

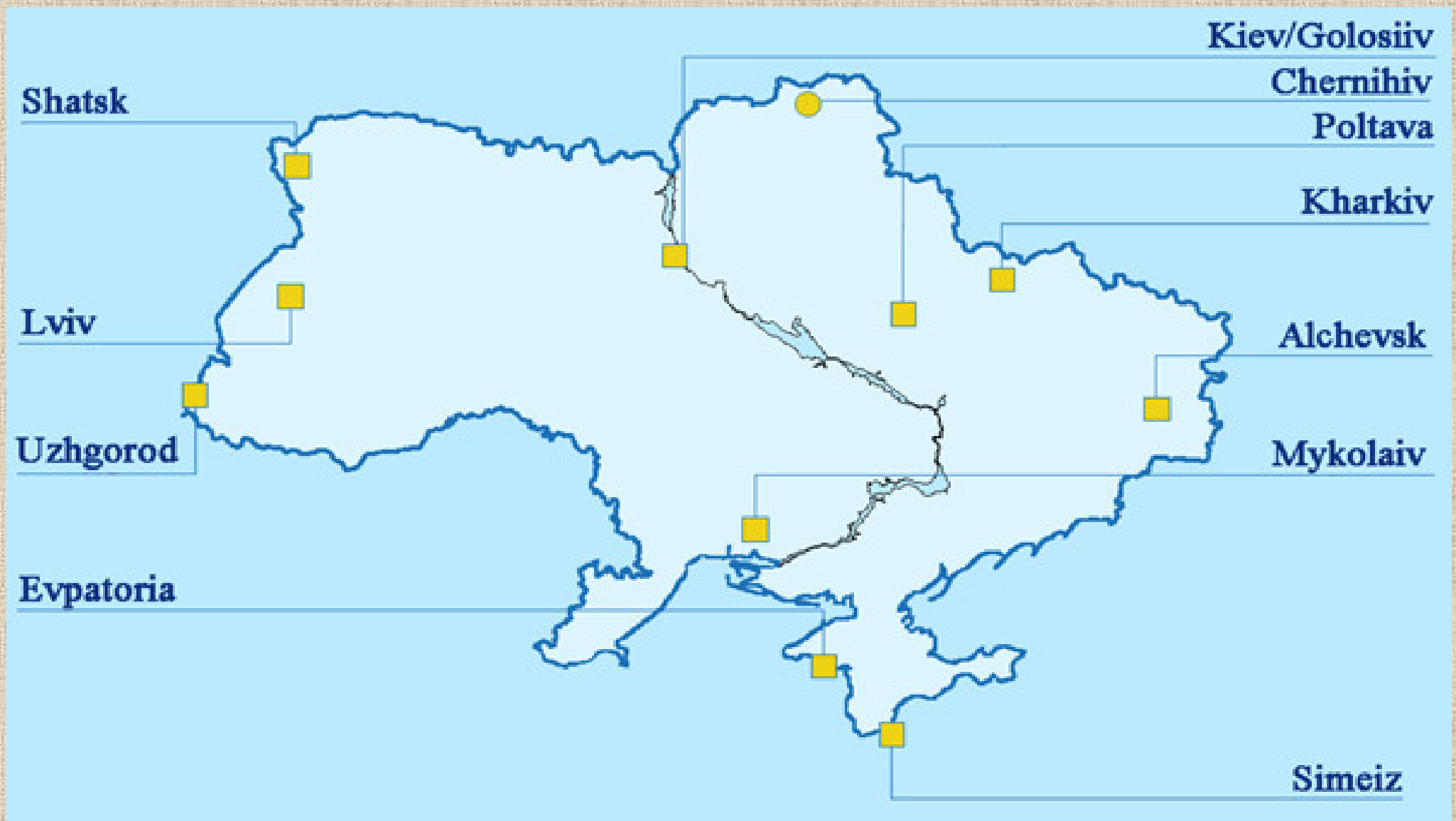
# Current status of Simeiz-1873

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simeiz-1873

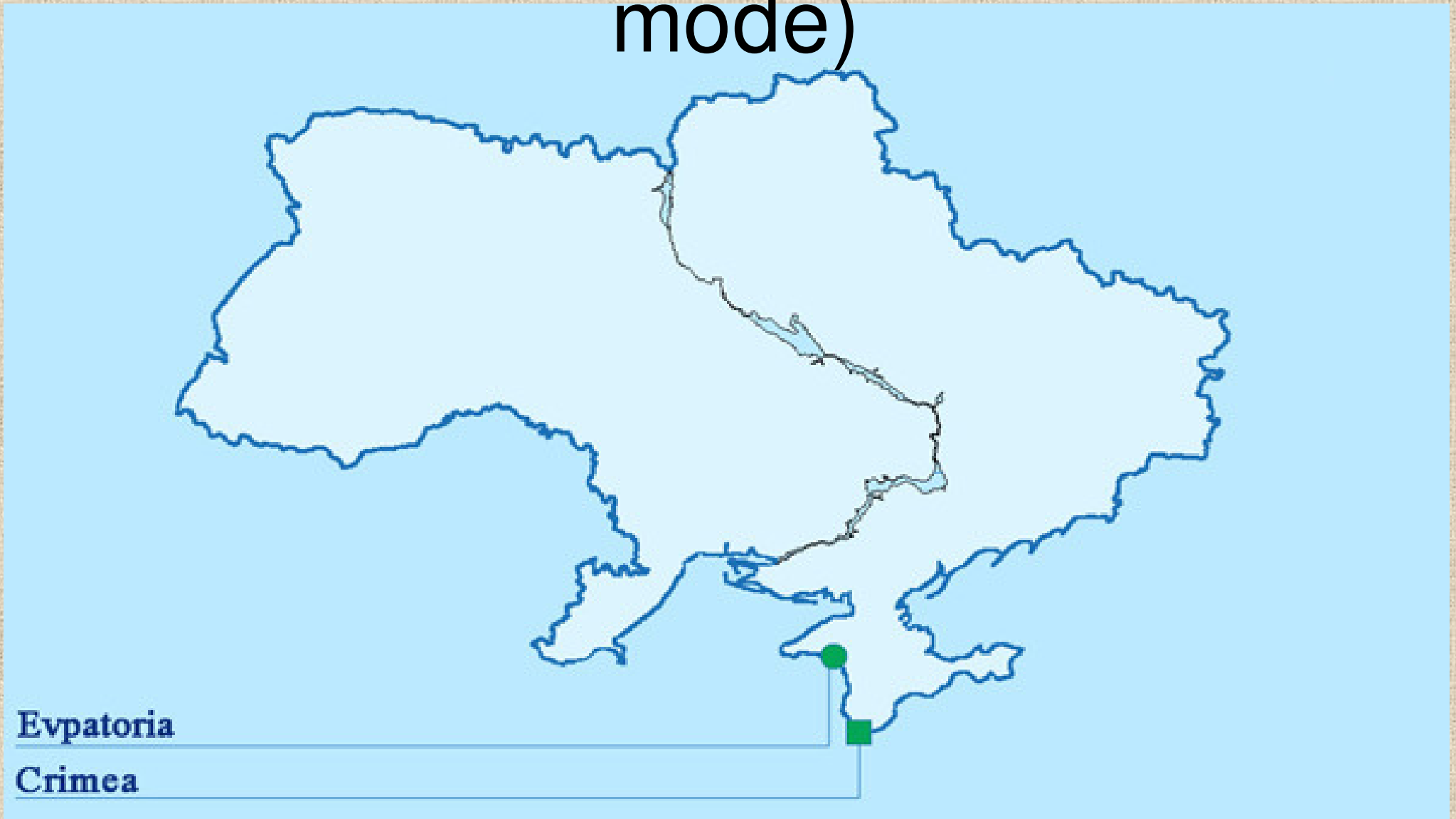
# Ukrainian GPS network (11 station)



# Ukrainian SLR network (4 stations)



# Ukrainian VLBI network (1 station in VLBI, and 1 station in experimental mode)





# Collocation stations



From Simeiz-1873:

- to GPS 6m
- to VLBI (22 meters mirror) about 2 km,
- to Kadcively-1893 about 3.5 km

