# Jupiter: Determination of GRS length from jupos.org data
by Grischa Hahn

With WinJUPOS version 10.1.5 it is very simple to extract object lengths from the numerous observations saved in the jupos.org data collection.

The following example shows this for the GRS length:

1) Download the latest "Positional data files" from www.jupos.org
2) Start WinJUPOS with the module *Analysis – Selection*
3) Add all C.M.T. and Measurements files from step (1) to your "Data files"
4) Click on "Objects" and define object "RS" (= all object positions from GRS)
5) Choose "**P-F distance (= longitude value)**" for "P-F averaging"
6) Set "Maximum distance P-F" to 50°.
7) Choose Selection file name and start Selection
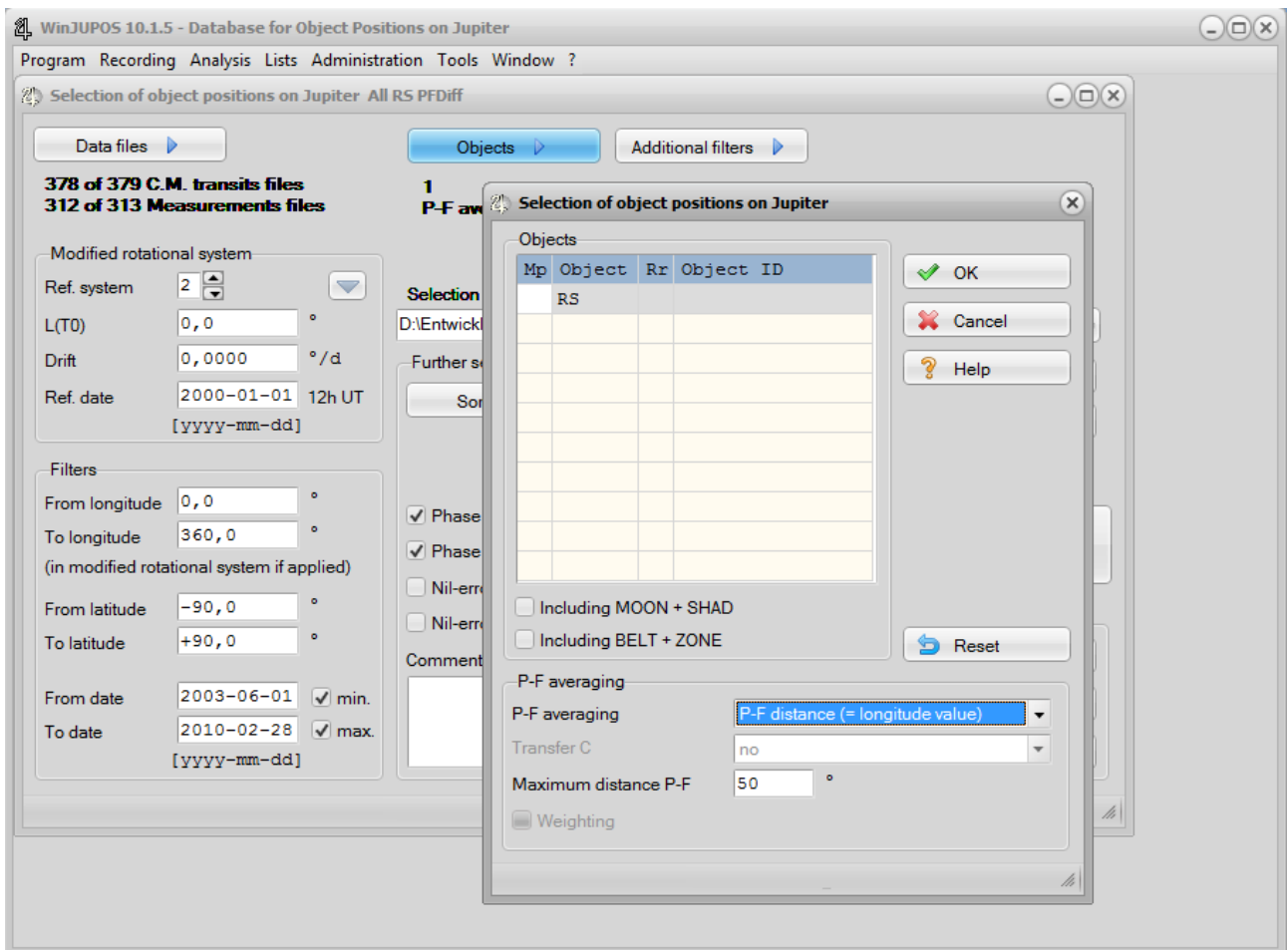
The length of an object is the longitude difference between its P and F ends. This value is codes as longitude value (L1, L2, L3) in the Selection file (*.wse).

