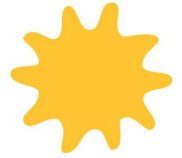# Development and investigation of applicability of parameters describing performance of GPS point positioning under the presence of ionospheric anomalies
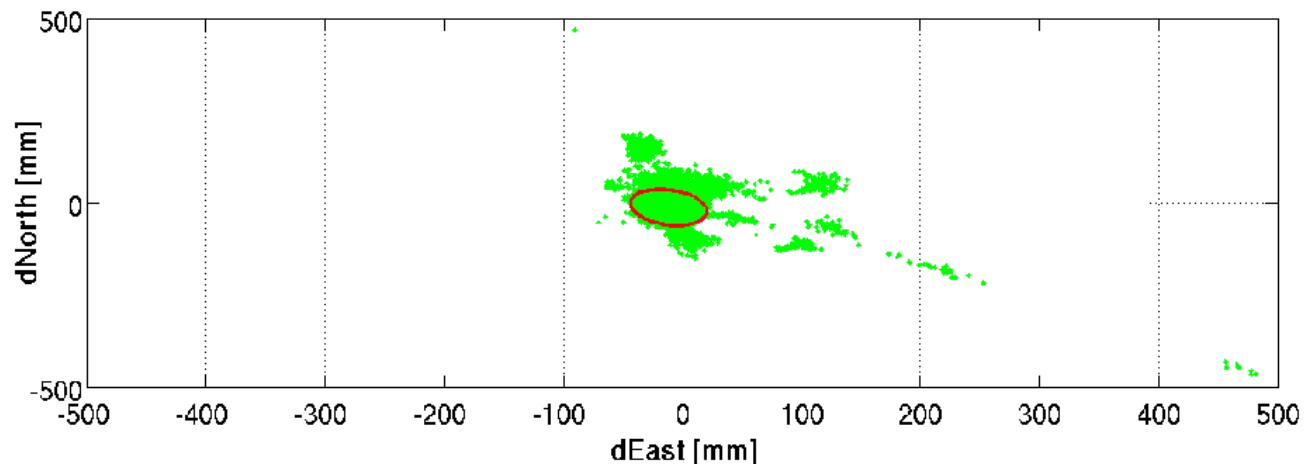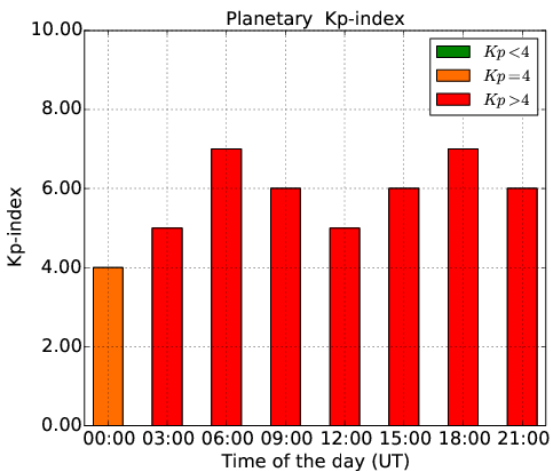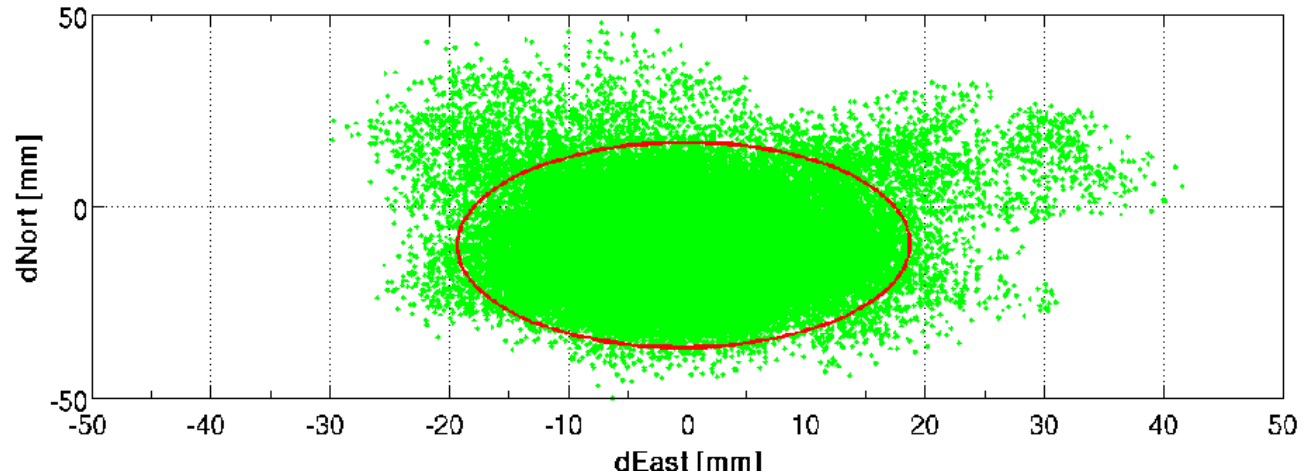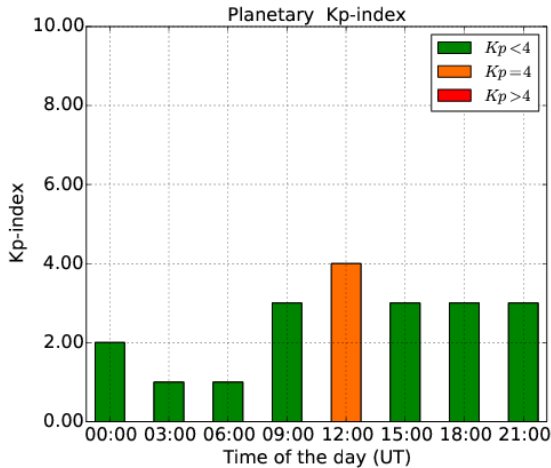
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ESWW / Liège, Belgium / 17-21nd November 2014

