EUPOS COMBINATION CENTRE
- ECC -

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MOTIVATION

- HOMOGENIZATION OF THE NATIONAL EUPOS/GNSS NETWORKS AND SOLUTIONS
- BETTER REFERENCING TO ETRS89
- LONG TERM SITE MONITORING
- PREPARE EUPOS FOR SCIENTIFIC STUDIES (DO NOT GET LOST VALUABLE INFORMATION)
  - TIME SERIES ANALYSIS (FILTERING, OFFSETS, SEASONAL EFFECTS ...)
  - VELOCITY MODELING
  - ...

INPUT EXPECTED

WEEKLY/DAILY NATIONAL SINEX SOLUTIONS

- BERNESE ANALYSIS, EPN STRATEGY
- MINIMUM CONSTRAINED SOLUTIONS
- INCLUDE EPN STATIONS (AT LEAST 5)
- DOMES NUMBERS ADDED
- RELIABILITY OF NETWORK OPERATORS AND ANALYSTS (EPN)

THE ANALYSIS

- TOOL: CATREF (same as used for the generation of the ITRF and EPN solutions)
- STRATEGY:
  - input SINEX check from each single analysis centre,
  - Combination: EPN + all national solutions on the weekly level,
  - Datum: latest class A EPN cumulative solution
- PRIMARY PRODUCTS: weekly combined SINEX solutions AND long term cumulative solution

EPN/EUPOS combined SINEX

- WEEKLY BASIS (later daily ?)
- SAME REFERENCE FRAME as the actual EPN solution!!!
- CUMULATIVE EPN/EUPOS:
  - COMPARISON of national realizations and the 'official' ETRS89 realization
  - Station monitoring

ECC TEST - w1538-1564

2009/JUL-DEC

- Participants: ASG, EST, GKU, LAT, SGO

  promises from LT, RO and SI

- Development of all facilities, strategy and software tools

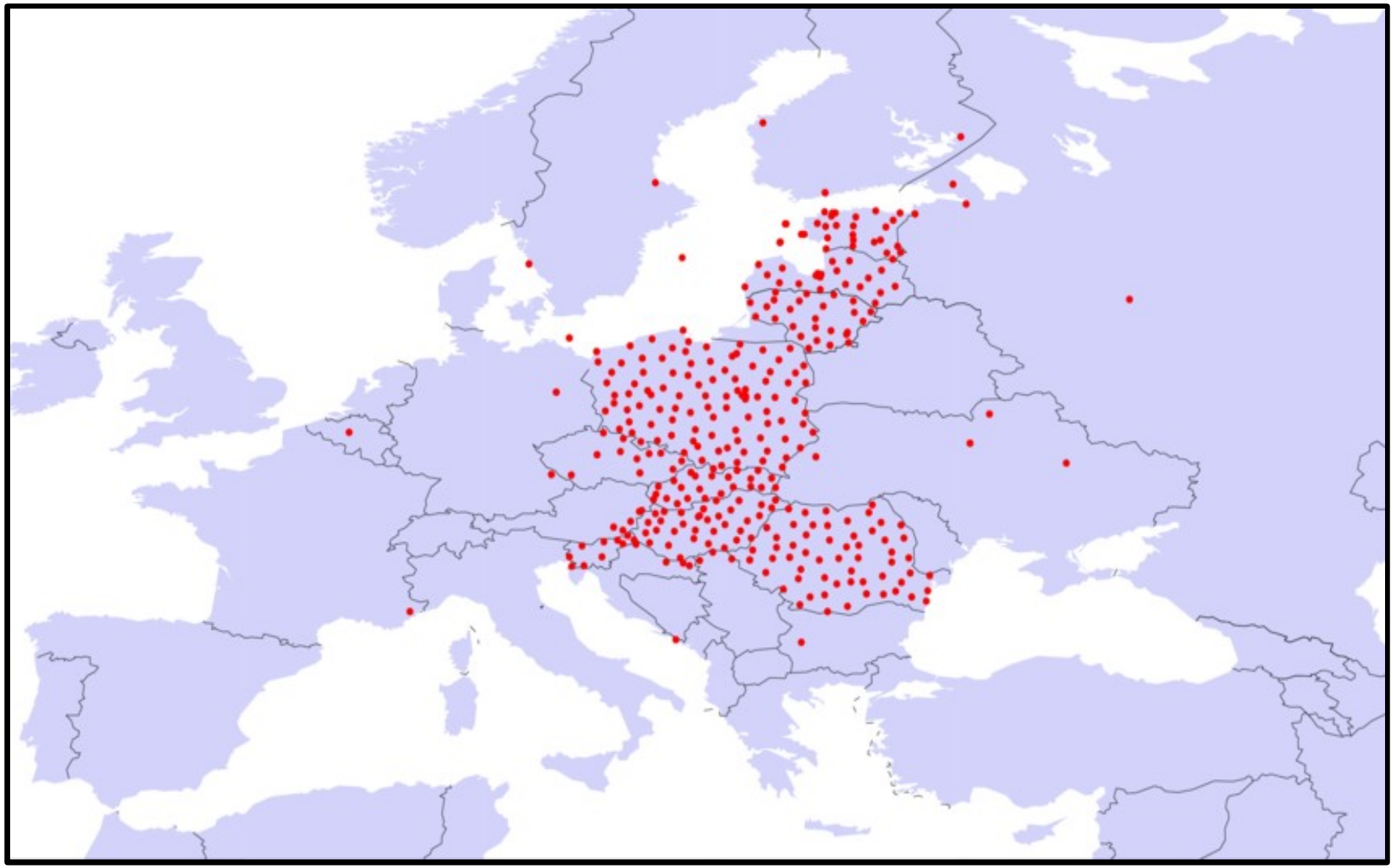
  Based on the tools developed for the EPN