# SLR SIMEIZ-1873



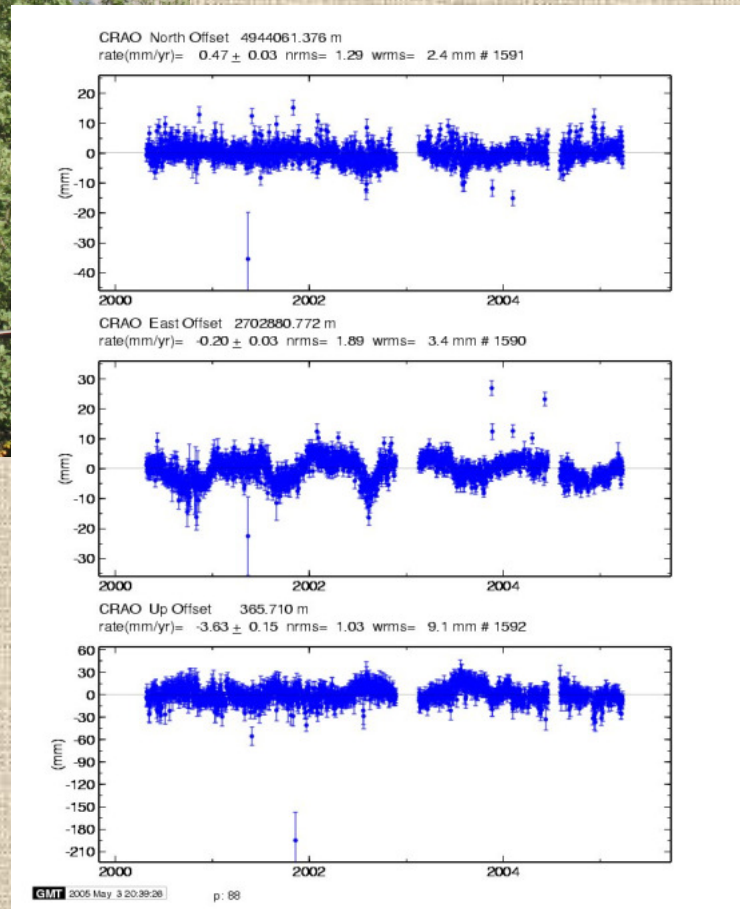
- **Work from 1989**
- **Main modernisation from 2000**
- **GPS from 2000**
- **GPS registered in IGS in 2004**



# IGS GPS station "CRAO"



Start proceeding GPS data by **GAMIT/GLOBK** software





# Software



Our software work under [Linux](#) with Real Time extension

Low level modules written on a [C](#), middle level server written on a [C++](#), user interface (see in picture) written on a [JAVA](#)

