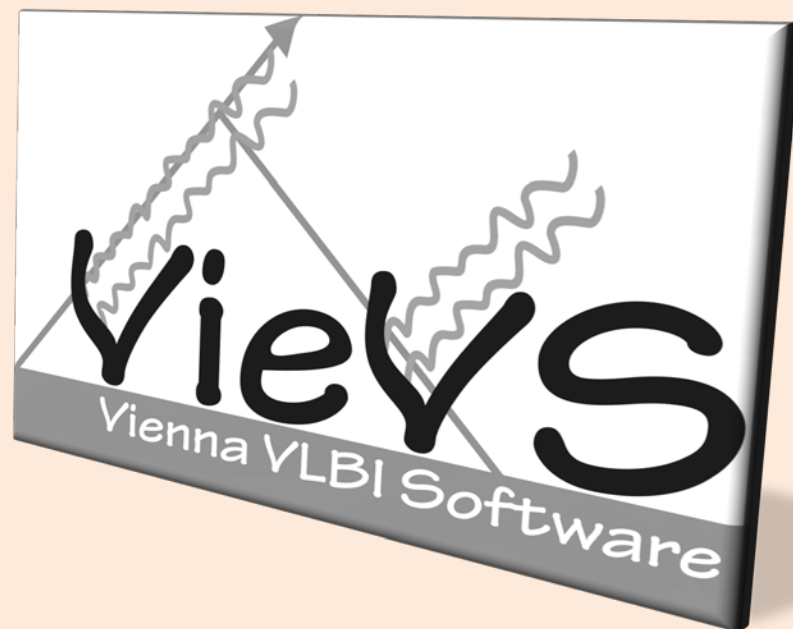


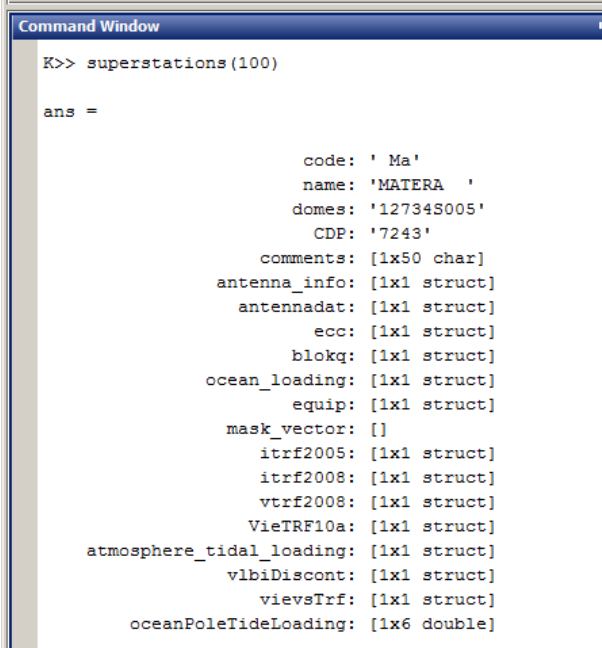
Superstation file

Matthias Madzak



What's that?

- .mat file containing all static station-dependent data
 - TRF
 - Loading data
 - Discontinuities
 - Eccentricities
 - Antenna information
 - ...



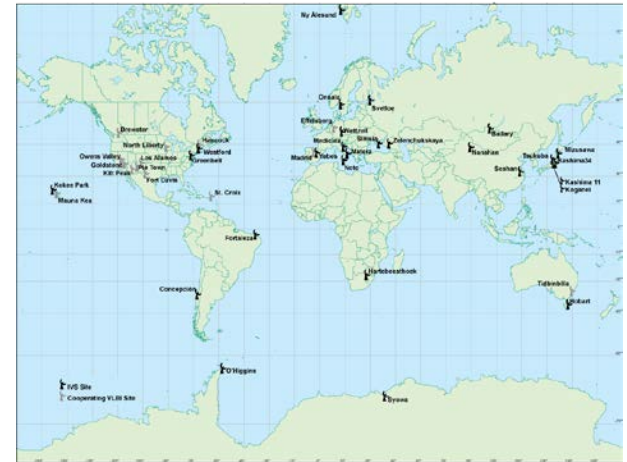
```
Command Window
K>> superstations(100)

ans =

        code: 'Ma'
        name: 'MATERA '
        domes: '12734S005'
         CDP: '7243'
  comments: [1x50 char]
 antenna_info: [1x1 struct]
  antennadat: [1x1 struct]
         ecc: [1x1 struct]
        blokq: [1x1 struct]
ocean_loading: [1x1 struct]
         equip: [1x1 struct]
  mask_vector: []
      itr2005: [1x1 struct]
      itr2008: [1x1 struct]
      vtrf2008: [1x1 struct]
    VieTRF10a: [1x1 struct]
atmosphere_tidal_loading: [1x1 struct]
      vlbiDiscont: [1x1 struct]
        vievsTrf: [1x1 struct]
oceanPoleTideLoading: [1x6 double]
```