  ✔ DONE

- Feasibility test

  ✔ PASSED

ECC sites as of today



ECC products

- Cumulative solutions per national network (primary check)
- ECC merged weekly SINEX solutions
- ECC cumulative SINEX solution
- Coordinate (and later velocity) estimates in ETRS89 – ETRF2000(Ryy)
- Time series plots for monitoring
- EPN / ECC comparisons

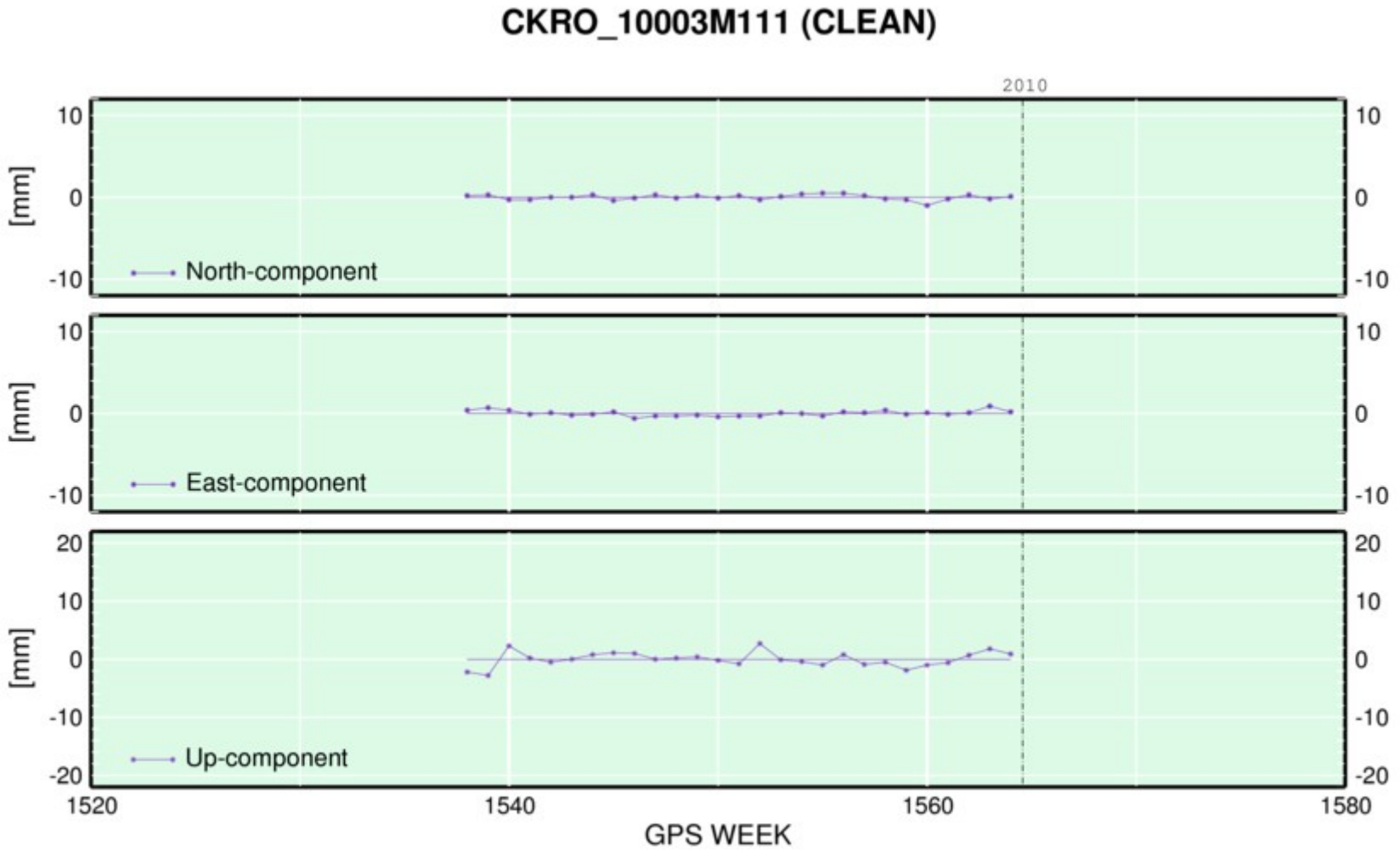
1ST EXPERIENCES

- As expected DOMES numbering should be solved (temporary virtual DOMES numbers)
- Careful site name handling expected
- Use of solution numbers at equipment change

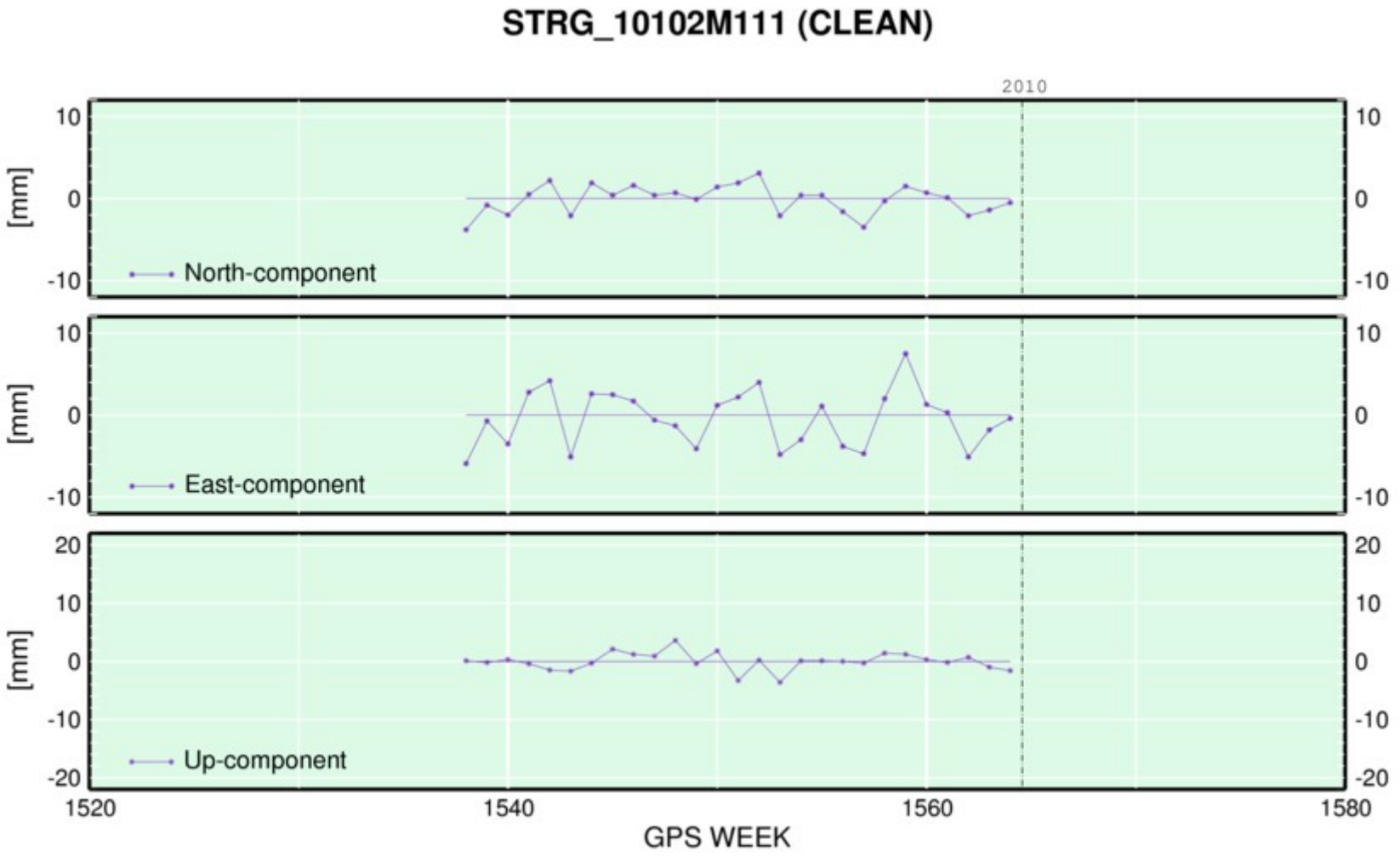
ALL IN ALL:

- High quality inputs were provided
- Good chance to have an EPN-compatible network (overlapping sites!)
- BUT: keep the long term reliability!

EXAMPLES: A GOOD/NORMAL SITE



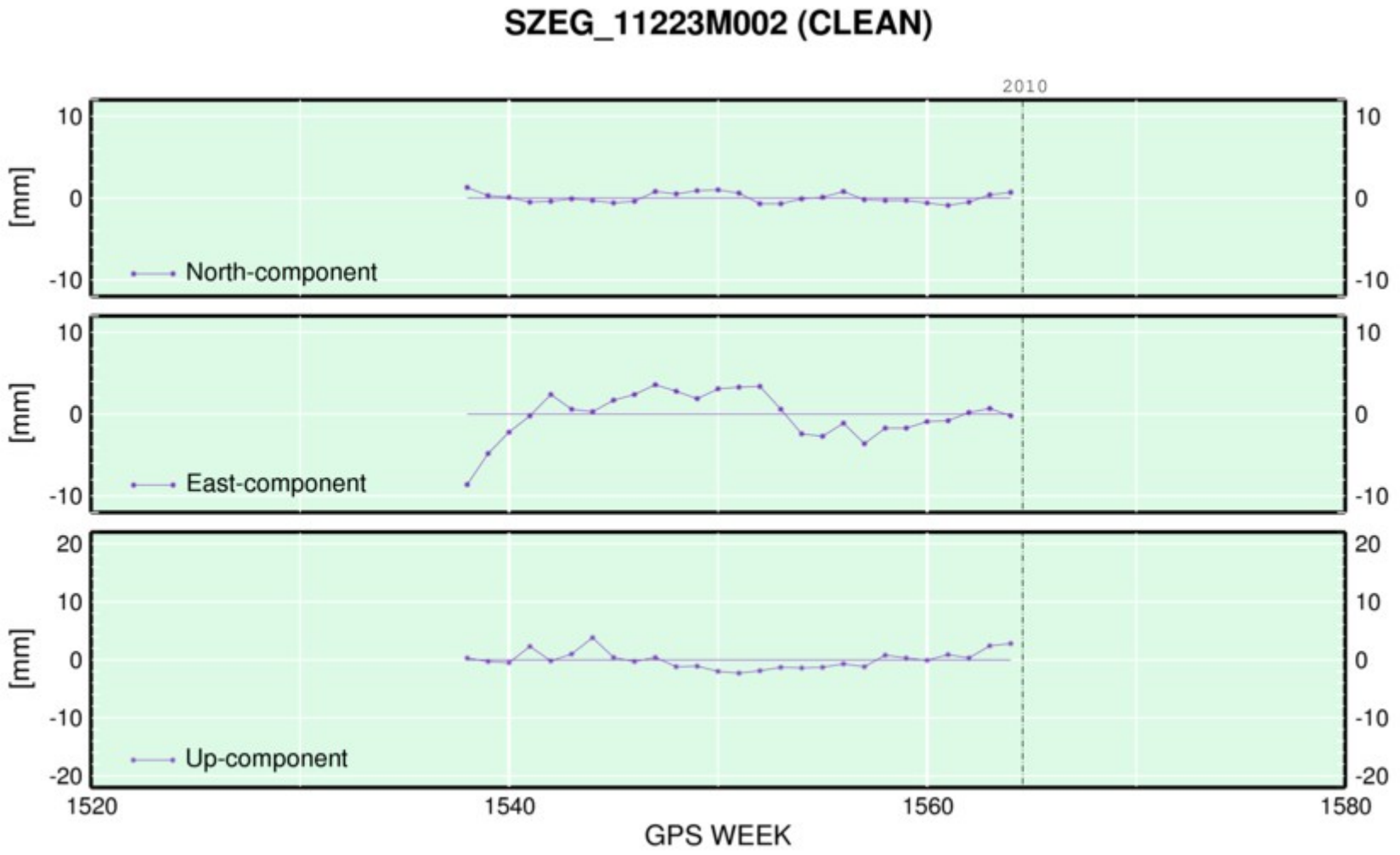
HIGH SCATTER



ECC_eupos_weekly

Sun May 16 19:14:27 2010

SEASONAL SIGNAL



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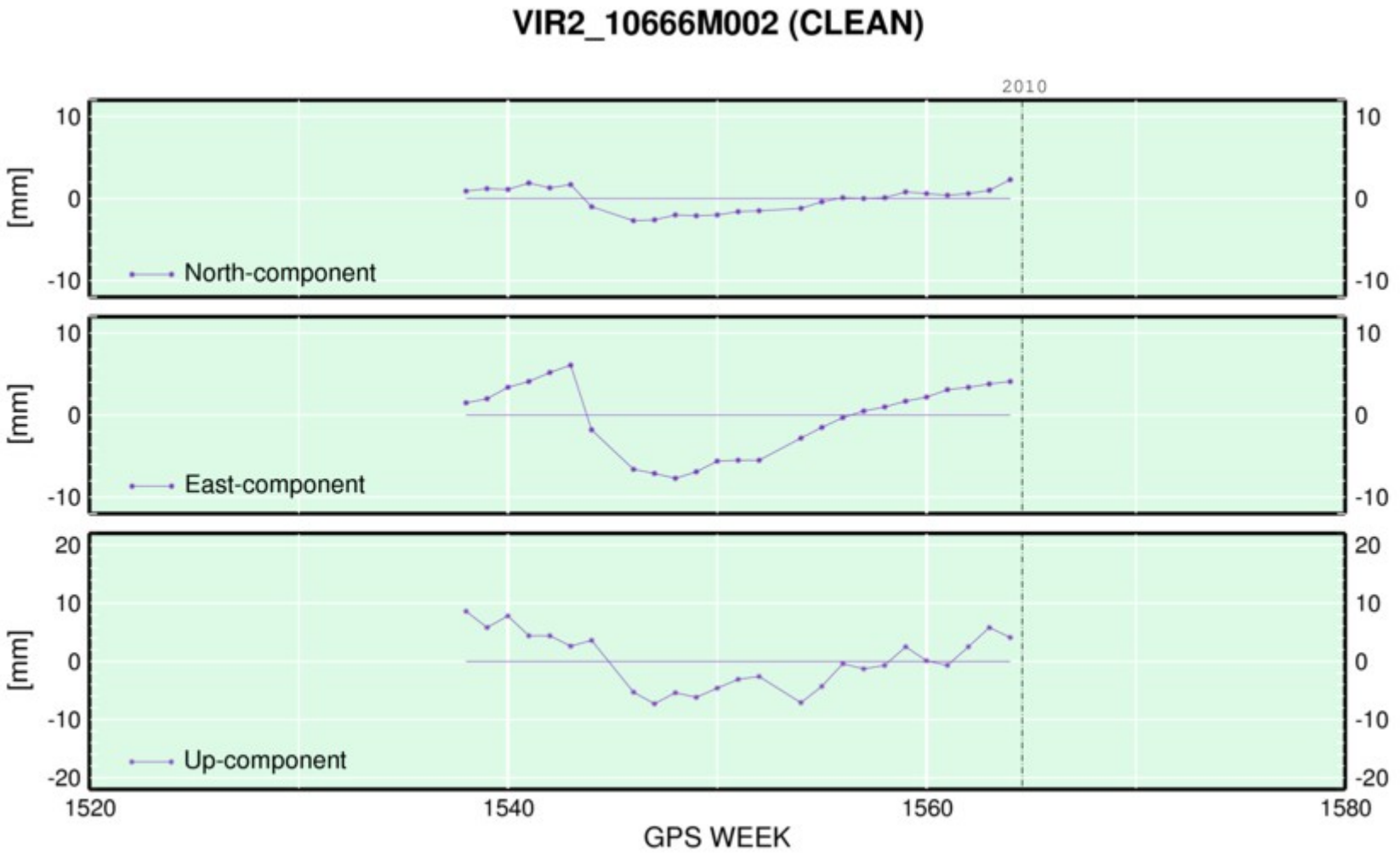
OFFSET?



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SUMMARY

- Tests proved that the EUPOS CC is able to serve the expected homogenization needs,
- EUPOS CC as EPN densification?
- The combination is continued
  - Backwards to include all data before wk1538
  - Forward on a routine weekly bases
  - Stable and reliable support from the EUPOS ACs is expected
  - Extension / share workload (?)
- Publication means should be developed