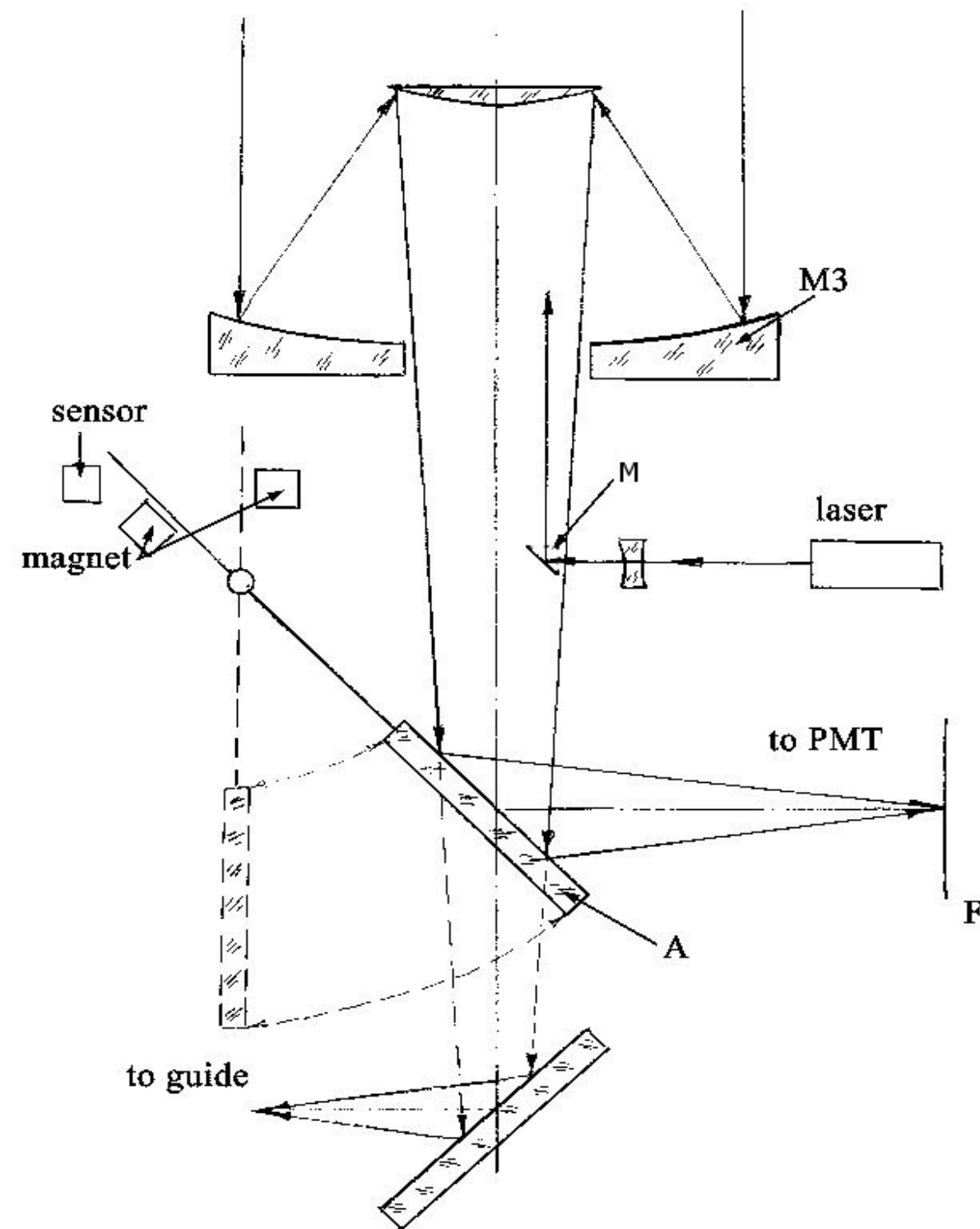
Ephemerides and proceeding software with [full CPF support](#) written on a F77



# New optics way

We were modified optics way in telescope to better splitting in/out path.

As a result amount of returns from high satellites has increased.





# Telescope view

- 1 meters diameter
- 3 grad/sec speed
- Have electro optical multiplayer
- Have two CCD camera on main guide and on a additional too.
- On a board have **two new box** of engine carrying system



