NKG activities in EPN, IGEX, IGLOS …

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LANTMÄTERIET

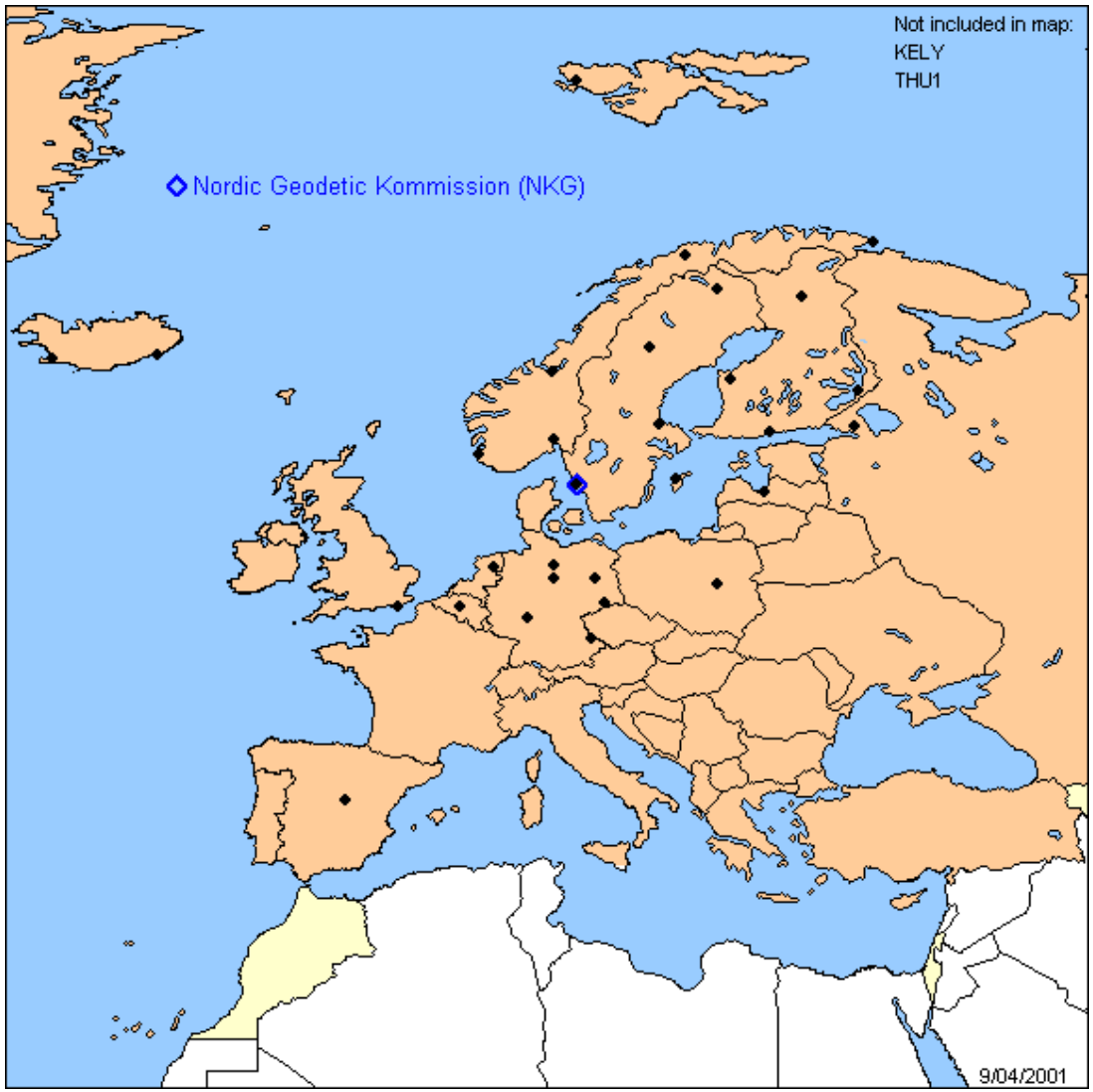
NKG EPN-data

NKG data stream started in October 1996

- 4 stations in Finland operated by FGI
- 5 stations in Sweden operated by LMV (NLS)
- 6 stations in Norway operated by SK (NMA)
- Baltic countries (Riga, Svetloe, Vilnius)

