



TECHNISCHE  
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# Superstation file

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# 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]
             vtr2008: [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 (+ as backup)



# Loading

- ☛ Ocean tidal loading:
  - ☛ FES2004, GOT00, EOT08a, TPXO72, AG06
- ☛ Ocean pole tide loading
- ☛ Atmosphere tide loading
  - ☛ L. Petrov
  - ☛ T. Van Dam

# Additional information

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




# Create superstation file


 Run createSuperstationsFile.m

 Define files

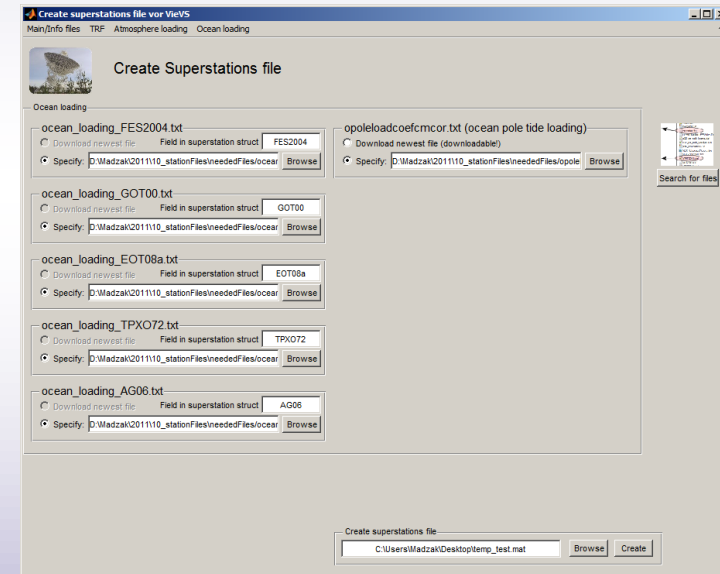
 „Search for files“ button

 Download automatically

 Define manually

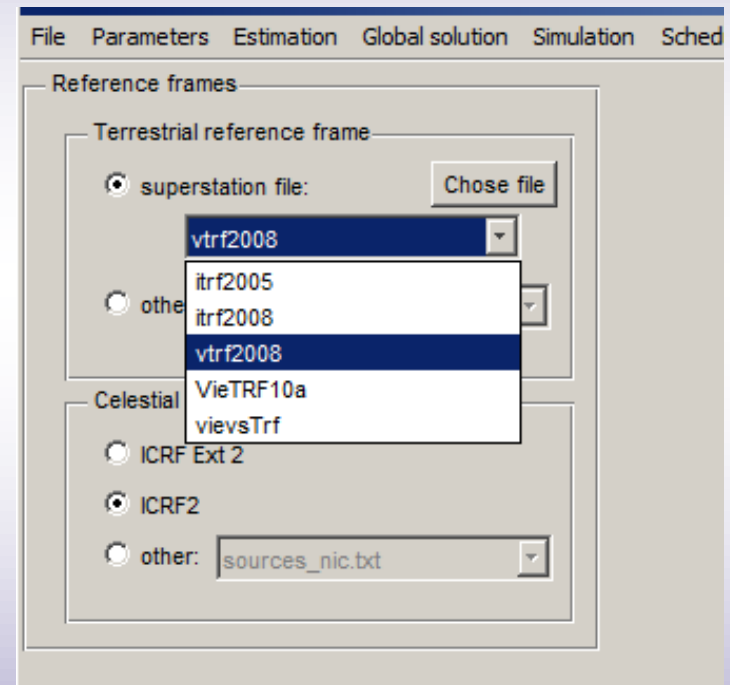
 Define output („Browse“ or manually)

 Click create



# Use in VieVS

- 👤 „superstation.mat“ should be in /TRF/ (or „Chose file“)
- 👤 5 TRF can be selected in GUI
- 👤 Other corrections not taken from superstation file yet



# 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. Coordinates in viewsTrf (not official TRF)
2. Ocean tidal loading

```
//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)
WHHORSE | -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
```

-  Create superstation file to get station list
-  <http://froste.oso.chalmers.se/loading//>
-  Add to text file and select in superstation GUI

**Select ocean tide model**  
A brief description of the ocean tide models can be found [here](#).  
[GOT002]

**What type of loading phenomenon do you consider**

- vertical and horizontal displacements
- gravity  $\mu\text{m/s}^2$
- 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 in 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 loading model. 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-olmnp1.png name-olmnp2.png

**What kind of output format is required?**




- BLQ (normal)
- HARPOS (.RECENTLY ADDED FEATURE...)

Gravity loading parameters for [TSOFT](#) and [g-Software](#) can be converted from BLQ with [okt2ts](#).

**Where are your stations?**  
In 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)	OR
Name of station	X (m)	Y (m)	Z (m)	
//eala	11.9264	57.3958	0.0000	
//ealt				
// 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

