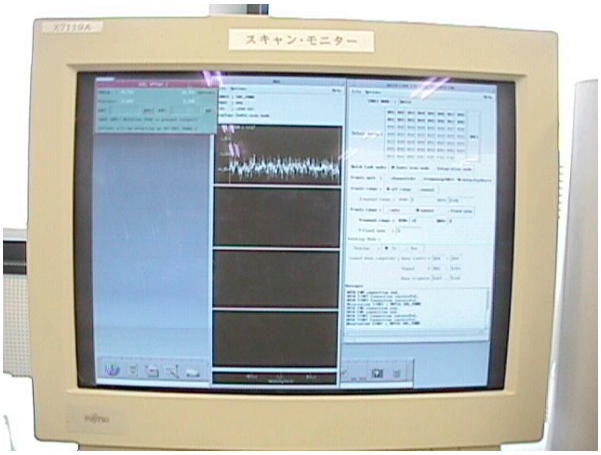
4. Quick look & Scan monitor

The monitor display of "Quick look & Scan monitor" looks, for example, like this as shown in the next picture.

Quick Look & Scan Monitor Display

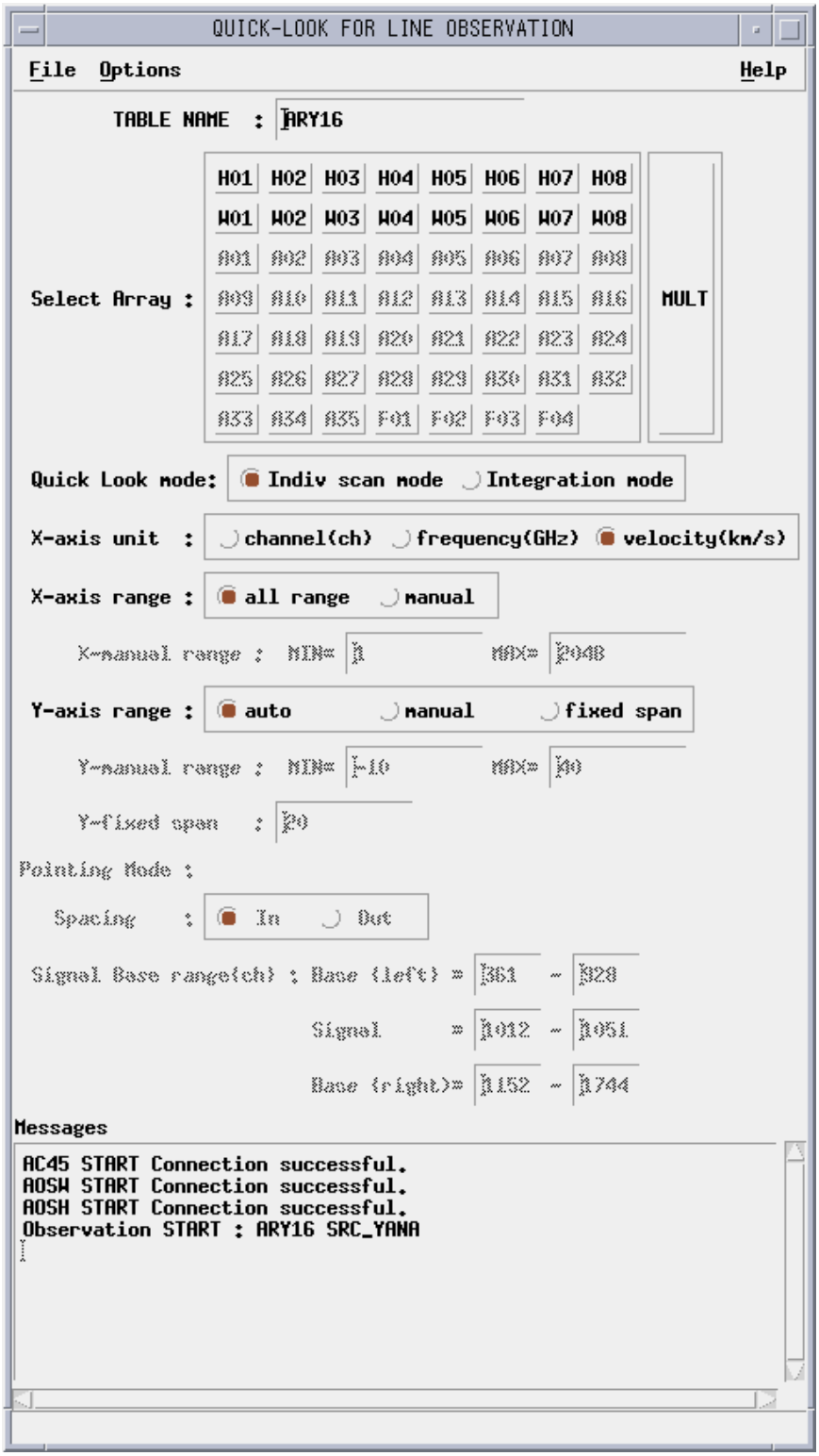


This display has mainly two functions; quick look of observing spectra and scan monitor of the telescope. The scan monitor means that it shows graphically a position where telescope is pointing every moment in the sky, e.g. an OFF position or ON position within, for example, a mapping grid.

