

Tomofast-x QGIS Plugin Cheat Sheet

Tomofast-x-q Installation (the plugin)

Install directly from the QGIS plugin manager OR download the zip file from the <https://github.com/TOMOFAST/tomofast-x-q> repository and install this using the QGIS Plugin Manager

Key: Grav Mag Both

Reload existing paramfile

Specify grav data file

Load grav data

Specify mag data file

Load mag data

Load geotif dtm data

Load x,y region of interest shapefile

Manual definition of x,y region of interest

Memory usage estimate

Define inversion type

Define fields and projection system (for point grav data only)

Define fields and projection system (for point mag data only)

x,y cell dimensions

Horizontal padding

Core and extended depth of model

z cell dimensions and layer thicknesses

Use one or other

Fixed height above ground for grav and mag surveys

Multiply grav data prior to inversion

Multiply model density after inversion

of density pairs

Multiply mag data prior to inversion

Multiply model mag sus after inversion

Calculate Mag Field using IGRF from survey date

Specify density constraints (number of pairs of bounds)

Density constraint weighting

Pairs of density constraints (subtract 2670 from density pairs before placing them here)

Specify mag sus bounds (number of pairs of bounds)

Pairs of mag sus bounds

Mag sus constraint weighting

Provide inversion metadata

Create directory and save input files for inversion (extracted data, model mesh and paramfile)

On installation, find path to tomofast-x executable

Find path to paramfile (auto-loaded if just created)

On installation, choose which tomofast to use (Windows only)

On installation, find path to mpirun (MacOSX only) or mpiexec.exe (Windows)

On installation, find path to setvars.bat (Windows native only)

Number of processors to use (1 less than you have on the machine)

Name of Linux Distribution (only for Windows/WSL)

Run inversion using current paramfile

Once inversion has been completed, simple visualisation of output for current paramfile

Export model to simple csv x,y,z,data format

Windows Native Tomofast-x Install (not the plugin)

1. Download and install oneMPI runtimes:

- https://tectonique.net/tomofast-x-q/intel-mpi-2021.17.2.93_offline.exe and
- https://tectonique.net/tomofast-x-q/w_ifx_runtime_p_2025.3.2.835.exe

2. Download the precompiled tomofast-x executable:

- <https://tectonique.net/tomofast-x-q/tomofastx.exe>

3. Once the console is open, locate and run the **setvars.bat** file (perhaps here, include quotes):

"C:\Program Files (x86)\Intel\oneAPI\setvars.bat"

4. Then change directory (linux command is `cd` e.g. **cd C:\Users\mark\Downloads**) to the directory where you downloaded **tomofastx.exe**, and type:

mpiexec -n 4 tomofastx.exe -p parfiles\Parfile_mansf_slice.txt

and you should get output to the console that ends with:

```
Model      1 min/max values = -19.951562372164297    259.99724459691851
Writing data to file output/mansf_slice//data/grav_calc_final_data.txt
Writing data to file output/mansf_slice//data/grav_misfit_final_data.txt
MEMORY USED (forward) [GB] =  2.9311180114746094E-002
MEMORY USED (inversion) [GB] =  3.1837463378906250E-002
MEMORY USED (total) [GB] =  3.1837463378906250E-002
THE END
```