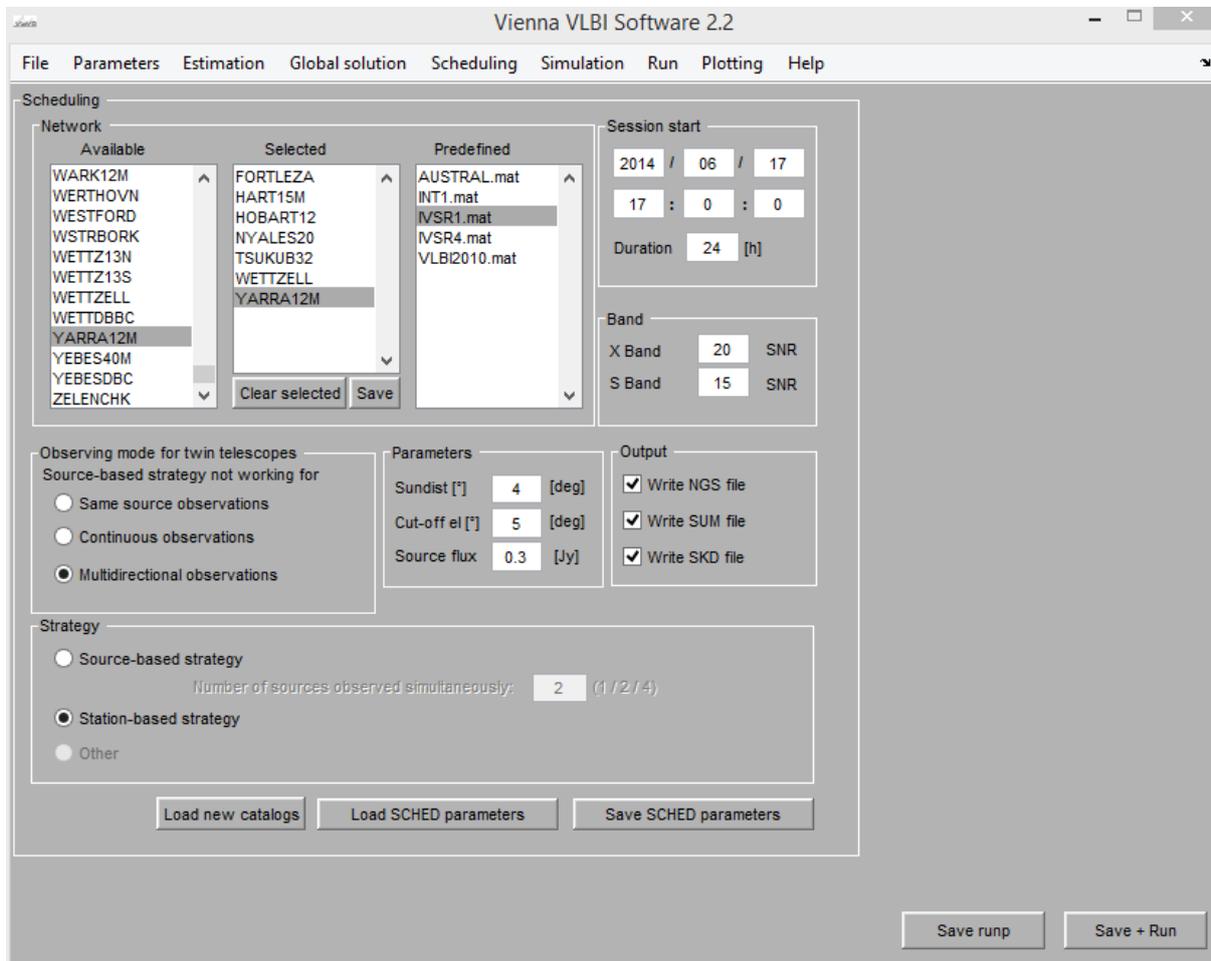


Scheduling exercise

We will schedule the IVS-R1640 session which started on the 17th of June 2014 at 17:00 and lasted 24 h. Stations which participated in this session are: FORTLEZA, HOBART12, HART15M, NYALES20, TSUKUB32, WETTZELL and YARRA12M.

Select main parameters in GUI:

The scheduling GUI can be found at *Scheduling/Parameters*.



- In the "Network" panel you can set the stations which should observe in this session. The "Available" list depicts all available antennas. Click on the antennas you want in your session and they will appear in the "Selected" list. You can save your list and it will appear in the "Predefined" list when you restart VieVS
- Select the start of the session in the "Session start" panel
- Change the main parameters in the "Parameters" panel
 - The distance to the sun can be set to an empirically derived distance of 4°
 - Because of atmospheric turbulences we set the elevation cut-off to 5°
 - You can set the minimum strength of the sources which should be observed to 0.3 Jy
- Tick all the boxes in the "Output" panel
- Select the station-based strategy in the "strategy" panel.

The CATALOG files:

The CATALOG files are files which include all the information needed (station, source and observing parameters) for the schedule. They can be found in the \CATALOG folder.

Always use the newest CATALOG files which can be accessed at (<ftp://gemini.gsfc.nasa.gov/pub/sked/>). Pressing (**don't do that now**, because we need the CATALOG files provided by us) "Load new catalogs" downloads the recent CATALOG files for you.

CATALOG files provided by GSFC:

- antenna.cat → information about antennas (slew speed, dish diameter etc.).
- equip.cat → information about station equipment (recorders, SEFD etc.).
- flux.cat → flux density (strength) of sources
- freq.cat → definition of channel setup
- loif.cat → setups for intermediate frequency channel and local oscillator assignments
- mask.cat → horizon mask information of stations
- modes.cat → definition of observing modes
- postiton.cat → antenna coordinates
- rec.cat → recording modes
- rx.cat → station receiver setup
- source.cat → position of sources
- tracks.cat → tracks assignment

Additional parameter files from VieVS

- down.txt → specific downtime of station (station won't observe in the set time window)
- param.txt → additional minor parameters
- psource.txt → select source of interest, e.g. source 0059+581 should be observed in a certain interval
- snrmin.txt → set other SNR targets for different stations
- tagalong.txt → set one station as tagalong (it won't influence the others)
- twin.txt → specify twin telescopes

Select minor parameters in param.txt:

Most important parameters which should be adjusted for the IVS-R1640 session:

- PARA.MIN_SRCRP (time in-between scans of the same source) → set to 20 min
- PARA.MAXSLEWTIME (maximum slew time which is allowed per station) → set to 300 sec
- PARA.MAX_SCAN (maximal allowable scan time) → set to 300 sec
- PARA.MIN_SCAN (minimal allowable scan time) → set to 20 sec
- PARA.FILLINMODE (subnetting of stations which are not participating in a scan) → set to 2
- PARA.MIN_STANUM (min % of stations must observe in a scan) → set to 0

Run the scheduling:

To run the scheduling go to *Run/Run options* the select "Run vie_sched" (you also have to deselect "Run vie_init", "Run vie_mod" and "Run vie_lsm")

Press "Save + Run"

Inspect schedule:

The schedule files are saved at *DATA/SCHED/year/*.

Four files are created:

- 14JUN17.skd → this is the SKD file which is used at the station to control the session
- 14JUN17.vex → this is the VEX file which is a more recent schedule format
- 14JUN17-skdsum.txt → has some statistics about the schedule in it
- 14JUN17VA_V001 → this is an empty (no measurements) NGS file which can be used for simulation studies