This is a very simple example, intended to show only the most basic aspects of fitting with a structure fit function. An advanced programmer could add a control panel user interface, plus code to automatically calculate initial guesses and provide a default value of the x0 constant.

The WMFitInfoStruct Structure

In addition to the required structure members, you can include a WMFitInfoStruct structure member immediately after the required members. The WMFitInfoStruct structure, if present, will be filled in by FuncFit with information about the progress of fitting, and includes a member allowing you to stop fitting if your fit function detects a problem.

Adding a WMFitInfoStruct member to the structure in the example above:

```
Structure expFitStruct
   Wave coefw                    // Required coefficient wave.
   Variable x                    // Required X value input.
   STRUCT WMFitInfoStruct fi     // Optional WMFitInfoStruct.
   Variable x0                   // Constant.
EndStructure
```

And the members of the WMFitInfoStruct:

WMFitInfoStruct Structure Members

Member	Description
char IterStarted	Nonzero on the first call of an iteration.
char DoingDestWave	Nonzero when called to evaluate the autodestination wave.
char StopNow	Fit function sets this to nonzero to indicate that a problem has occurred and fitting should stop.
Int32 IterNumber	Number of iterations completed.
Int32 ParamPerturbed	Index of the fit coefficient being perturbed for the calculation of numerical derivatives. Set to -1 when evaluating a solution point with no perturbed coefficients.

The IterStarted and ParamPerturbed members may be useful in some obscure cases to short-cut lengthy computations. The DoingDestWave member may be useful in an all-at-once structure fit function.

Multivariate Structure Fit Functions

To fit multivariate functions (those having more than one dimension or independent variable) you simply use an array for the X member of the structure. For instance, for a basic 2D structure fit function:

```
Structure My2DFitStruct
   Wave coefw
   Variable x[2]
   …
EndStructure
```

Or a 2D all-at-once structure fit function:

```
Structure My2DAllAtOnceFitStruct
   Wave coefw
   Wave yw
   Wave xw[2]
   …
EndStructure
```

Curve Fitting Using Commands

A few curve fitting features are not completely supported by the Curve Fitting dialog, such as constraints involving combinations of fit coefficients, or user-defined fit functions involving more complex construc-