# Laser



- 350 ps impulse

- 5Hz

- Nd:YAG, 2 amplifiers

## Problems

- 18 years old

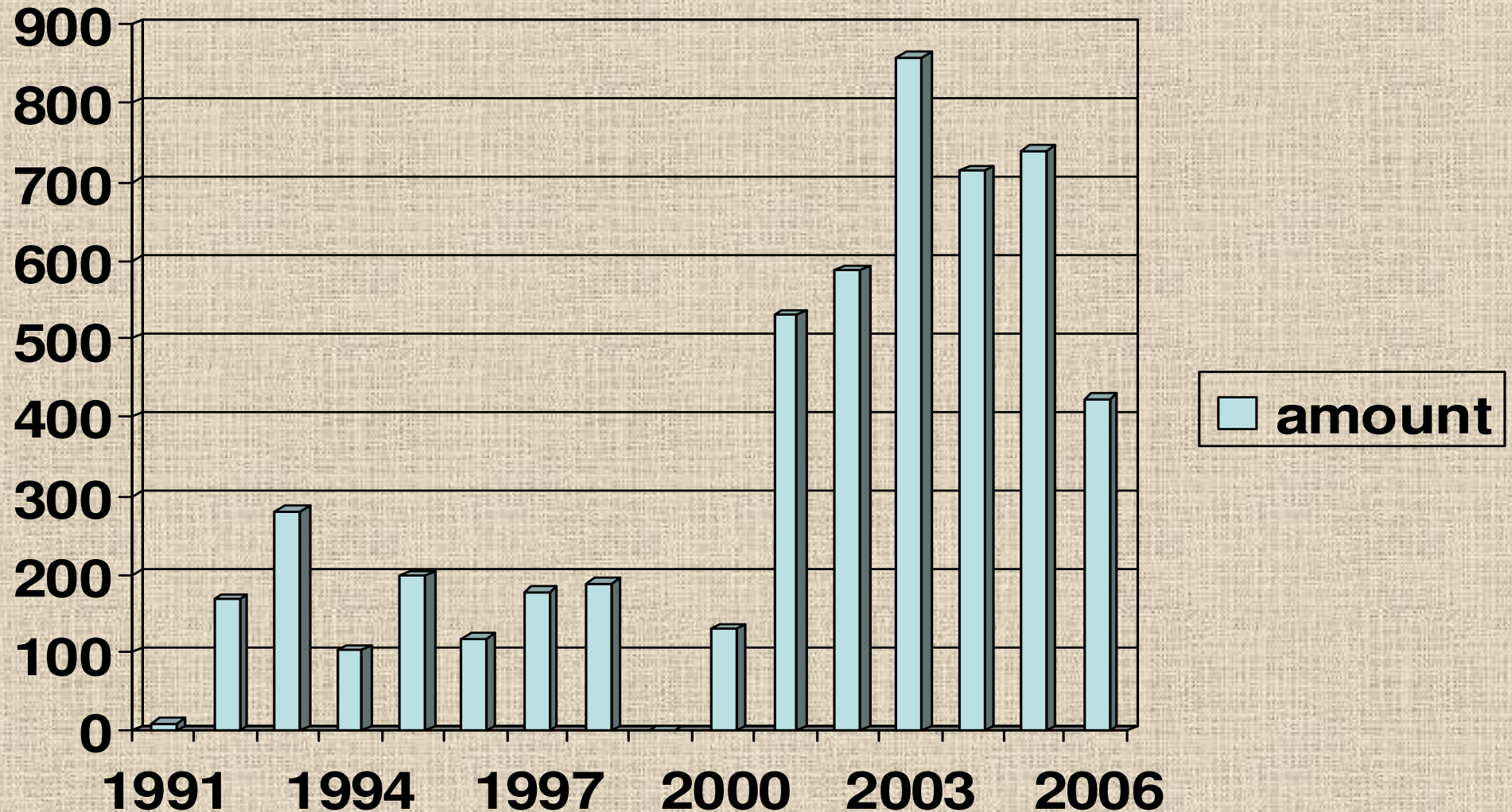
- thermal effects

- Pulse profile instabilities

- oscillators failures (loss of alignments til by HOUR!!!)

- Degradation of optic surfaces

# Ranging amount by years

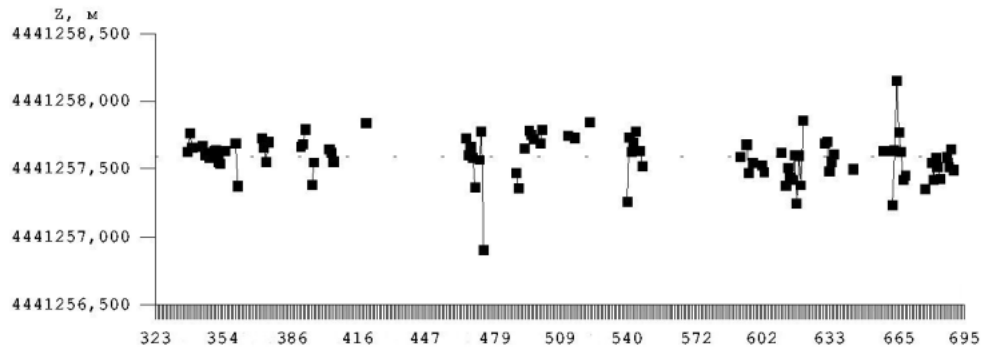
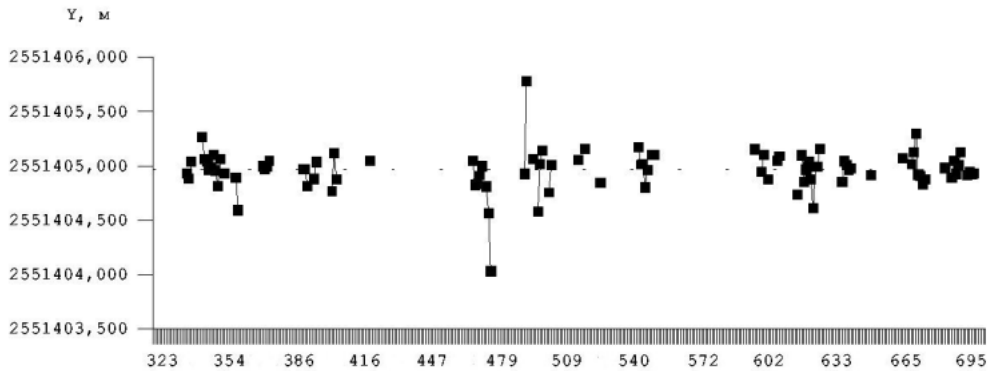
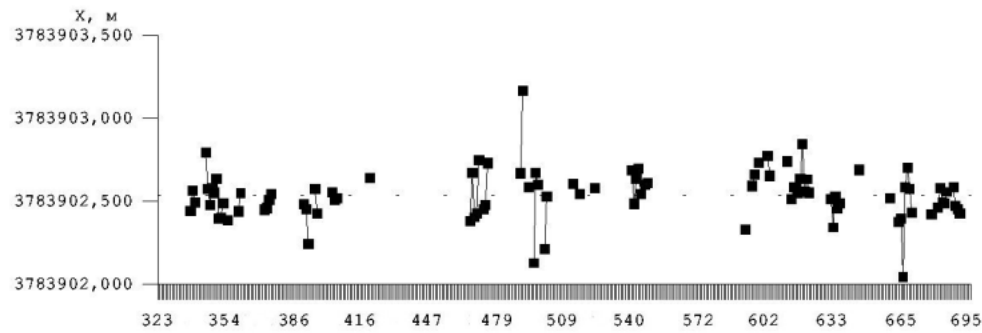