Reference frames

- Following frames can be chosen in VieVS
 - ITRF2005
 - ITRF2008
 - VTRF2008
 - VieTRF10a
 - viewsTrf (= backup)
 - User own TRF



Loading

- Ocean tidal loading:
 - FES2004, GOT00, EOT08a, TPXO72, AG06
 - User own
- Ocean pole tide loading
 - User own
- Atmosphere tide loading
 - GSFC Group
 - T. Van Dam
 - User own

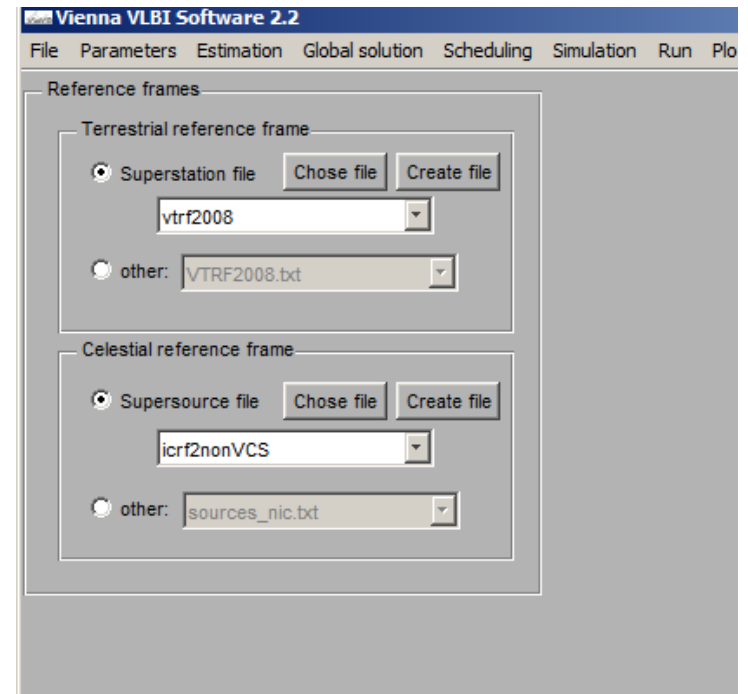
Additional information

- Antenna.dat
- Antenna-info.txt
- Eccentricities
- Blokq.dat
- Equipment
- Horizon mask
- Discontinuities



