


# CACE, CEUT & MALL (no changes)



Could be due to the “antenna+radome”  
combination for these stations?

# ALAC, ALME, CANT & VALE (same settings)



**DEOS solutions are  
acceptable  
(only some vertical offset in  
CANT)**





# Antenna setup



MALL



CACE



CEUT



ALME



ALAC

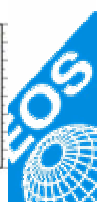
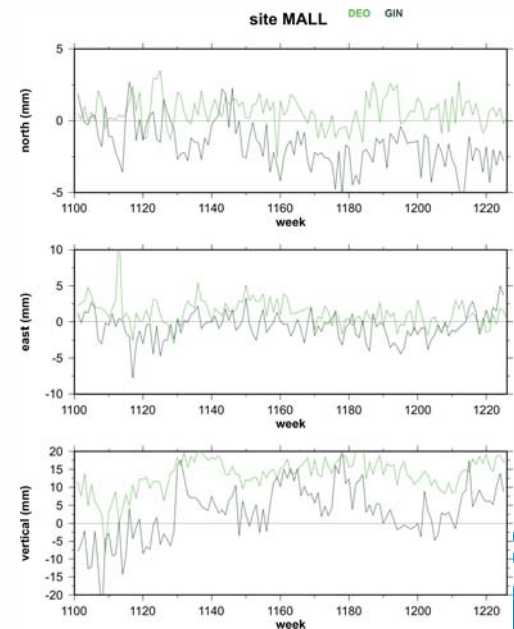
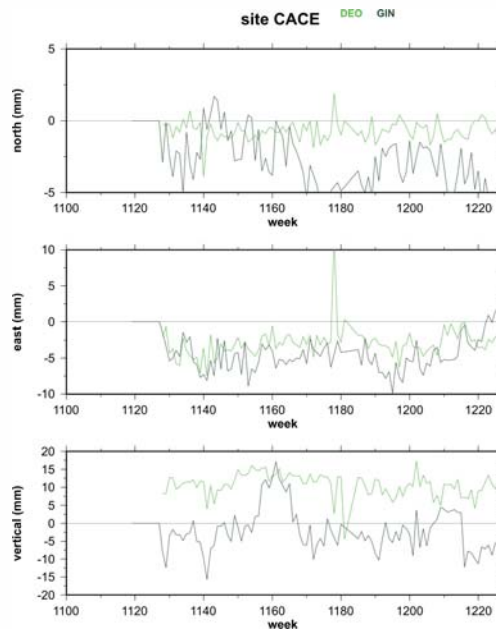
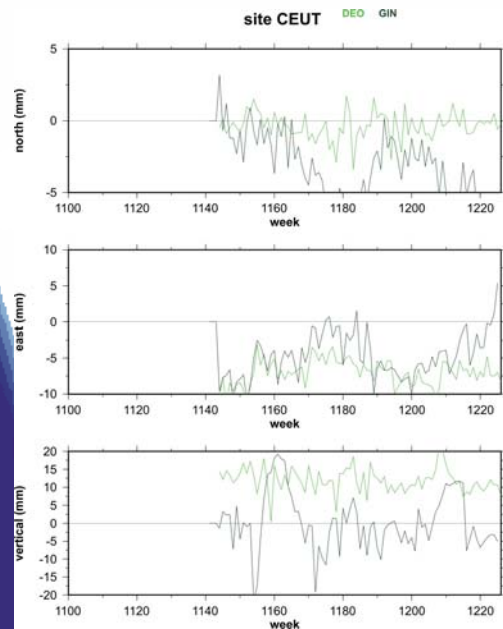
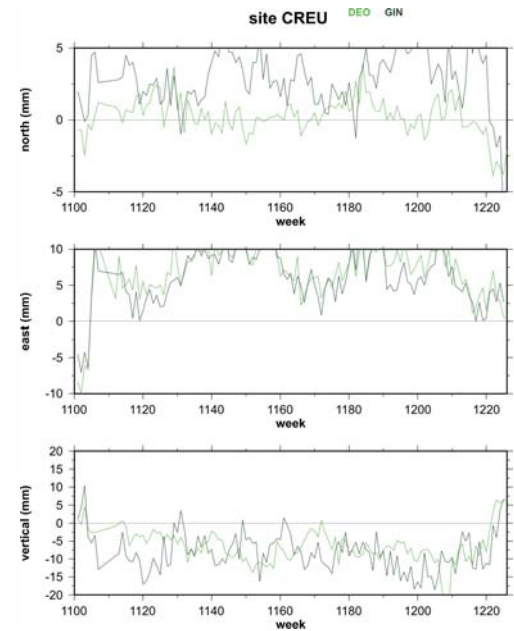
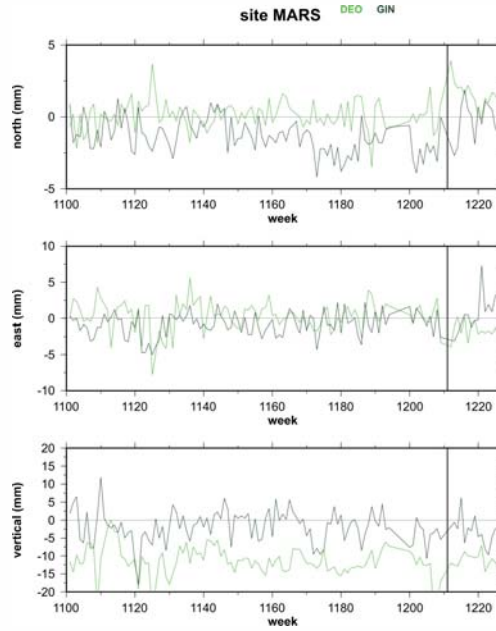
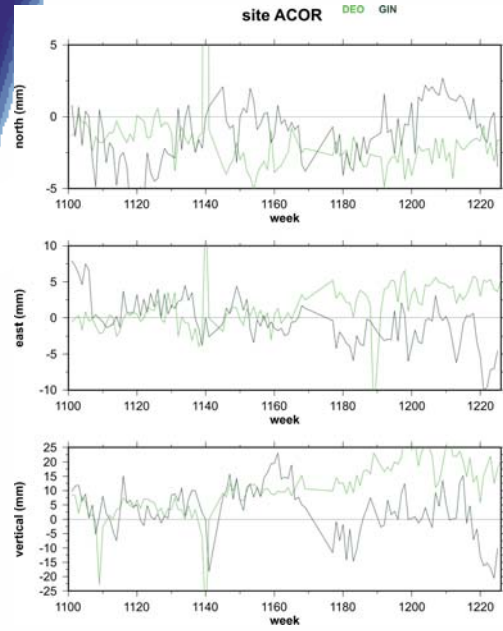


CANT



VALE

# Comparison of Processing (not direct)



# Conclusion

**No answer found**

## Open possibilities:

- **Local problems with some stations (e.g. ACOR).**
- **Antenna/Radomes/Marker configuration.**
- **DEOS-EUREF processing has some problem that only affects some stations (more debug will be done).**
- **?**
- **?**