4.1 Quick look

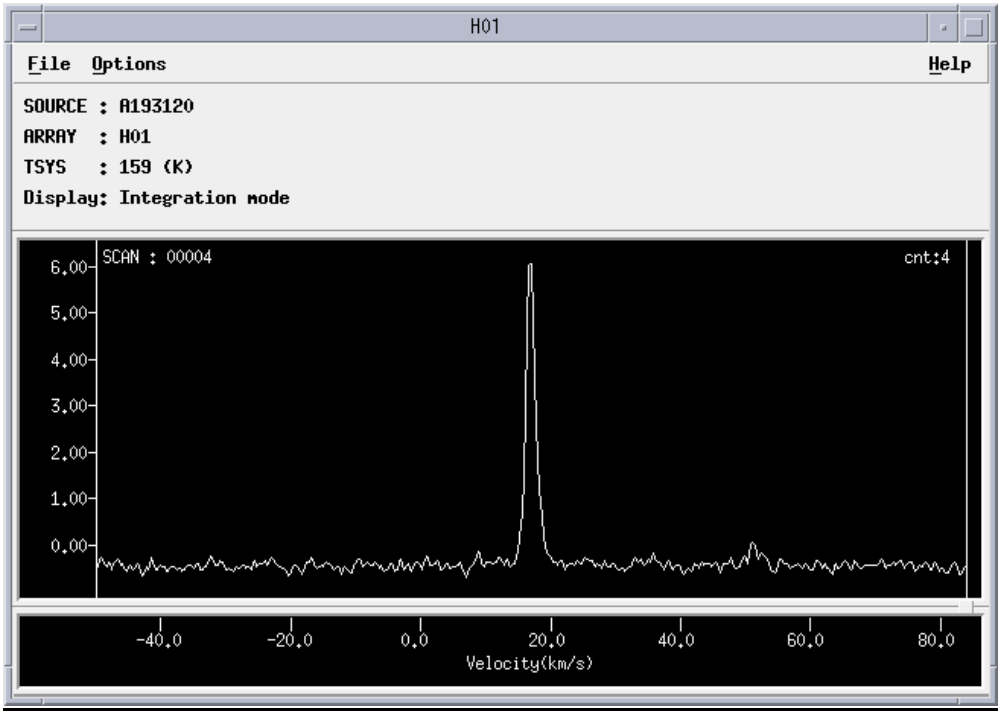
After starting the observations, you can immediately see observed raw spectra. From the "Quick-look for line observation" window as follows, please select display modes if necessary; individual scan mode or integration mode, X-axis unit and range, and Y-axis range (these modes can also be changed later from a pull-down menu of each spectrum). Then click name(s) of AOS you want to look at.

