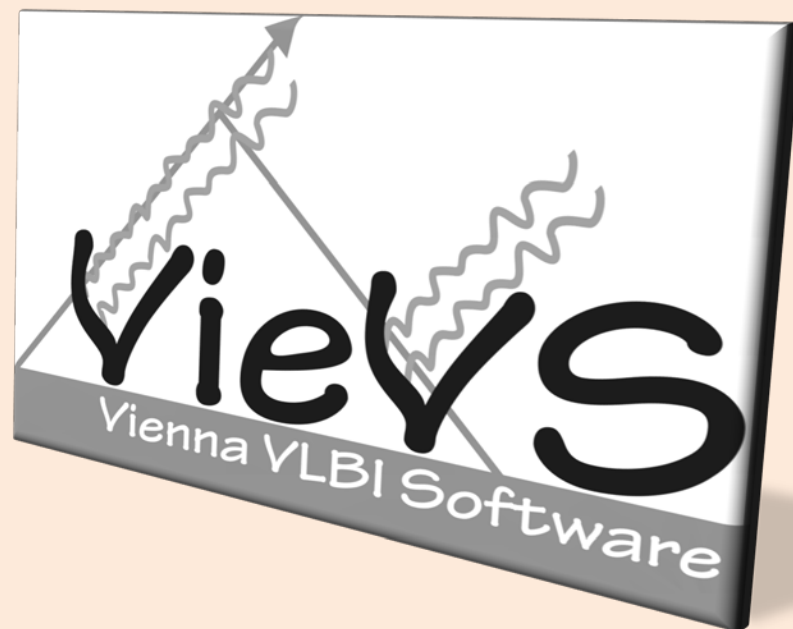


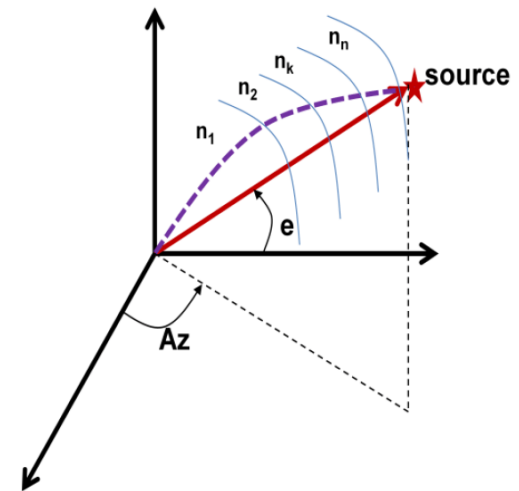
External tropospheric files in VieVS

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External tropospheric files

- Tropospheric delays in one txt-file per session
- Different models available
- Easy exchangeability
- Use of own data possible