All data available at igs.ifag.de (but some with delay)

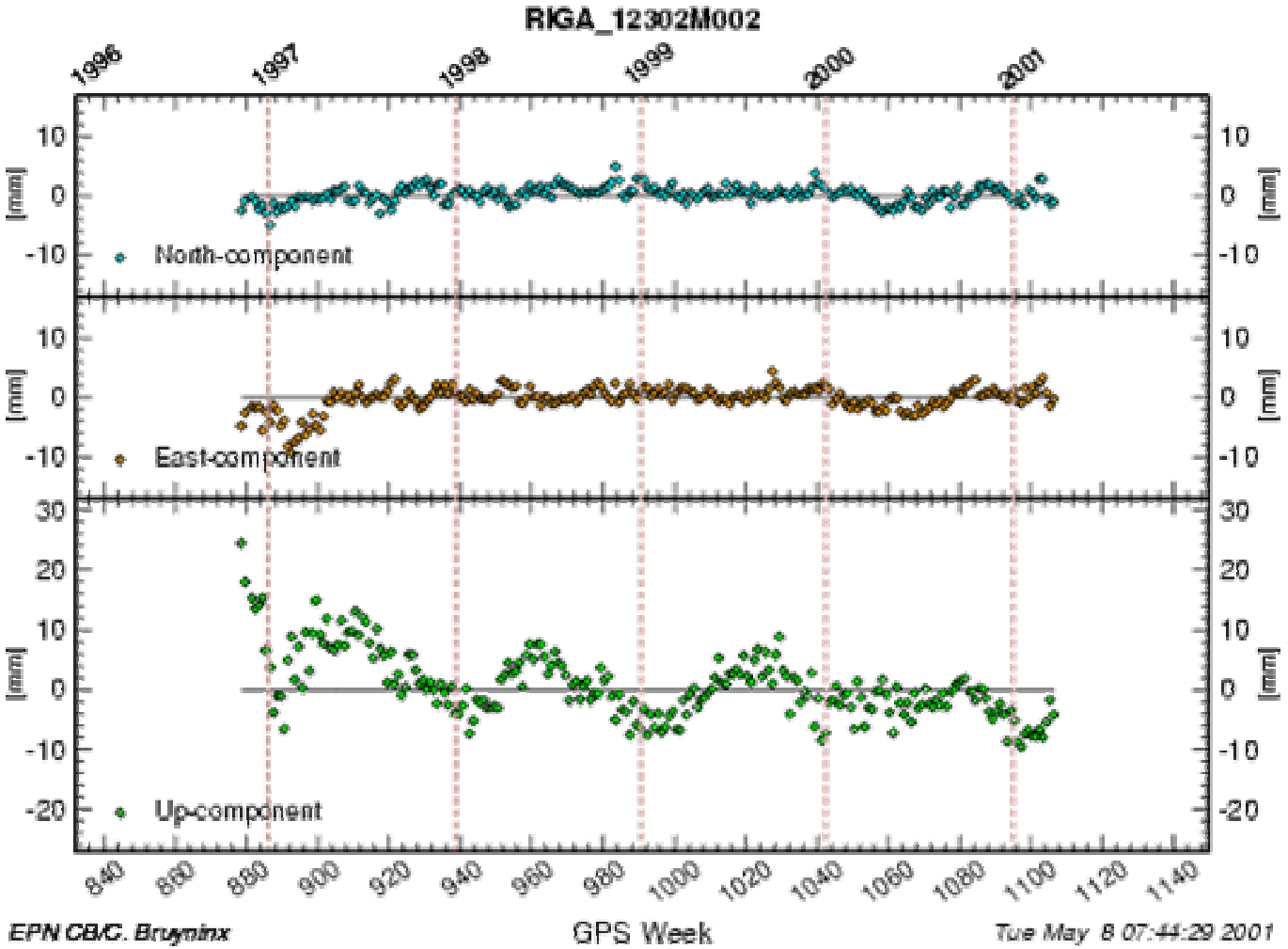
EPN stations analysed by NKG



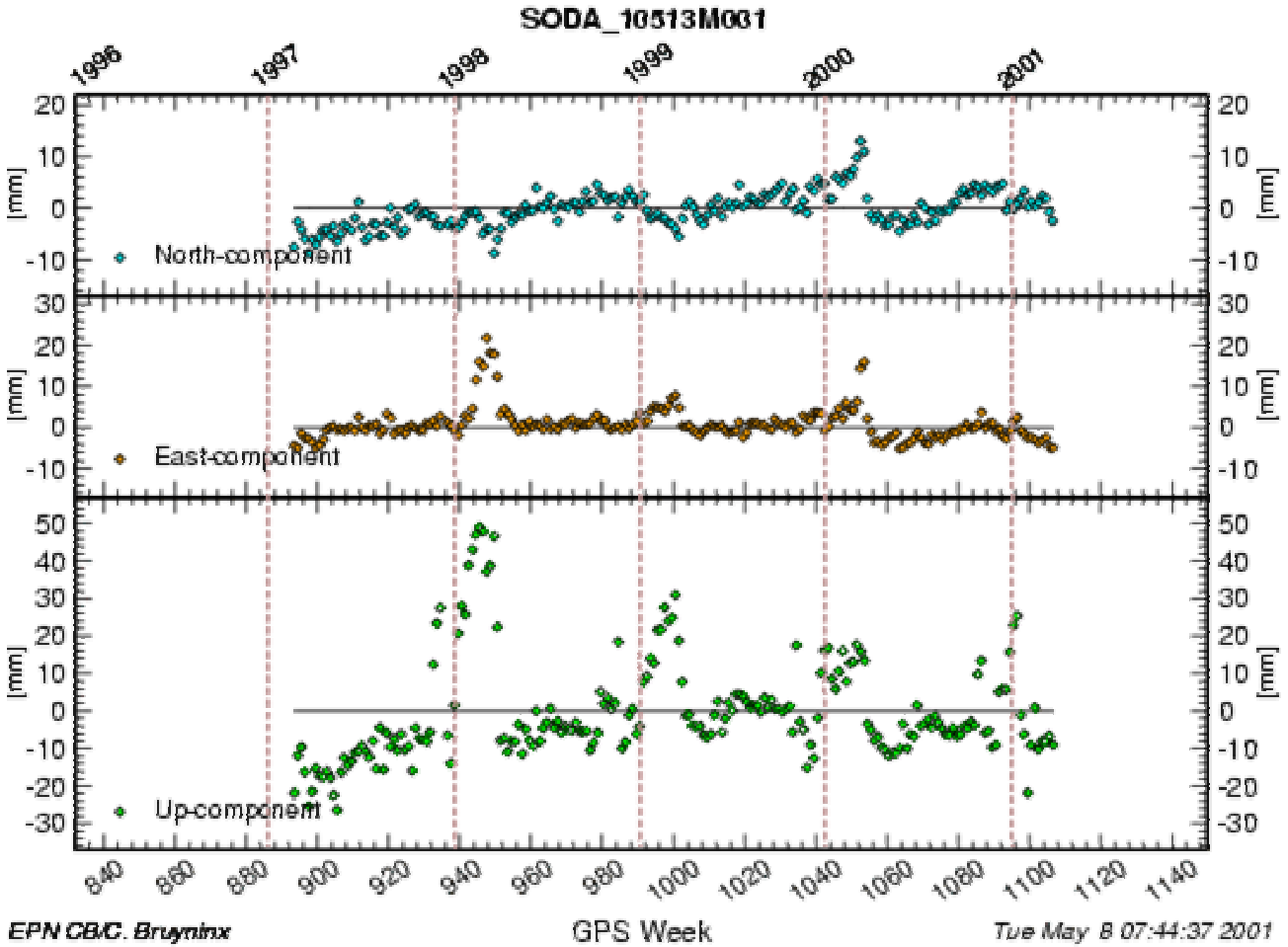
NKG EPN-data analysis

- NKG data analysis started in October 1996
- Includes in total 33 stations but 1 (VLNS) is currently not active
- Basic processing strategy
  - Data from the BKG-archive except for NKG-stations
  - IGS Final orbits and EOP products (combined)
  - Ocean Loading coefficients from Hans-Georg
  - 15 degr. elevation cut-off (also 20, 10 are run since 1996)
  - Saastamoinen apriori trop.models, no gradients (but in the other solutions). Niell mapping function.
  - Ambiguity fixing (~90% with a few exceptions)
  - Daily processing but combined to weekly solutions

