OBSERVING PREPRATION

1. **Rise and set time calculator for astronomical sources.**
   This is the web based tool and it calculates the rise and set time for the sources in IST and LST
2. **Command file generator.**
   This is web based tool and it generated the observing command file.
3. **Frequency calculator (tune.pl).**
   This Perl-Tk tool used for setting the various frequencies for line observations. This tool is available on all astro and gtac machines.

MONITORING TOOLS (control-room)

1. **Alarm Tool(scan1)**
   This tool generates audio and alarm in control if something goes wroing.
   This program run all the time on online machine and it read the data from online shared memory. It rings the bell when das started, das stopped, antenna applying brakes, temperature high, wind high. ABC time out, Servo time out. Wrong frequency parameters, wrong source name. AZ and EL limit hit. Track change, antenna not tricking the source. Source set etc..
2. **showtrack**
   This display tool in control-room ant is shows antenna servo position in 2D plot. It show the the frequencies parameters and source name, IST, LST. It also display the time elapsed since the das started. It is very useful tool for the control-room operator to keep a track on Telescope.

MONITORING TOOLS (monitoring tools @ gmrt home page)

1. **Ondisplay with history**
   This is web based tool and displays the control-room ondisply with its history. It update every after one minute. It helps to check the tracking status of the antennas.
2. **Wind monitoring.**
   This is web based tool and it plots the wind data. It also provides the wind statistics.
3. **Antenna base temperature** monitoring. Per day plots are available to see the temperature data.
4. **30to1/IFMON monitoring.**
   This is web based tool and can see the 30to1(IF) band shapes of any time. One can see the deflection results here.
5. **Pointing offsets.**
   This is web based to tool used to study the variation in the pointing offsets. One can see various plots with statistics of the pointing data.
6. **Feed system monitoring.**
   This tools display the current status of the Feed Position system.
7. **Servo data.**
   This tool display servo related data, mainly antenna oscillation problem log.