# Variation by 15-day periods

Uses data from 1989/01/05 to 2004/11/11. ( 15 years )

For Simeiz was used 3625 rangings of LAGEOS-1 and 2480 rangings of LAGEOS-2.



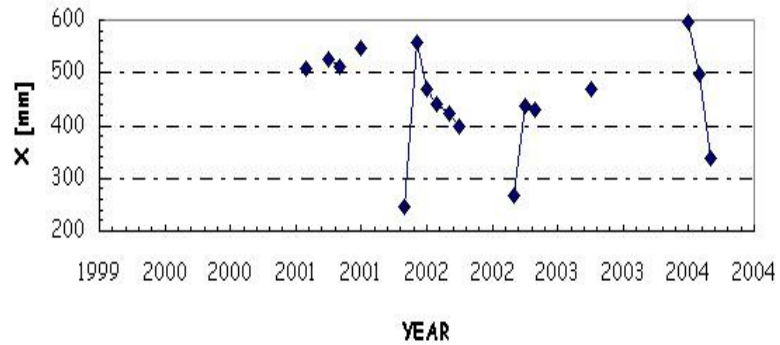
Variations of Simeiz-1873 coordinates by 15-day periods.

Result was obtained from :  
INVESTIGATION OF THE STABILITY OF THE  
UKRAINIAN SLR  
NETWORK, Bolotina O., Medvedskij M.-

# Simeiz shift by $X, Y, Z$

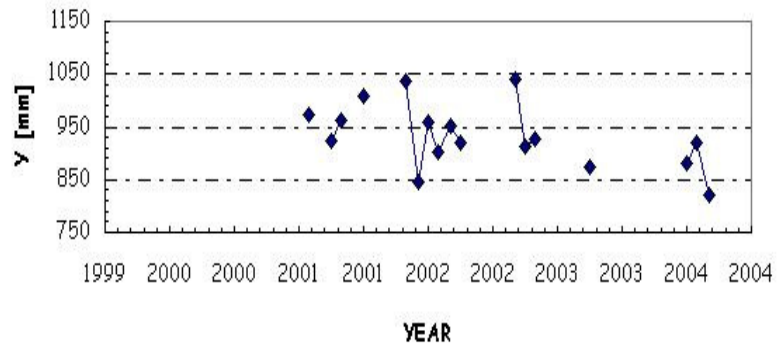
This similar result was  
obtained by Stanislaw  
Schillak for period  
1999-2004