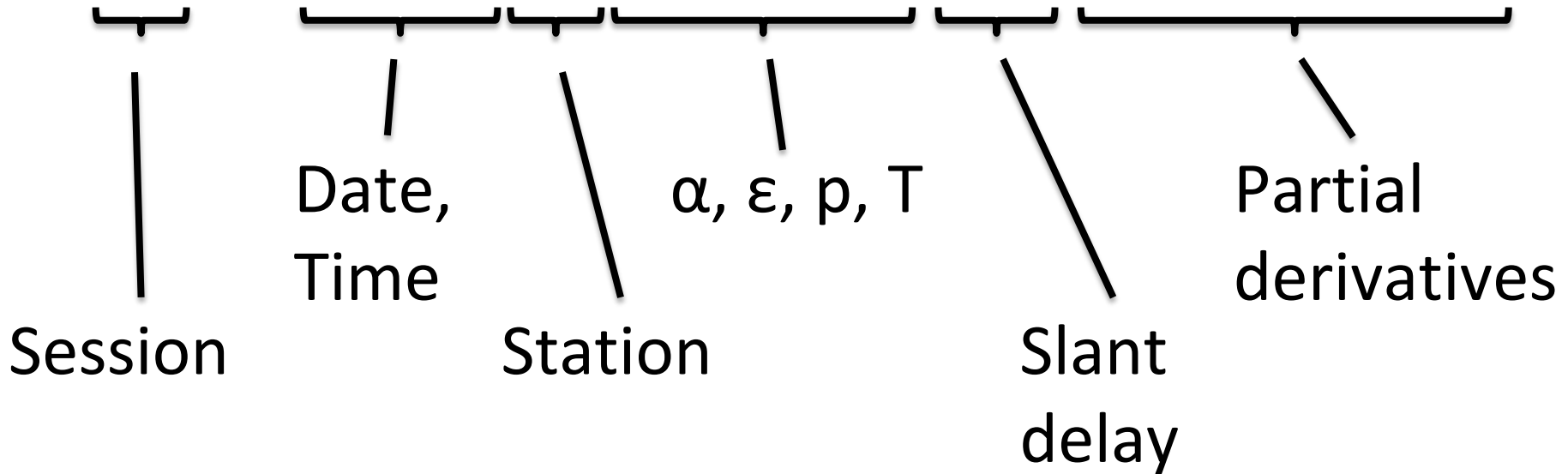


Content of .trp files

```

0 $08AUG12XA      1 2008.08.12-00:00:10.0 TSUKUB32 267.22217 32.83763 1010.5 27.9 1.5683274e-008 1.8414883e+000 -1.3806082e-001 -2.8454188e+000
0 $08AUG12XA      1 2008.08.12-00:00:10.0 WETTZELL 96.94537 28.11146 935.5 15.9 1.6181319e-008 2.1182503e+000 -4.7833716e-001 3.9266933e+000
0 $08AUG12XA      1 2008.08.12-00:00:10.0 SVETLOE 119.17749 33.90588 1007.4 18.6 1.4284168e-008 1.7906143e+000 -1.2967475e+000 2.3223981e+000
0 $08AUG12XA      1 2008.08.12-00:00:10.0 ZELENCHK 118.82887 48.42118 879.5 20.8 9.5710644e-009 1.3362900e+000 -5.7132658e-001 1.0380001e+000
0 $08AUG12XA      1 2008.08.12-00:00:10.0 ONSALA60 100.33880 26.30473 1001.2 17.0 1.8172618e-008 2.2514722e+000 -8.1515716e-001 4.4683167e+000
0 $08AUG12XA      1 2008.08.12-00:00:10.0 NYALES20 109.44378 20.67074 995.0 2.5 2.1822288e-008 2.8224172e+000 -2.4786993e+000 7.0215197e+000
0 $08AUG12XA      1 2008.08.12-00:00:10.0 HARTRAO 55.17440 24.48236 868.7 4.0 1.6270544e-008 2.4080215e+000 3.0087907e+000 4.3249582e+000
0 $08AUG12XA      2 2008.08.12-00:00:13.0 KOKEE 125.41518 34.88015 890.5 19.3 1.2221656e-008 1.7470804e+000 -1.4499862e+000 2.0391843e+000
0 $08AUG12XA      2 2008.08.12-00:00:13.0 WESTFORD 227.33333 20.86067 994.7 16.3 2.2472779e-008 2.7978737e+000 -4.9525056e+000 -5.3732464e+000
0 $08AUG12XA      3 2008.08.12-00:02:27.0 TSUKUB32 308.05014 33.90338 1010.5 27.9 1.5248142e-008 1.7904042e+000 1.6395823e+000 -2.0947886e+000
0 $08AUG12XA      3 2008.08.12-00:02:27.0 WETTZELL 72.72024 57.42382 935.4 16.1 9.0816080e-009 1.1864304e+000 2.2510831e-001 7.2363974e-001
0 $08AUG12XA      3 2008.08.12-00:02:27.0 SVETLOE 108.61745 67.22917 1007.4 18.6 8.6632933e-009 1.0844289e+000 -1.4530395e-001 4.3132740e-001
0 $08AUG12XA      3 2008.08.12-00:02:27.0 ZELENCHK 67.01852 74.60076 879.5 20.8 7.4324686e-009 1.0371982e+000 1.1153176e-001 2.6298863e-001
0 $08AUG12XA      3 2008.08.12-00:02:27.0 ONSALA60 85.11058 58.45999 1001.2 17.1 9.4904133e-009 1.1730831e+000 6.1351386e-002 7.1718921e-001

```



Steps

1. Tropospheric parameter file

→ Which models to be used?