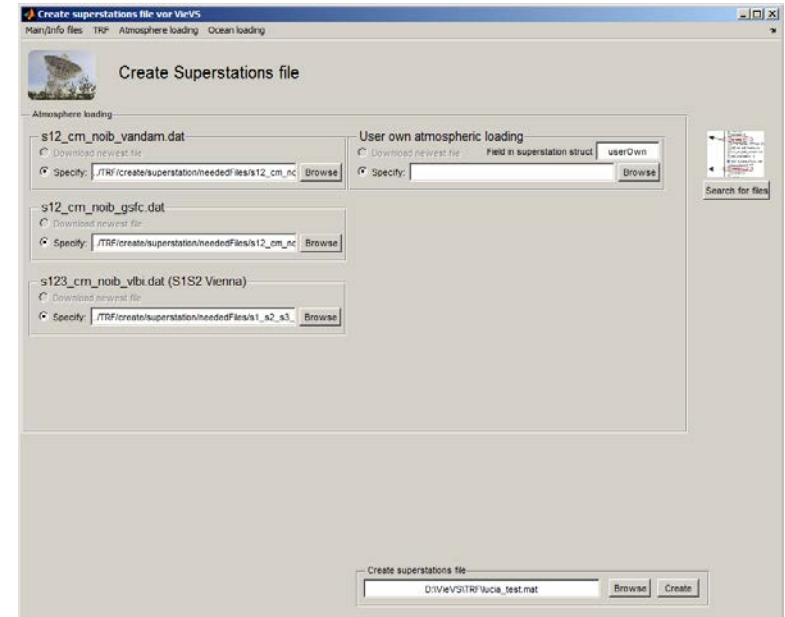
Create superstation file

- From VieVS: Parameters – Reference frames. Button „Create file“



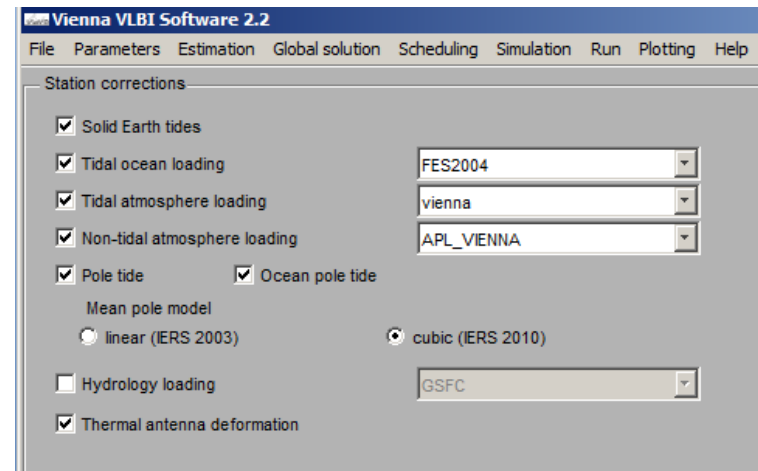
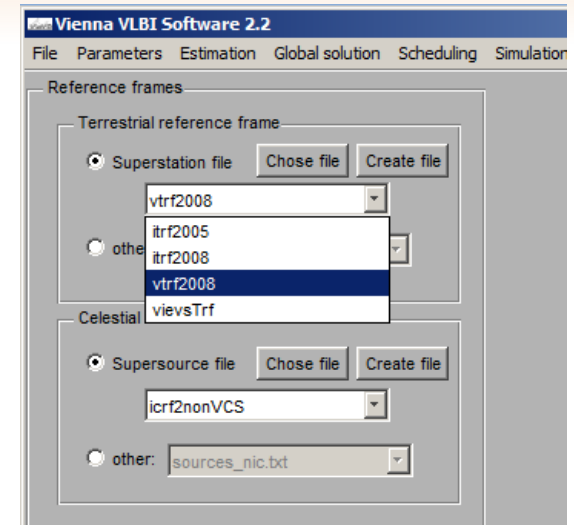
Create superstation file

- Input files are text files
 - „Search for files“ button
 - Download automatically
 - Define manually
- Define output („Browse“ or manually)
- Click create to create the .mat file



Use in VieVS

- „superstation.mat“ should be in /TRF/ (or „Chose file“)
- TRF can be selected in: Parameters – Reference frames
- Tidal loading in: Parameters – Station models



Earthquake – what to do?

1. End break in all TRF for station
2. New line for station in viewsTRF
 1. Good new coordinates → 1 at end of line
 2. No good coordinates → 0 at end of line

→ Datum station yes|no (1 only possible when viewsTrf is chosen, if official TRF is chosen (e.g. VTRF2008): never datum station!
3. Create new superstation file

New station – what to do?

1. Write coordinates to viewsTrf (=backup) & ns_codes
2. Ocean tidal loading
 - Create superstation file to get station list
 - <http://host.oso.chalmers.se/loading/>
 - Add to text file and select in superstation GUI

```
//Stations 201 - 214 (if coords available) for tidal ocean loading
// -> http://froste.oso.chalmers.se/loading//
//Name of station | Longitude (deg) | Latitude (deg) | Height (m)
//Name of station | X (m) | Y (m) | Z (m)
WHTHORSE | -2215213.085000 | -2209260.867000 | 5540290.979000
WARK12M | -5115324.367000 | 477843.317000 | -3767192.871000
WETTZELL | 4075539.757000 | 931735.399000 | 4801629.449000
VLA | -1601185.305000 | -5041977.457000 | 3554875.918000
VLA-N8 | -1601147.743000 | -5041733.502000 | 3555235.768000
YAKATAGA | -2529744.482000 | -1942090.876000 | 5505028.261000
YEBES | 4848780.217000 | -261701.922000 | 4123035.846000
YELLOWKN | -1224124.813000 | -2689530.725000 | 5633555.366000
YARRA12M | -2388896.041000 | 5043349.987000 | -3078591.019000
YLOW7296 | -1224399.733000 | -2689273.292000 | 5633620.272000
YAMAGUCH | -3502544.258000 | 3950966.397000 | 3566381.165000
YEBES40M | 4848762.100000 | -261484.500000 | 4123084.900000
YUMA | -2196778.024000 | -4887336.923000 | 3448425.042000
ZELENCHK | 3451207.709000 | 3060375.296000 | 4391914.973000
```

Select ocean tide model
A brief description of the ocean tide models can be found [here](#).
[OCT002]

What type of loading phenomenon do you consider
 vertical and horizontal displacements
 gravity pm/s²
 gravity mgal

If you have selected vertical and horizontal displacements, you can correct for the centre of mass motion of the tides. (NO means your frame origin is at the solid earth centre, YES that it is in the joint mass centre of solid earth and ocean)
Do you want to correct your loading values for the motion?
 NO
 YES

Want a plot? (New feature of Sep. 4, 2011)
The plots show the near-field resolution of the coastline. They are generated for each site that involves the load OLAPP. Compare with the comment information in the result file.
 NO
 YES
Fetch it [here](#) after you received the results. Look for your user name: name-olapp1.png name-olapp2.png

What kind of output format is required?
 IEX2 (normal)
 HARPOS (RECENTLY ADDED FEATURE...)
Gravity loading parameters for [TSOET](#) and [g Software](#) can be converted from BLQ with [olqt2](#)

Where are your stations?
Is the following form up to one hundred stations can be entered but each station should be on a separate line. The above sea level is irrelevant for ocean tide load modelling of displacements; it is not necessary to input this parameter.

Name of station	Longitude (deg)	Latitude (deg)	Height (m)
Name of station	X (m)	Y (m)	Z (m)
//wale	51.0224	57.1858	0.0000

// Records starting with // are treated as comments

Final steps

- Don't forget to click „Create“!
- Put into TRF or
- Select in GUI (Parameters – Reference frames