In a next step you can compute averages of the object length with the module "*Analysis – Positional averages*".

Finally create a chart of these data with *"Analysis – Drift charts"*:
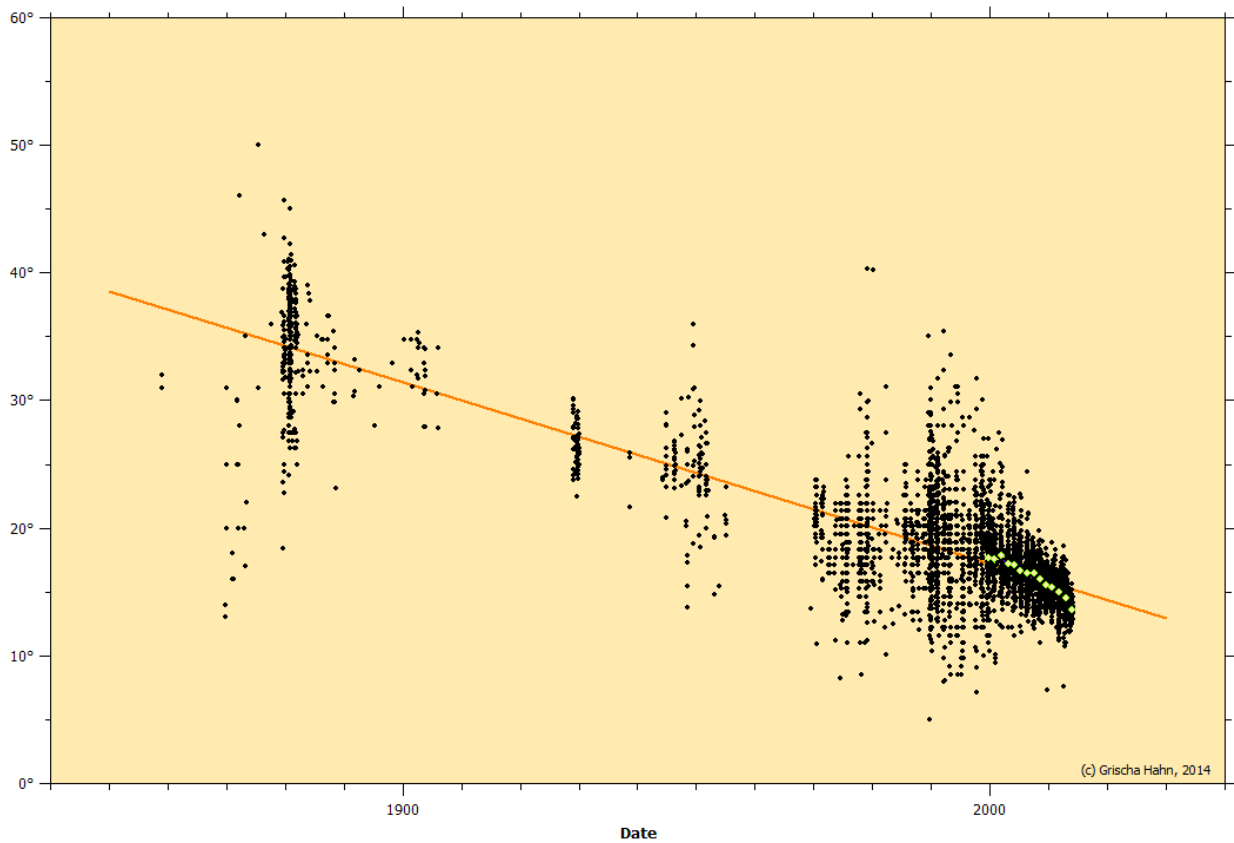
The orange line shows the average shrinkage of GRS over the last 160 years of about -1.4° / 10 years.

For further analysis you can also export the data to TXT/CSV or DBF.

Dresden, March 29, 2014