2. External tropospheric file (.trp)

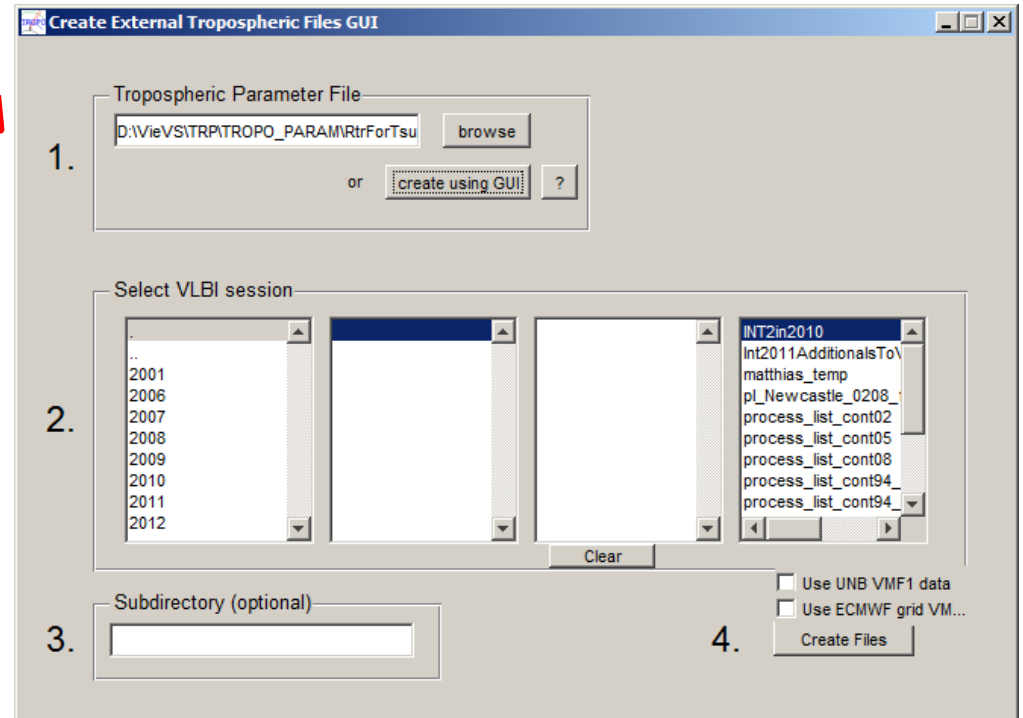
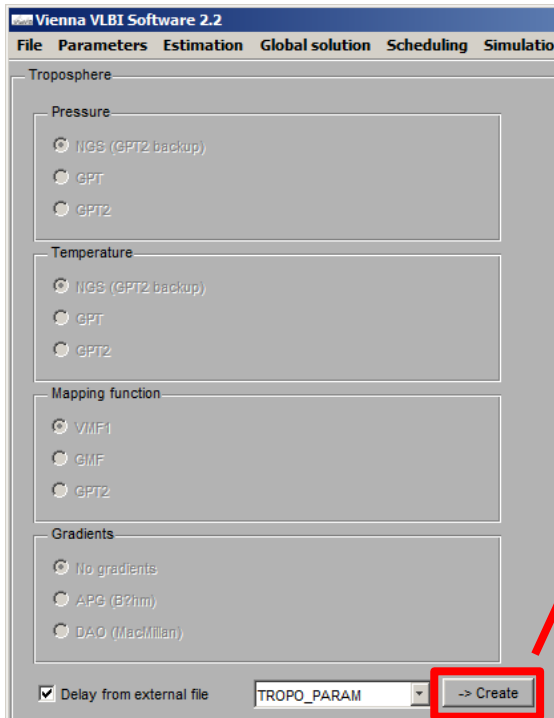
→ For which sessions?

