

**1) Prepare the shell on lofarx with a running ssh-agent:**

- log in on lofarx with "**ssh observer@lofarx**" from a machine in the mpifr LDAP network (e.g. your desktop or portal or so.)
  - if it asks for a password, don't bother, it won't work. You can try running "**kinit**" on you local machine before doing the ssh.
- **ssh-agent /bin/tcsh -l**
- **ssh-add**
  - give passphrase

**2) Boot up the station:**

- log into the LCU with "**ssh de601c**"
- **swlevel 2**
  - RSPDriver and TBBDriver need to be running
- **tail -f /log/RSPDriver.log**
  - wait till no more lines: "port ??? has not yet completed sync or had errors, trying to continue..." show up for several seconds
  - If anything strange appears, write it down in the observing logbook and tell the station team: [lofar-ops@mpifr-bonn.mpg.de](mailto:lofar-ops@mpifr-bonn.mpg.de)
  - end it with <CTRL-C>
- **swlevel 3**
  - In addition to RSPDriver and TBBDriver also BeamServer needs to be running
- **beamctl --antennaset=HBA\_JOINED --rcus=0:191 --rcumode=5 --beamlets=0:243 --subbands=100:343 --anadir=0,1.5708,J2000 --digdir=0,1.5708,J2000&**
  - This should reach "All pointings sent and accepted" pretty fast.
  - hit <enter> to get a clean commandline
  - Wait several seconds for all tiles to start up
- **rspctl --rcu**
  - all 192 RCUs should be "ON" and in "mode:5"
  - if some are "OFF", wait a few seconds and try again
  - if some don't become "ON" then go back to swlevel 1 and try again
- **rspctl --stati --int=3**
  - check if the spectrum of all antennas look O.K.
- **killpointing**
  - hit <enter> to get the confirmation that beamctl terminated

**3) Observe pulsars:**

- Go back to lofarx.
- The script **psr-observe.py** should do nearly everything. Call it with "**-h**" to get possible options.

**4) Finish up:**

- check with "**at -l**" if there are lingering at-jobs on th lofarN machines, if there are, kill them with "**atrm**"
- shut down the hardware of the station with "**swlevel 0**"

**Comments:**

1. If at any time RSPDriver, TBBDriver, or BeamServer crash ("swlevel" show them as "DOWN") you need to go back to swlevel 1 and boot the station up again. (And note the fact in the logbook.)
2. If nothing fails there is no need to change the swlevel on the station when observing multiple pulsars. Just leave it in "swlevel 3"
3. If you want to "schedule" observations in advance, then you can put them in the queue on lofarx with something like:
  - **echo "psr-observe.py --psr=J0218 --tint=5 >> psr-observe.log" | at 18:40 31.12.12**

In that case you need to stay logged into lofarx, with the ssh-agent running!