Problem statement:
Planetary Kp-index (left) and East, North residua [m];
DOY187 (upper) and DOY 197, (below); data LCKI –(Kiruna/Sweden).

## PARAMETERS DESCRIBING THE QUALITY OF RAW OBSERVATIONS:

- number of cycle slips detected,
- number of not-correctable cycle slips,
- number of loss of locks of signal,
- number of single epoch gaps,
- length of connected carrier phase arcs.

PARAMETERS EVALUATING QUALITY AND ROBUSTNESS OF NAVIGATION SOLUTION:

- precision and accuracy,
- integrity,
- availability,
- confidence level and significance level,
- convergence time.

East, North residua [m] - DOY198 - perturbed conditions. - DOY187 - quiet conditions
The blue points presented residuals obtained with the first approach ("uncorrected" data).
The green one shows the results obtained from processing of "corrected and edited" observations.
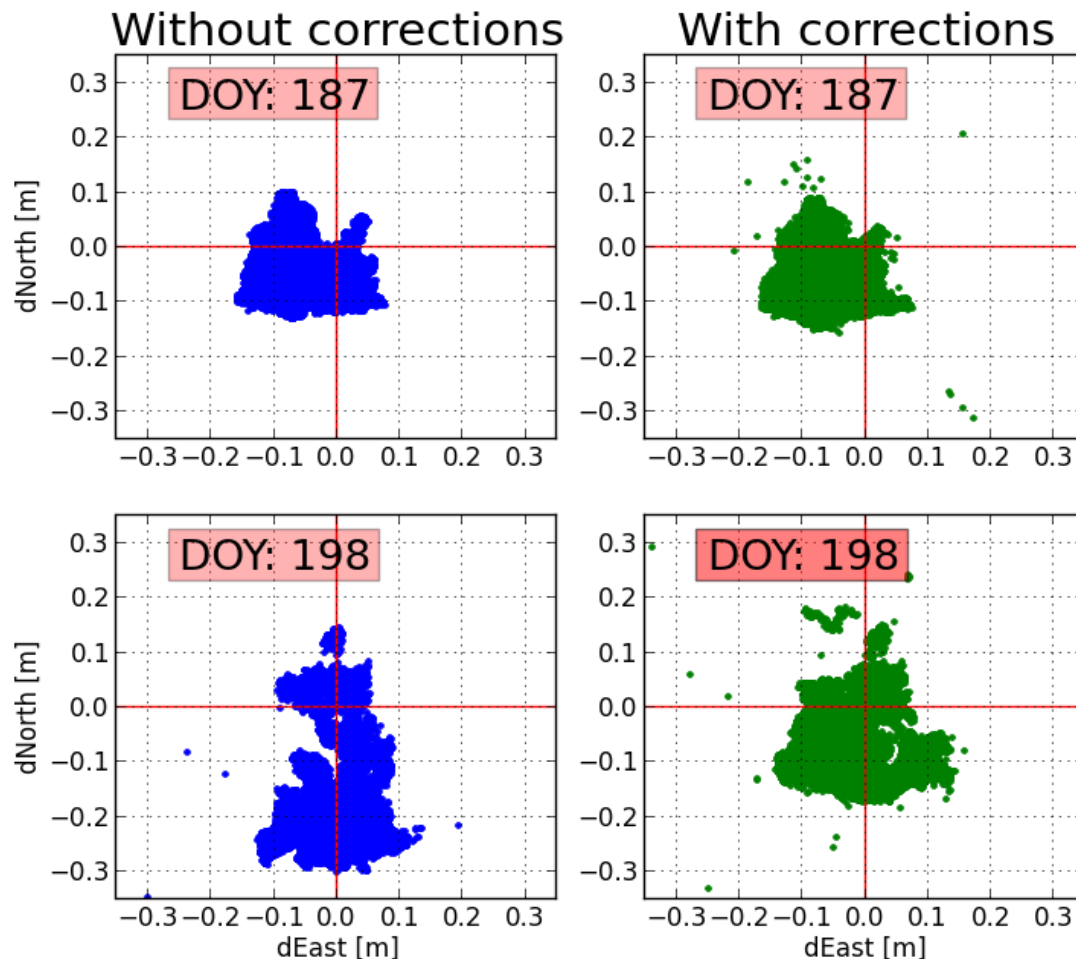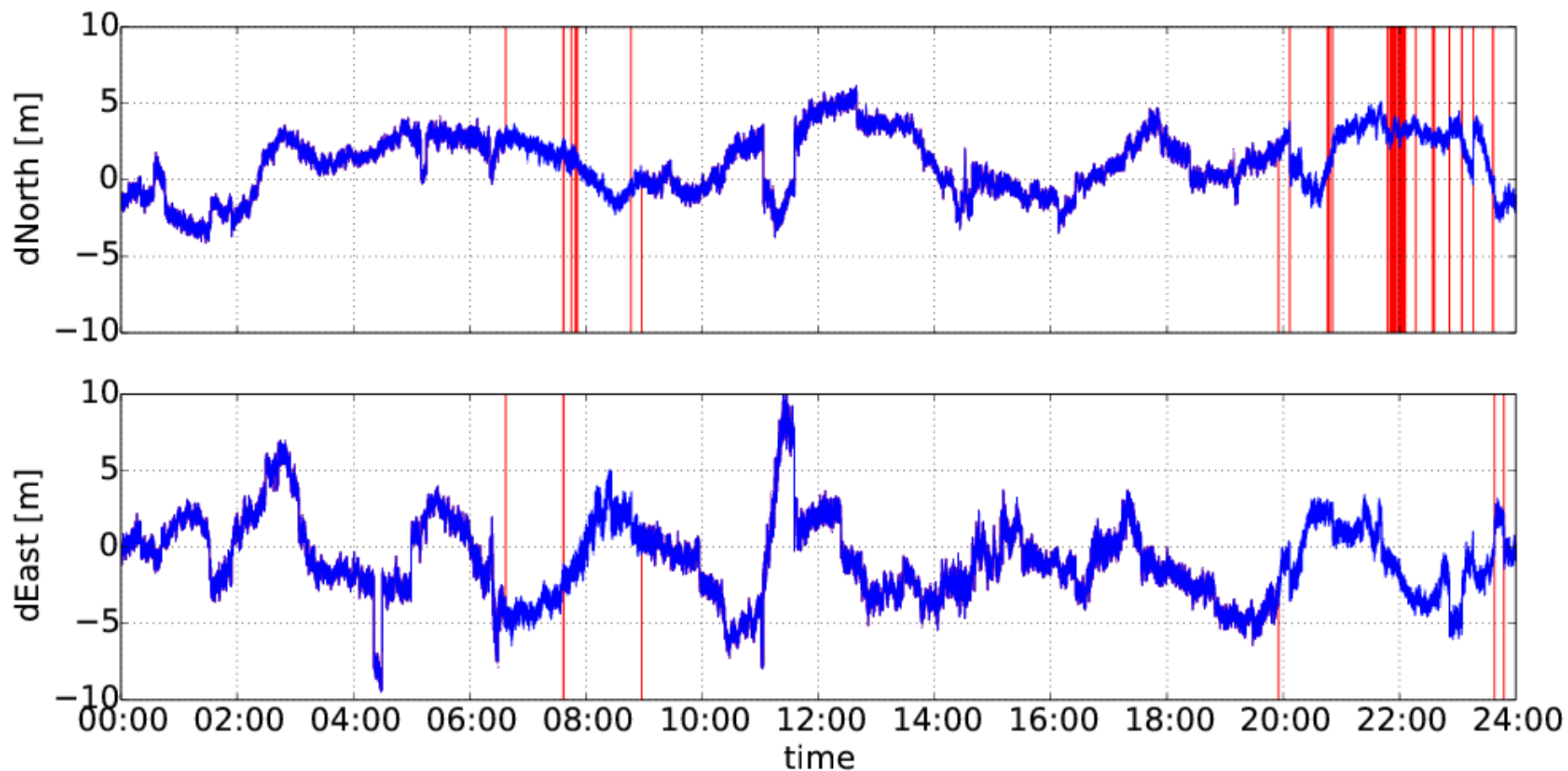
Point Positioning Solution
without RAIM (red) and with RAIM (blue),
(197DOY 2012 - perturbed ionospheric conditions)
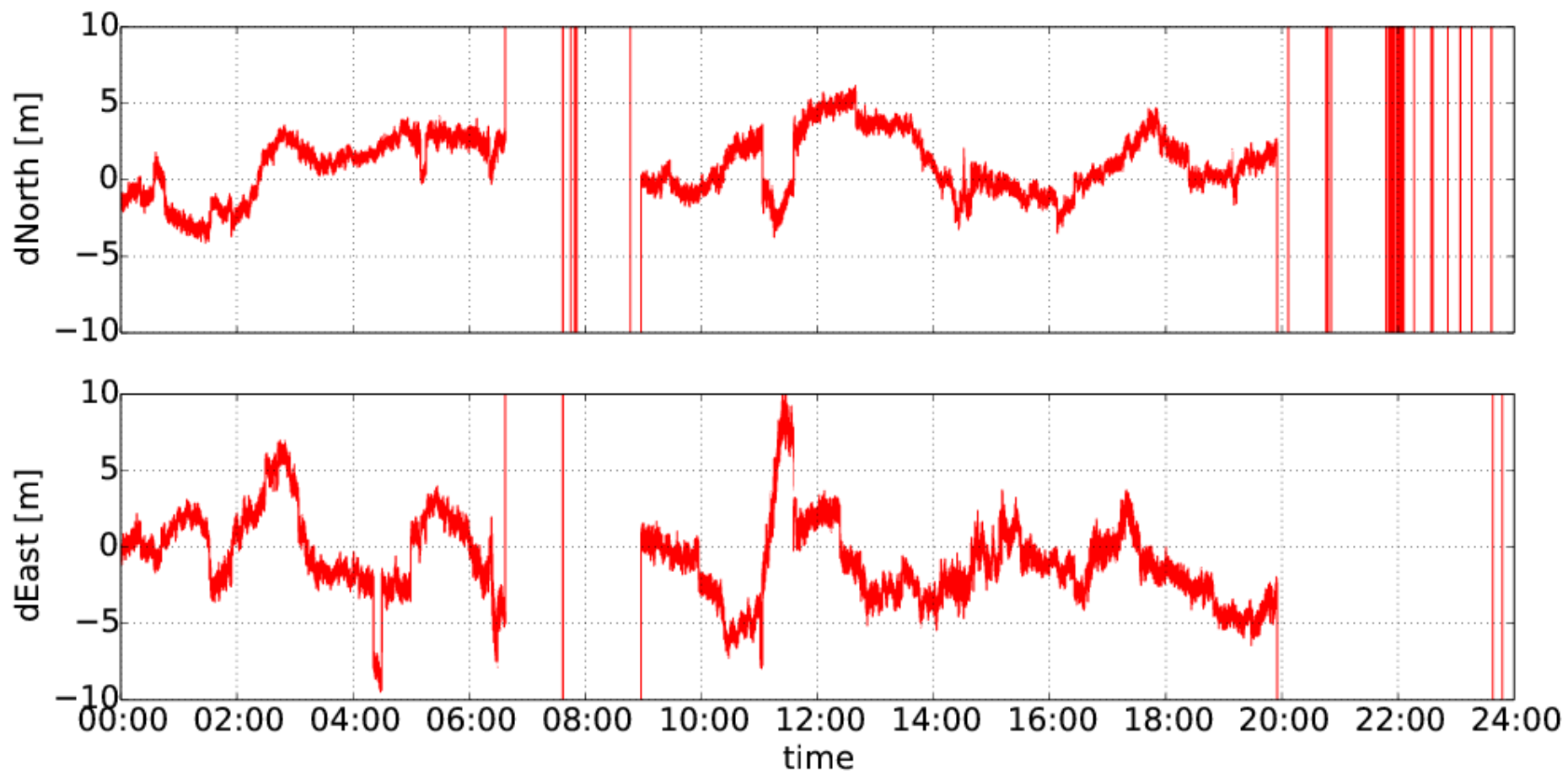
Point Positioning Solution
without RAIM (red) and **with RAIM (blue)**,
(197DOY 2012 - perturbed ionospheric conditions)

Thank you for your attention

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