3. Usage in VieVS

→ Process sessions

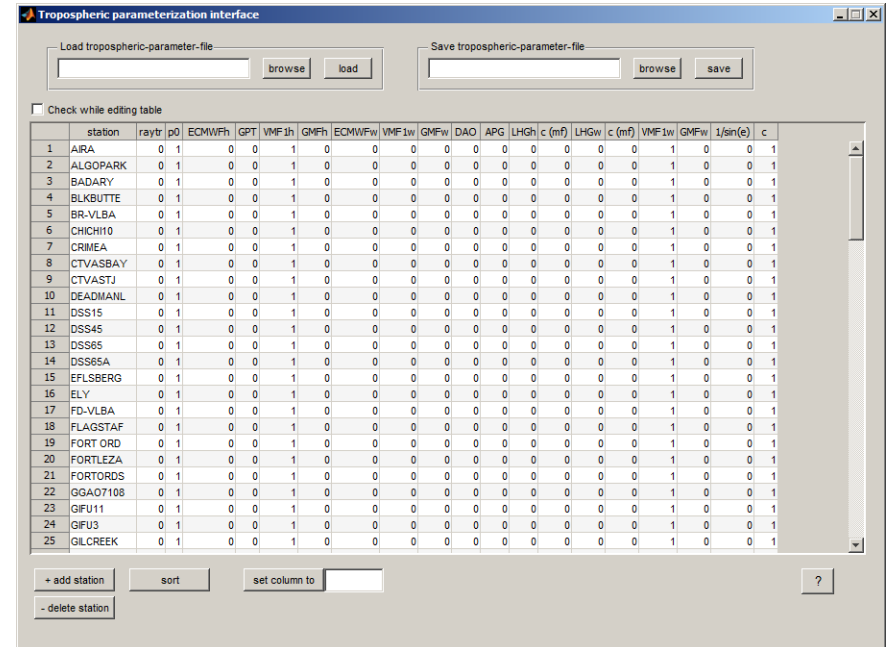
Program start

- VieVS 2.2: Parameters → Troposphere
- Click „Create“



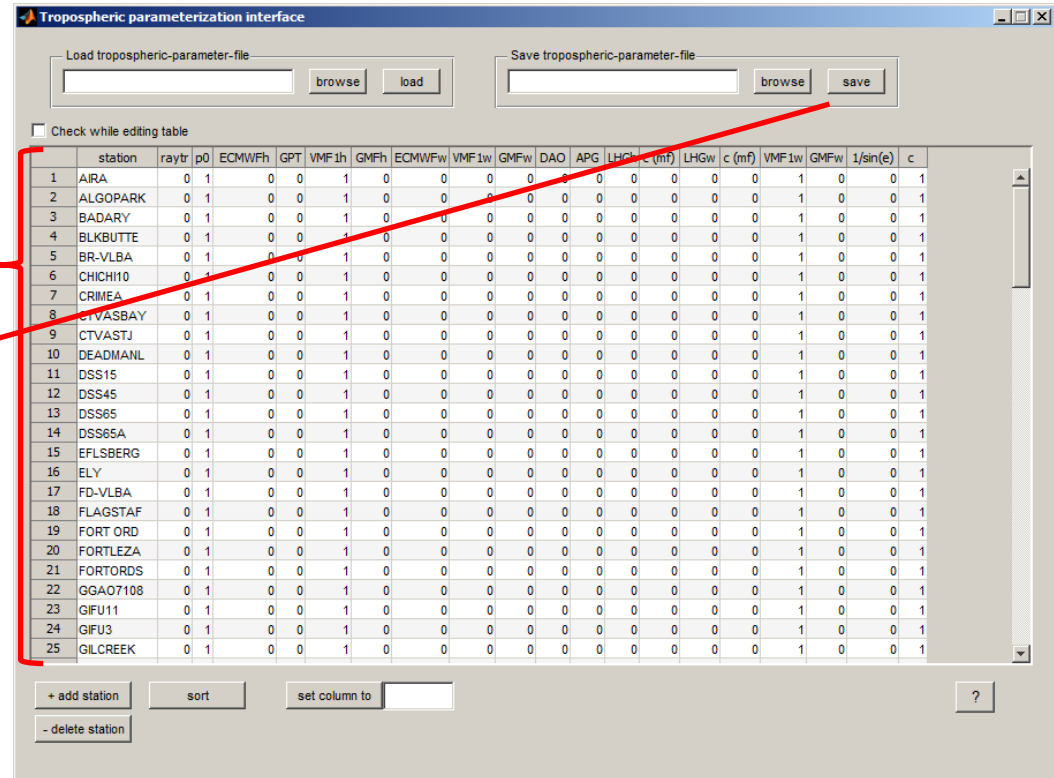
Tropospheric parameter file (1)