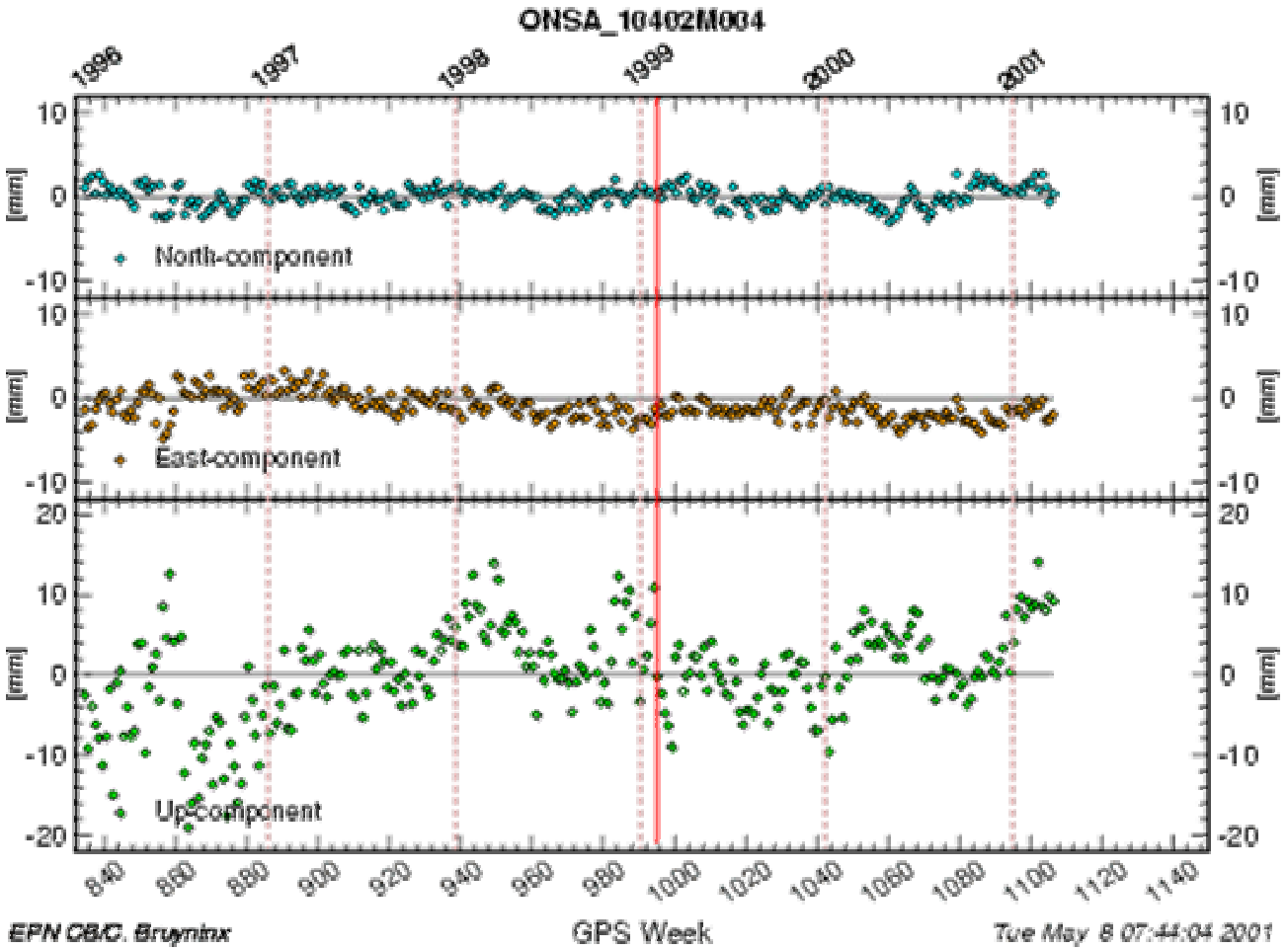
Riga (Latvia)
Time series 1996-2001



Sodankylä (Finland)
Time Series 1996-2001

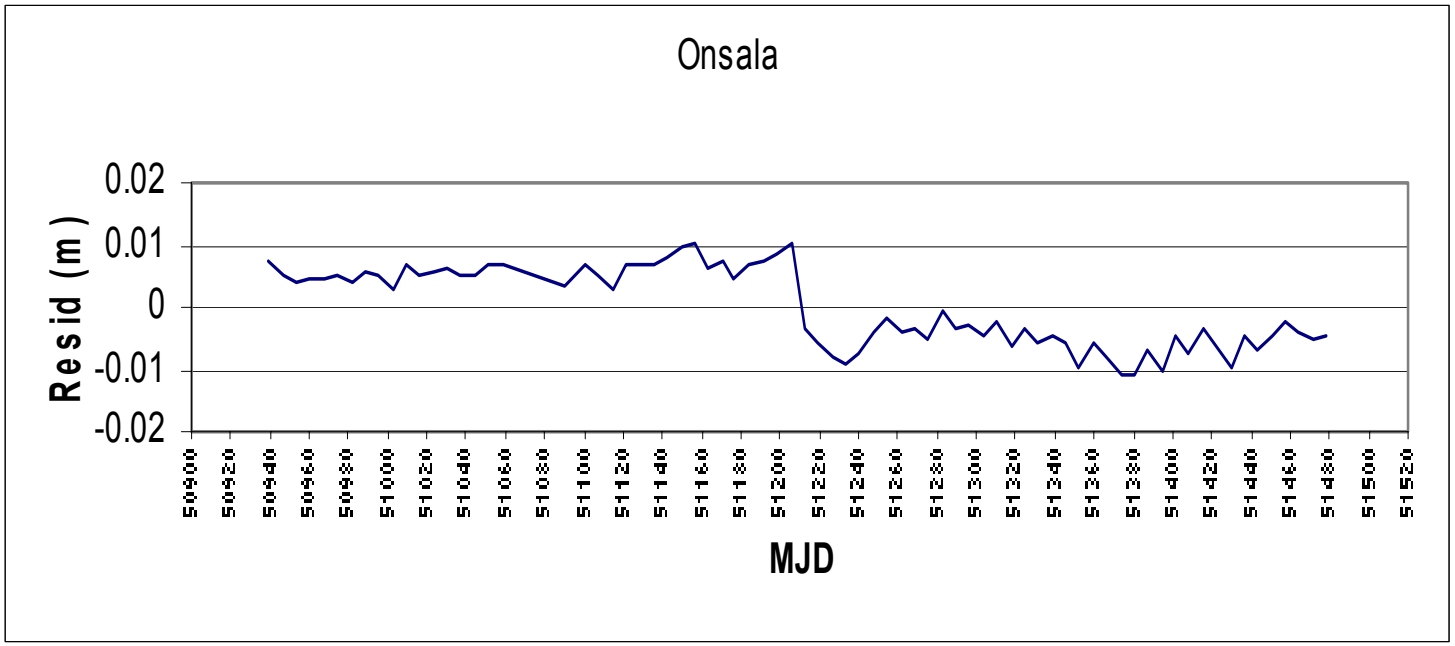


Onsala (Sweden)
Time Series 1996-2001



time series from SWEPOS processing

GWEEK 995 ± 38 weeks, May 1998-October 1999

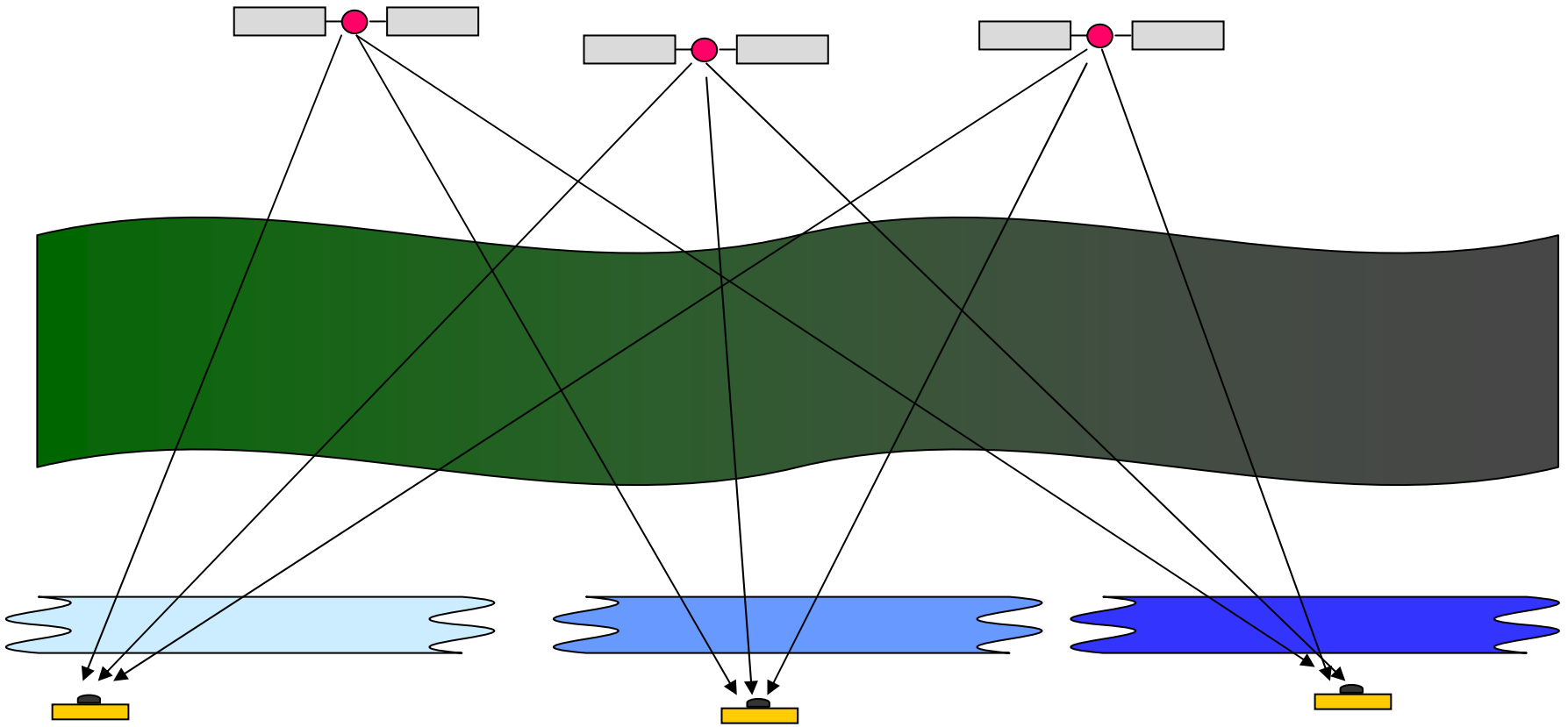