Quick Look for Line Observation Window



An example of quick look of a spectrum is shown below.

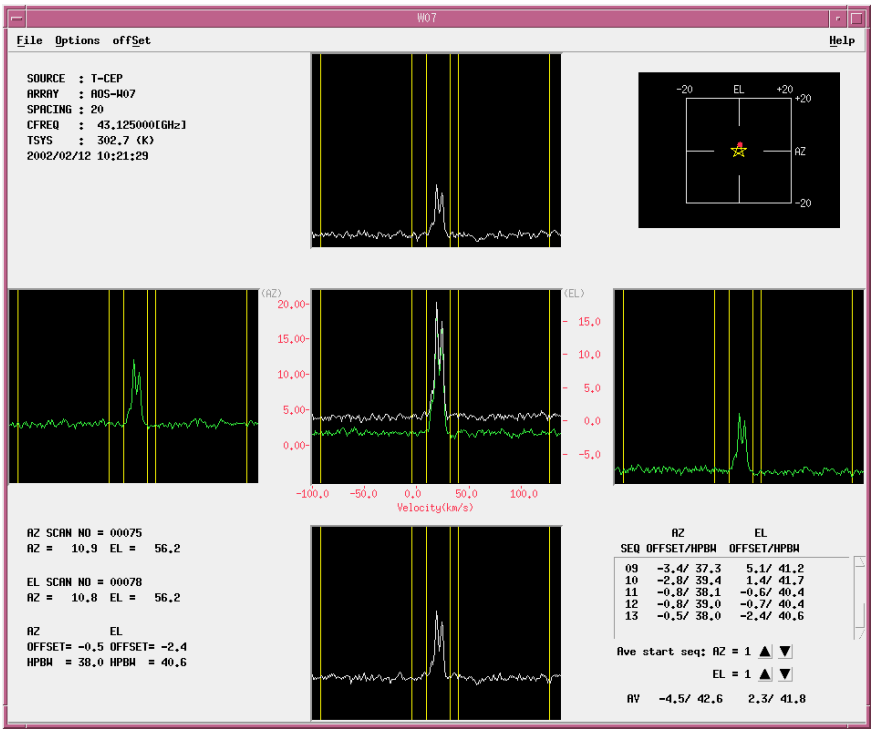
Example of Quick Look of Spectra



Please check this quick look at least in the beginning of the observations to see whether the data is properly obtained. From the pull-down menu of the quick look window, it is possible to change the integration mode (individual scan or integration), the display range (e.g. enlarge, full-range) of the spectrum, and the unit of the X-axis (velocity, frequency, and channel). It is also possible to enlarge the spectrum by drawing a box on the spectrum with mouse. To read accurate intensity, it is generally necessary to enlarge the spectrum, in particular, for narrow lines, because limited number of channel points can be displayed in the window.