- Created via GUI
- Defines models for all stations
- Click „create using GUI“
or run *TRP\PROGRAM\GUI\createTropoParameterFilesGUI.m*



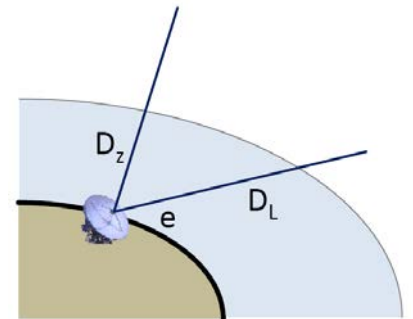
Tropospheric parameter file (2)

- Set (different) tropospheric models for each station (1 | 0)
- Save textfile



Models for tropospheric files

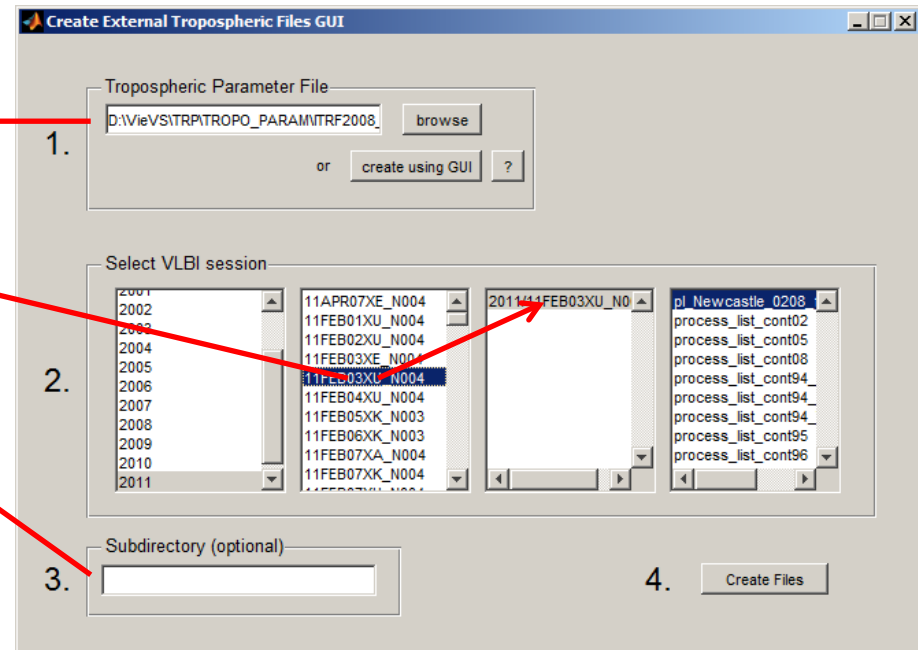
- Delay
 - ECMWF (h/w)
 - Surface pressure
 - Global Pressure and Temperature
- Mapping Functions
 - VMF1
 - GMF
- Gradients
 - LHG
 - DAO
 - APG