X



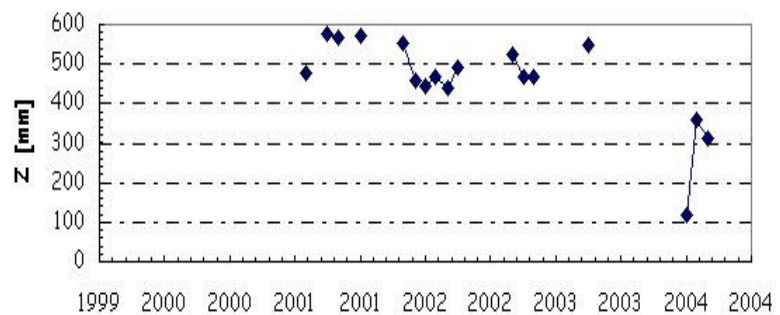
SIMEIZ - 1873

Y



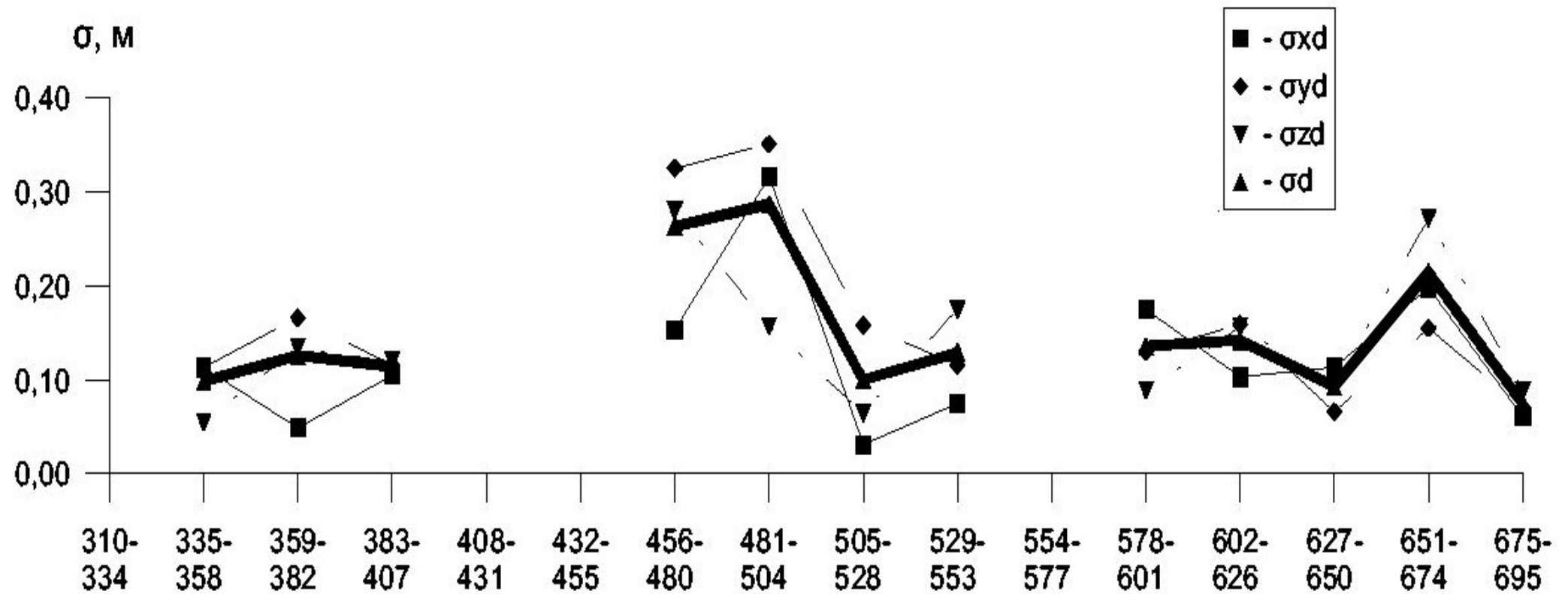
SIMEIZ - 1873

Z





# Deviation



# Conclusion

- Our perspective tasks are:
  - Increase stabilities and performance
  - Proceed SLR data on a station
  - Proceed GPS data on a station
  - Taking in mind nearest VLBI, compare and control GPS, SLR, VLBI techniques.

*THANKS for ALL!*

*Lots of THANKS for Local Organising Committee!*