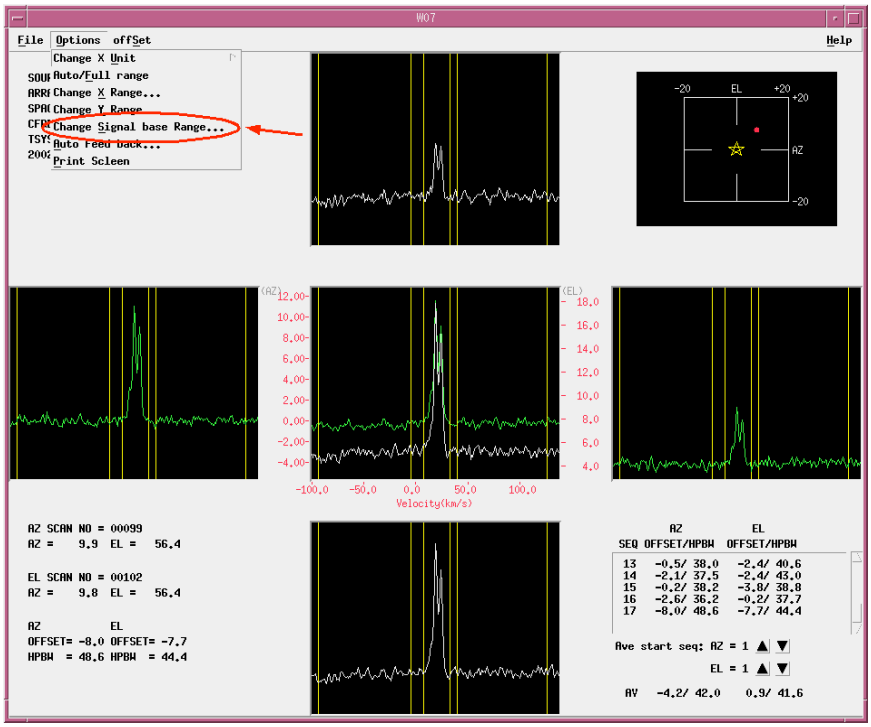
In case of pointing observations (5 points cross scans), a method to see the quick look is basically the same. Displayed spectra are arranged like cross directions as shown below to easily see pointing deviations intuitively.

Quick Look Window for Pointing



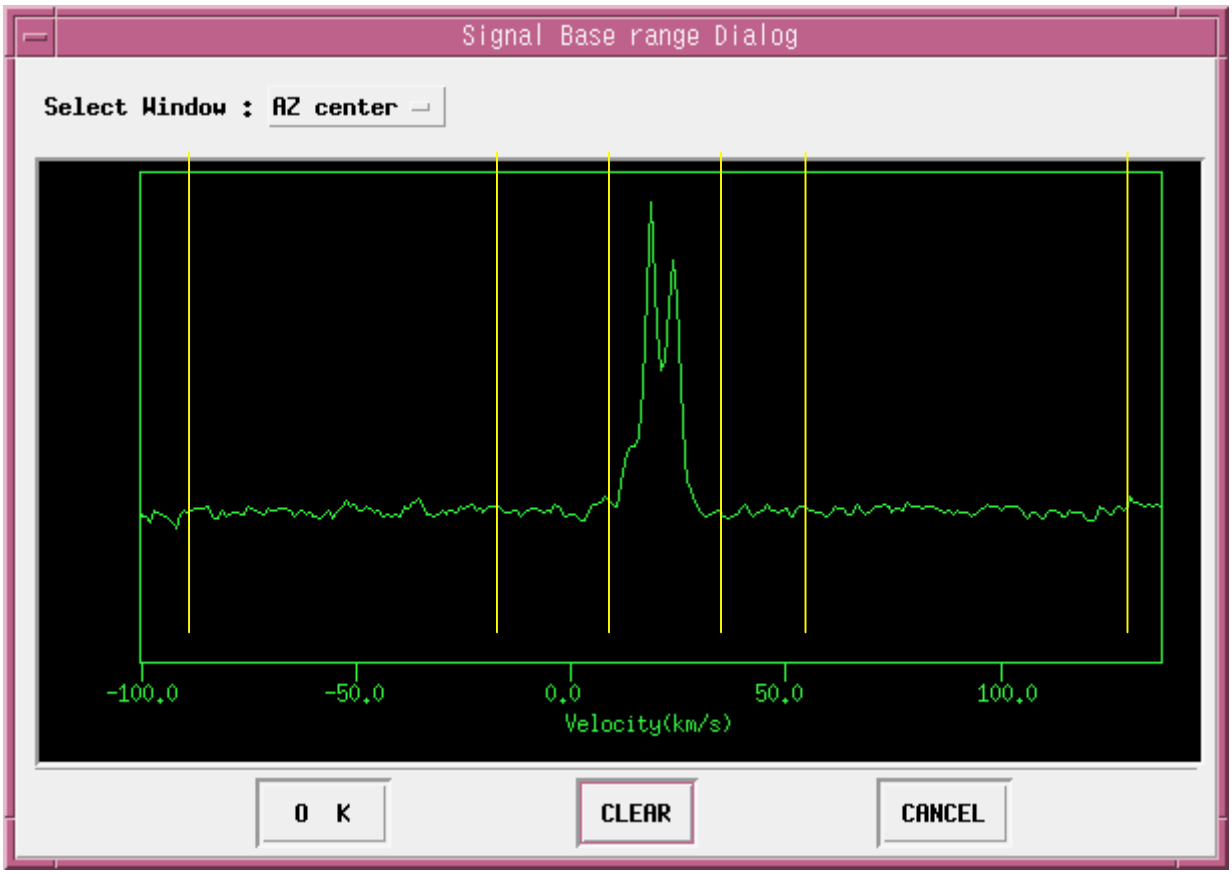
To calculate pointing offsets to be corrected by fitting data of cross scans, you need to provide baseline ranges and a line (SiO) range in a “Signal base range dialog” window. To show this window, please select “Change signal base range” from a pull-down menu of “Options” as shown below.