EPN and IGLOS - plans

- Activate the station in Vilnius (VLNS), Lithuania. New receiver will be sent from Onsala (Ashtech Z12)
- Change receiver in Svetloe (SVTL), Russia. New receiver will be sent from Onsala (TurboRogue)
- New stations in Borås (SPT0), Sweden (National time and frequency laboratory)
- 3 new stations in Denmark (Copenhagen, Vejle, Aalborg)
- New stations in Irbene (Latvia) and Suurupi (Estonia) ???

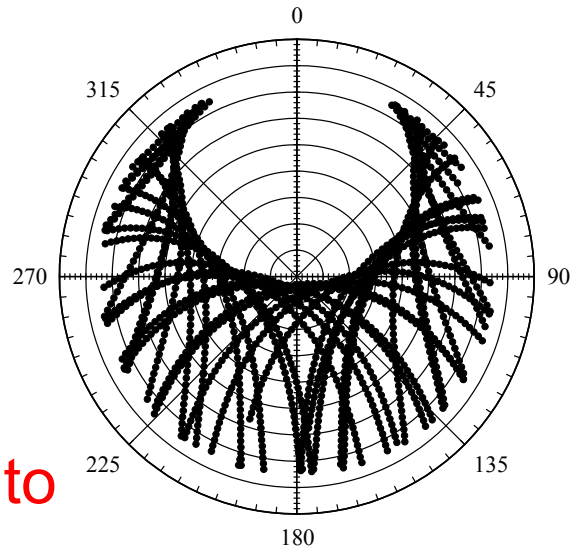
- IGLOS: Proposal to continue the analysis of a regional ”EPN-like” network with e.g. dual-frequency receivers in Sweden (6 stations = EUREF sites)

