

## Available modes of the GSB

(Release Ver. 2.4 22<sup>nd</sup> Jul 2014)

| Observation Type                 | Usage Mode                                  | Input IF BW (MHz)             | Acquisition BW or Final o/p BW (MHz)                                  | Number of Channels                      | Output Time Resolution       |                           |
|----------------------------------|---|-------------------------------|---|---|------------------------------|---------------------------|
| 1 Interferometry : Continuum     | Total Intensity (32 MHz mode)               | 32,16,6                       | 32  | 512, 256                                | 2,4,8..(sec)                 |                           |
|                                  | Total Intensity (16 MHz mode)               | 16,6                          | 16  | 512, 256                                | 2,4,8..(sec)                 |                           |
|                                  |   |                               |   | 128                                     | 0.5,1,2..(sec)               |                           |
|                                  |   |                               |   | 64, 32                                  | 0.25,0.5,1..(sec)            |                           |
|                                  | Full Stokes (32 MHz mode)                   | 32,16,6                       | 32  | 512(*), 256                             | 2,4,8..(sec)                 |                           |
| Full Stokes (16 MHz mode)        | 16,6  | 16                            | 512, 256  | 2,4,8..(sec)                            |                              |                           |
| 2 Interferometry : Spectral Line | Total Intensity (16 MHz and lower BW modes) | 16,6                          | 16 / N (N=4,8,16,32,64,128, i.e. 4, 2, 1, 0.5,0.25 & 0.125 MHz resp.) | 512, 256                                | 2,4,8..(sec)                 |                           |
| 3 Array: Beams                   | IA  | Total Intensity (32 MHz mode) | 32,16,6   | 32                                      | 512, 256                     | Pre : (#)<br>Post: 1,2,4. |
|                                  |   | Total Intensity (16 MHz mode) | 16,6  | 16 / N (N=4,8,16, i.e. 4,2,1 MHz resp.) | 512, 256                     | Pre: (#)<br>Post: 1,2,4.  |
|                                  | PA  | Total Intensity (32 MHz mode) | 32,16,6   | 32                                      | 512, 256                     | Pre: (#)<br>Post:1,2,4.   |
|                                  |   | Full Stokes (32 MHz mode)     | 32,16,6   | 32                                      | 256                          | Pre: (#)<br>Post:2,4.     |
|                                  |   | Total Intensity (16 MHz mode) | 16, 6   | 16 / N (N=4,8,16, i.e. 4,2,1 MHz resp.) | 512, 256                     | Pre: (#)<br>Post: 1,2,4.  |
|                                  |   | Full Stokes (16 MHz mode)     | 16,6  | 16                                      | 512, 256                     | Pre: (#)<br>Post:1,2,4.   |
|                                  |   | Voltage Beam (32 MHz mode)    | 32,16,6   | 32                                      | 512, 256                     | 15 nsec (@)               |
|                                  |   | Voltage Beam (16 MHz mode)    | 16,6  | 16                                      | 512, 256                     | 30 nsec (@)               |
| 4 Raw Dump                       | Raw voltages from all antennas              | 16,6                          | 16  |   | 30 nsec at 4 bits per sample |                           |

### Notes :

(\*) Released on trial basis : set lta-visibility pre-integration to 4sec and beam output 245.76 uSec.

(#) Regarding beam integration and beam-data-host

| BW     | CHANNEL | PRE-INTEG   | IFR | Beam-Stokes   | Data-Nodes (Beam1-Beam2) |
|--------|---------|-------------|-----|---------------|--------------------------|
| 16.666 | 256     | 30.72 uSec  | TI  | IA(TI):PA(TI) | node33-34                |
| 16.666 | 512     | 61.44 uSec  | TI  | IA(TI):PA(TI) | node33-34                |
| 16.666 | 256     | 61.44 uSec  | FS  | IA(TI):PA(FS) | node33-34                |
| 16.666 | 512     | 122.88 uSec | FS  | IA(TI):PA(FS) | node33-34                |
| 33.333 | 256     | 30.72 usec  | TI  | IA(TI):PA(TI) | node33-34                |
| 33.333 | 512     | 61.44 usec  | TI  | IA(TI):PA(TI) | node33-34                |
| 33.333 | 256     | 122.88 usec | FS  | IA(TI):PA(FS) | node33-34                |
| 33.333 | 512     | 245.76 usec | FS  | IA(TI):PA(FS) | node33-34 with XNET      |

(@) Output data is in spectral voltage form; needs one inverse FT to get voltage time series with time resolution of 15 nsec for 32 MHz mode and 30 nsec for 16 MHz mode.