

## Chapter II-13 — Graphs

You can enter `[]` or `[*]` to indicate the entire range of the dimension, or `[start, stop]` for a contiguous subrange, or `[start, stop; inc]` where *start*, *stop*, and *inc* are dimension indices. Entering `*` for *stop* is the same as entering the index of the last element in the dimension.

For example:

```
Make/N=100 w1D = p
Display w1D[0,*,10]           // Display every tenth point
ModifyGraph mode=3, marker=19

Make/N=(10,8) w2D = p + 10*q
Display w2D[0][0,*,2]         // Display every other column of row 0
ModifyGraph mode=3, marker=19
```

The subrange syntax rules can be restated as:

1. Only one dimension specifier can contain the range to be displayed.

Legal syntax for range is: `[]` or `[*]` for an entire dimension

`[start, stop]` for a subrange

*stop* may be `*`

*stop* must be  $\geq$  *start*

The range is inclusive

`[start, stop; inc]` for a subrange with a positive increment

2. Other dimensions must contain a single numeric index or dimension label using `%` syntax.

Legal syntax for nonrange `[index]`

specifier is:

`[%label]`

3. Unspecified higher dimensions are treated as if `[0]` was specified.

For non-XY plots, the X-axis label uses the dimension label (if any) for the active dimension (the one with a range).

When cursors or tags are placed on a subranged trace, the point number used is the virtual point number as if the subrange had been extracted into a 1D wave.

Subrange syntax is also supported for waves used with error bars and with color, marker size and marker number as `f(Z)`. These correspond to the **ErrorBars** operation (page V-199) with the wave keyword and to the **ModifyGraph (traces)** operation (page V-613) with the `zmrkSize`, `zmrkNum`, and `zColor` keywords.

### Subrange Display Limitations

In category plots, the category wave (the text wave) may not be subranged. Waves used to specify text using **ModifyGraph** `textMarker` mode may not be subranged.

Subranged traces may not be edited using the draw tools (such as: option click on the edit poly icon in the tool palette on a graph).

Waterfall plots may not use subranges.

When multiple subranges of the same wave are used in a graph, they are distinguished only using instance notation and not using the subrange syntax. For example, given `display w[][0], w[][1]`, you must use **ModifyGraph** `mode(w#0)=1, mode(w#1)=2` and not **ModifyGraph** `mode(w[][0])=1, mode(w[][1])=2` as you might expect.

The trace instance and subrange used to plot given trace is included in trace info information. See **Identifying a Trace** on page II-321.