Motivation for our participation in IGEX-98 and IGLOS

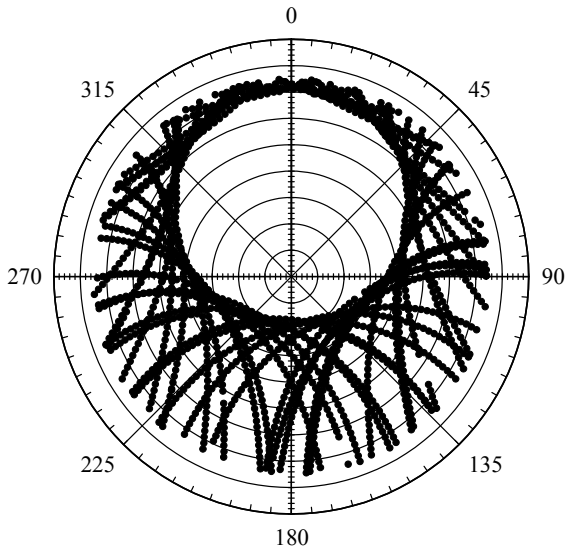


Satellite Geometry

- GPS satellites not always well distributed
- In some parts of the sky no GPS satellites are available ever
- Cause problems when trying to estimate atmospheric parameters
- Using combined GPS/GLONASS results in better geometry and more



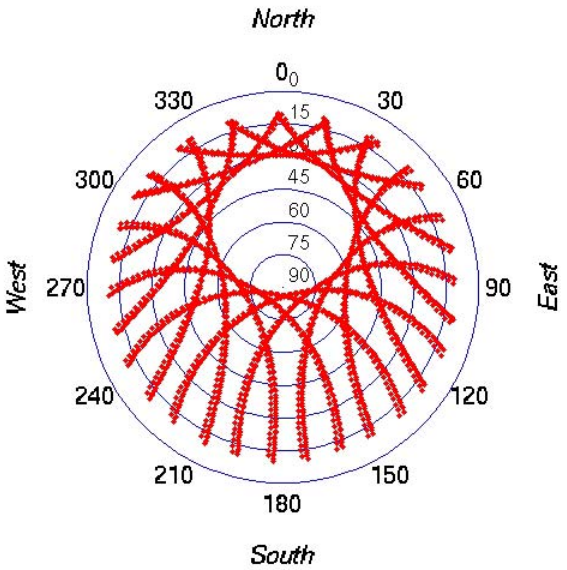
Borås: Lat. 57.7°
Onsala



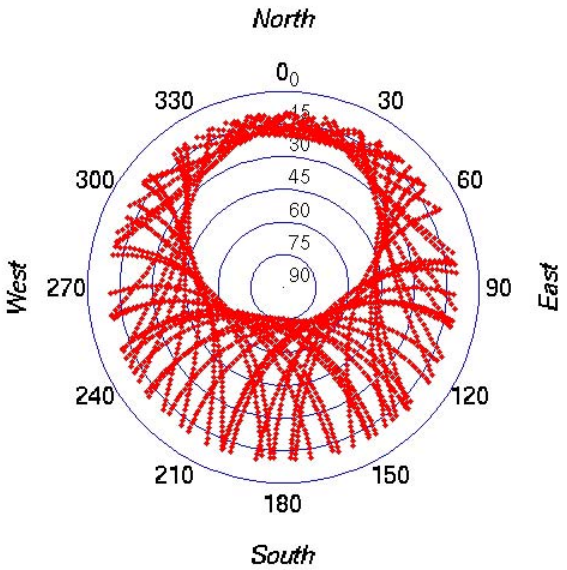
Kiruna: Lat. 67.9°
Kiruna

GNSS Satellite Geometry

Kiruna, SWEDEN



GLONASS



GPS

NKG plans

NEWS FROM 1 JUNE 2001!!!

- Lotti Jivall at National Land Survey responsible for the NKG daily processing and the NKG Analysis Center official EPN contact.
- Jan Johansson at Onsala Space Observatory responsible for hourly processing for EUREF and COST-716, Real time processing (in-house software), and IGLOS activities.