

**See Also**

CWT, FFT, and WaveTransform operations.

For further discussion and examples see **Wigner Transform** on page III-281.

**References**

Wigner, E. P., On the quantum correction for thermo-dynamic equilibrium, *Physics Review*, 40, 749-759, 1932.

Bartelt, H.O., K.-H. Brenner, and A.W. Lohman, The Wigner distribution function and its optical production, *Optics Communications*, 32, 32-38, 1980.

## Window

**Window** *macroName*([*parameters*]) [:*macro type*]

The Window keyword introduces a macro that recreates a graph, table, layout, or control panel window. The macro appears in the appropriate submenu of the Windows menu. Window macros are automatically created when you close a graph, table, layout, control panel, or XOP target window. You should use **Macro**, **Proc**, or **Function** instead of Window for your own window macros. Otherwise, it works the same as **Macro**.

**See Also**

The **Macro**, **Proc**, and **Function** keywords. **Data Folders and Window Recreation Macros** on page II-111 for details.

**Macro Syntax** on page IV-118 for further information.

## WindowFunction

**WindowFunction** [/FFT [=f] /DEST=*destWave*] *windowKind*, *srcWave*

The WindowFunction operation multiplies a one-dimensional (real or complex) *srcWave* by the named window function.

By default the result overwrites *srcWave*.

**Parameters**

|                   |  |
|-------------------|--|
| <i>srcWave</i>    | A one-dimensional wave of any numerical type. See <b>ImageWindow</b> for windowing two-dimensional data.   |
| <i>windowKind</i> | Specifies the windowing function. Choices for <i>windowKind</i> are:<br>Bartlett, Blackman367, Blackman361, Blackman492, Blackman474, Cos1, Cos2, Cos3, Cos4, Hamming, Hanning, KaiserBessel20, KaiserBessel25, KaiserBessel30, Parzen, Poisson2, Poisson3, Poisson4, Riemann, and an assortment of flat-top windows listed under <b>FFT</b> .<br><br>See <b>FFT</b> for window equations and details. The equations assume that /FFT=1. |

**Flags**

|                        |  |
|------------------------|--|
| /DEST= <i>destWave</i> | Creates or overwrites <i>destWave</i> with the result of the multiplication of <i>srcWave</i> and the window function.<br><br>When used in a function, the WindowFunction operation by default creates a real wave reference for the destination wave. See <b>Automatic Creation of WAVE References</b> on page IV-72 for details.   |
| /FFT [=1]              | The window interval is 0...N=numpts( <i>srcWave</i> ). This sets the first value of <i>srcWave</i> to zero, but not the last value. This is appropriate for windowing data in preparation for Fourier Transforms, and is the same algorithm used by <b>FFT</b> .<br><br>The window interval is 0...N=numpts( <i>srcWave</i> ) - 1 if /FFT is missing or /FFT=0. This sets the first and last value of <i>srcWave</i> to 0. This is the (only) algorithm that the Hanning operation uses. |