

## Mouse Events

Igor sends mouse down and mouse up events with the `eventCode` field of the `WMWinHookStruct` structure set to 3 or 5. With rare exceptions, your hook function should act on the mouse up event. Consider, for instance, a click on a button- the button's action should occur when you release the mouse button.

One exception is for a contextual click, that is, right-click on Windows, or Ctrl-click on Macintosh. On Macintosh, a contextual menu should be displayed on the mouse-down event. On Windows, the contextual menu should be shown on mouse-up, but in Igor confoundingly, the mouse-down is not delivered until the mouse-up has occurred. Thus, displaying a contextual menu on mouse-down on Windows will do the Right Thing.

A mouse click on a table cell causes Igor to send a mouse down event to your hook function before Igor acts on the click, allowing you to block the action by returning a non-zero result. Igor then sends a mouse down event after Igor has acted on the click.

In Igor6, the mouse down event was sent only when the selection was finished, that is, after the mouse up event occurred. If you have existing code that uses the mouse down event to get a table selection, you need to change your code to use the mouse up event.

## Modified Events

A modified event is sent when a modification to the window has been made. This is sent to graph and notebook windows only.

As of Igor Pro 9.00, modified events are sent to both top-level graphs and notebooks and also to graph and notebook subwindows. That means that a window hook on a control panel window could receive a modified event for a notebook or graph subwindow in the panel. In that case, the `winName` member of the `WMWinHookStruct` structure is set to the subwindow path.

It is an error to try to kill a graph or notebook window or subwindow from the window hook during the modified event.

The modified event is issued in Igor's outer loop when it is idling (i.e., after any processing is finished). This means that, if you modify a graph or notebook programmatically, the modified event is not sent to hook functions until Igor returns to idling.

Most changes to the graph are reported by the modified event, but not all:

Action	Sends Modified Event
Dragging axis	Yes
Dragging plot area	Yes
Dragging trace	Sent only after drag ends
Dragging annotation	Yes - see note 1
Adding, removing or changing a control	No
Showing or hiding drawing tools	No - see note 1
Showing or hiding info panel	No - see note 1

1. At present, only in top-level windows, not in graph subwindows.

2. But see events 18, 19, 20, and 21 in **Named Window Hook Events** on page IV-295.

In Igor Pro 9.00 and later, if you modify a notebook from a modified event, this does not cause recursion into your hook function.

If your hook function modifies a graph window, this may trigger another modify event after your function returns from the first. Without something to stop it, this will create a cascade of modified events. Checking