Quick Look Window for Pointing with a pull-down menu of "Options"



Then "Signal base range dialog" window appears. Please set by mouse (from left to right) two positions to indicate a left baseline range, two positions for a line (SiO) range, and two positions to indicate a right baseline range as shown below. Then click "OK".

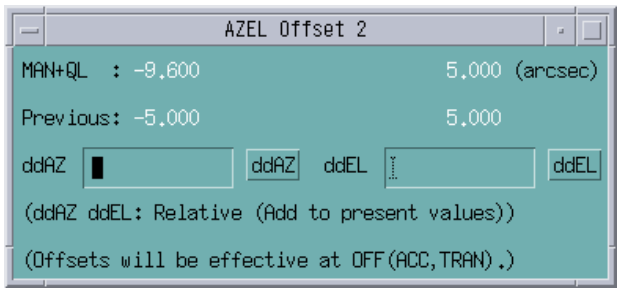
Signal Base Range Dialog



Left baseline range Line(SiO) Right baseline range

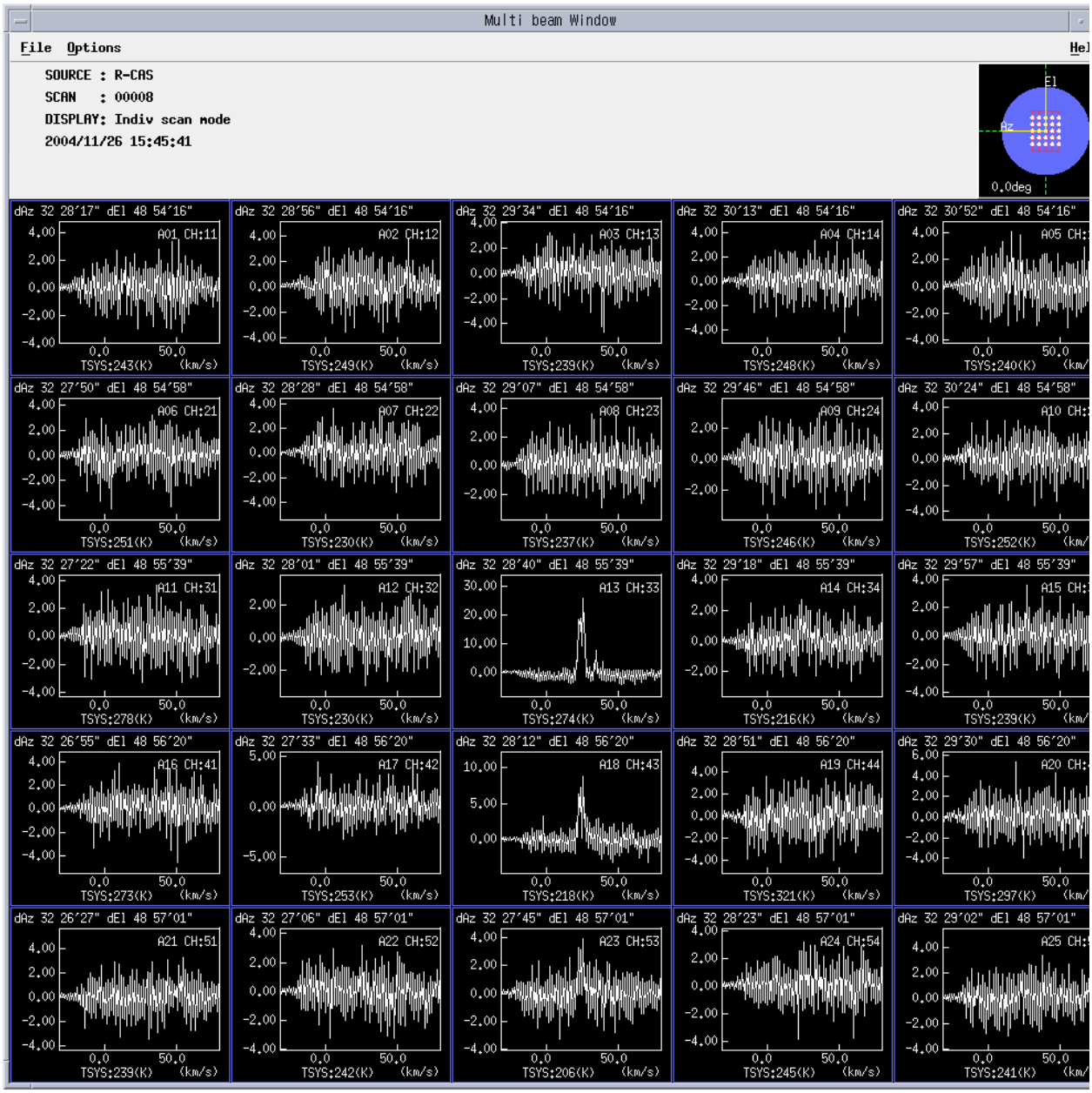
The pointing offsets and beam sizes are displayed in the lower right corner of the quick look window. It is possible to calculate averages of results of several cross scans. A starting sequence number for average can be selected by clicking _ and/or _ buttons in the quick look window. If you obtain reliable offsets (and beam sizes which are about 39 arcsec in ideal case), you can apply them for correction in the "AZEL offset" window as shown below. Please type the correction values (arcsec) in the "ddAZ" and/or "ddEL" input box(es) (without changing the sign), and then click "ddAZ" and/or "ddEL" button(s). The corrections will become effective, when the telescope is at an OFF position.

AZEL Offset Window



In case of BEARS, please click "Mult" button in the "Quick-look for line observation" window. An example of quick look is shown below.

Quick Look Window for BEARS



The function of quick look for BEARS is basically the same as that for the single beam receivers. In addition, a coordinate for each spectrum is added, and a position of the rotational stage of BEARS is schematically shown.

4.2 Scan monitor

The scan monitor window looks like this as shown below. This is an example when pointing observations are done. The 5 points cross scan is

indicated graphically. This window has functions of zoom, print, etc. This monitor is particularly useful to check observing points and progress of mapping observations. Please check this scan monitor occasionally, in particular, during mapping observations (including pointing) whether the telescope is moving as the observers intended. Scan parameters as defined in your “scan table” made with the OBSTABLE software are also shown in the left side of this window.

Scan Monitor Window