External tropospheric files

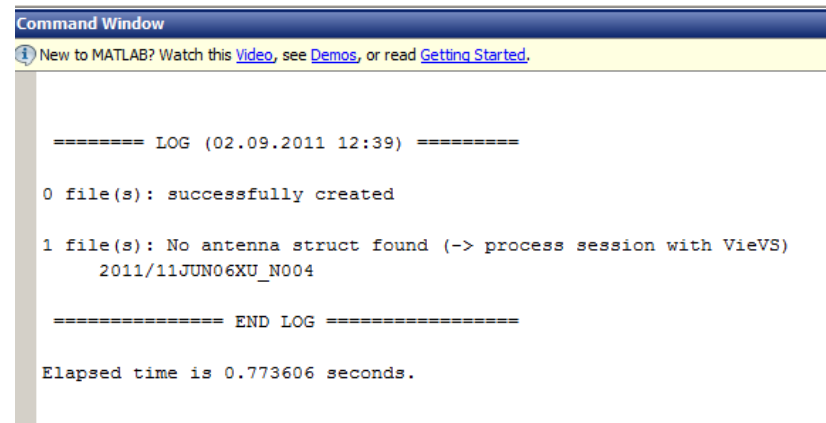
1. Define (just created) parameter file
2. Select sessions
3. Choose subfolder
4. Click „Create Files“

→ \TRP [\subfolder] *.trp



Note

- Sessions must be processed before once
- Read log (Command Window) for information



```
Command Window
New to MATLAB? Watch this Video, see Demos, or read Getting Started.

===== LOG (02.09.2011 12:39) =====

0 file(s): successfully created

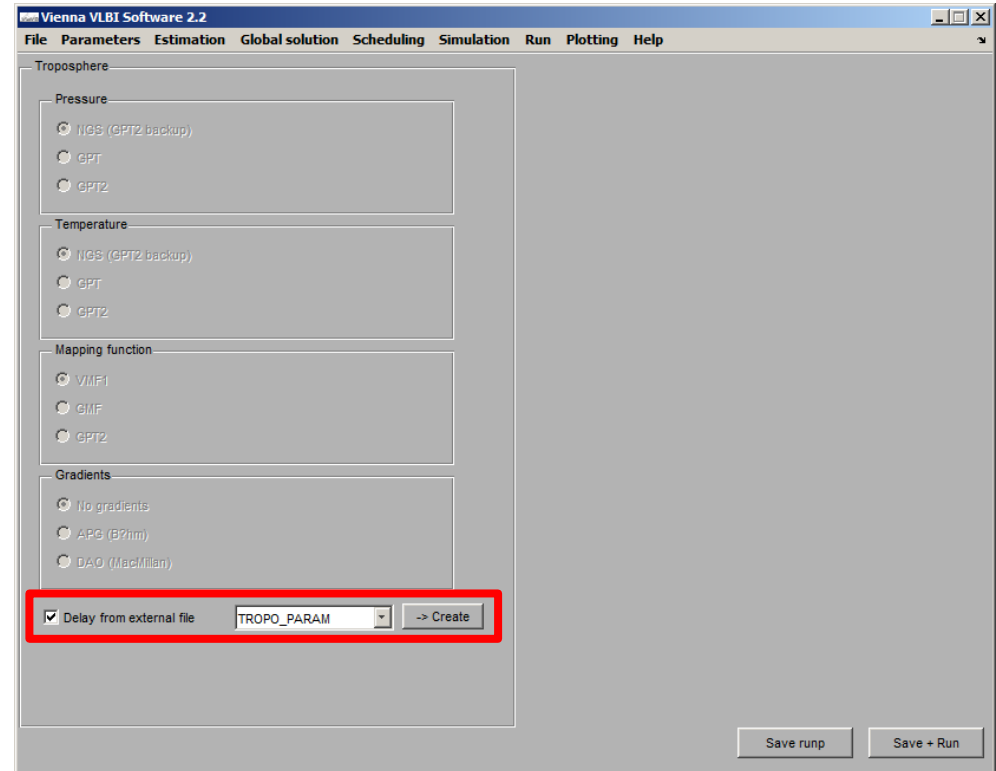
1 file(s): No antenna struct found (-> process session with VieVS)
          2011/11JUN06XU_N004

===== END LOG =====

Elapsed time is 0.773606 seconds.
```

Use files in VieVS

- GUI: Parameters → Troposphere
- Tick „Delay from external file“
- Select subfolder (if chosen)
- Delays from external files are applied



Ray-traced delays in VieVS

- Possible to use ray-traced delays
- Set parameter „raytr“ in the tropospheric parameter file
- → external tropospheric files contain slant path delays retrieved from ray-tracing results (.rtr-files for each session necessary)