Patch 3 for English Origin 6.1

In the following list, the ID numbers refer to OriginLab's internal bug tracking database IDs.

Bugs Fixed

1) The Save button on the NLSF Edit Function dialog box is disabled. This bug was introduced in version 6.1 Patch 2. ID = 9014

2) The logNormal built-in fitting function fails to fit properly due to the incorrect calculation of the partial derivatives. This bug existed in versions 6.0 through 6.1 Patch 2. ID = 8988

3) Converting random XYZ data to a matrix sometimes results in incorrect XY coordinate mapping. This bug existed in versions 6.0 through 6.1 Patch 2. ID = 8970

4) Stack bar and stack column plots do not display correctly when there are blank (not missing) values in the data. This bug existed in all previous versions. ID = 8959

5) Performing adjacent averaging on a dataset with missing values changes the associated X value to 0. This bug existed in versions 6.1 through 6.1 Patch 2. ID = 8945

6) Origin crashes when you delete an object that is attached to the page and that is on the non-active layer. This bug was introduced in version 6.1 Patch 1. ID = 8898

7) The number of points set on the Simulate Curves page of the NLSF is not remembered the next time you open the NLSF. This bug existed in all previous versions. ID = 8889

8) Changing the number of iterations in the NLSF.INI file has no effect on the maximum number of iterations setting in the NLSF. This bug existed in all previous versions. ID = 3855

9) The decimal point on the number keypad is not treated as a decimal point for some Windows Regional settings (for example, German). This bug was introduced in version 6.1 Patch 1. ID = 8766

10) The Level field on the Color Map tab of the Plot Details dialog box does not accept a number with a comma as the decimal separator (Windows Regional setting). This bug existed in versions 6.0 through 6.1 Patch 2. ID = 8858

LabTalk Additions, Changes, and Fixes

1) The **clip -c *winName path\fileName*;** command is no longer supported. However, LabTalk continues to support the **clip *winName*;** command to copy the *winName* graph page to the clipboard. ID = 8895

2) The number of points set on the Simulate Curves page of the NLSF does not reflect the value of **nlsf.xPoints**. This bug existed in all previous versions. ID = 8889

3) The **get -e** command returns an incorrect value when the dataset does not exist. This bug existed in all previous versions. ID = 8840

4) You can now view HTM documents from a local computer using the following notation:
win -aw "file://%Yhelp.htm"; // %Y holds the Origin path and directory.
Note that you must include the quotation marks. ID = 9105, 8302

5) Using substring notation with the not-equal-to operator causes a crash unless the substring is surrounded in quotation marks. For example:
%A="##$anystring";
if (%[%A,4] != "##$") {type no} else {type yes}; // crashes
if ("%[%A,4]" != "##$") {type no} else {type yes}; // does not crash
Omitting the quotation marks no longer causes a crash. This bug existed in versions 6.1 through 6.1 Patch 2. ID = 8920

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6) The **chkWksSelection** macro incorrectly sets the variables **nZCol**, **nYCol**, and **nXCol** if the worksheet has multiple X columns. This bug existed in all previous versions. ID = 9076

Patch 2 for English Origin 6.1

If you are applying Patch 3 *but did not apply Patch 2 and/or 1*, then you should also review the following release note information. These bug fixes and improvements are also included in your Patch 3 update. (Customers who have already applied Patch 1 and Patch 2 have been provided these notes previously.)

Bugs Fixed

1) Raising zero to a fractional power returns a missing value. This bug was introduced in version 6.1 Patch 1. ID = 8803
The implementation in Origin 6.1 Patch 2 is as follows:
For 0^x
If x > 0, then 0 is returned.
If x < 0, then a missing value is returned.
If x = 0, then 1 is returned (if **@ZZ** = 1). Otherwise, a missing value is returned.

2) Projects that contain Excel workbooks with sheet names starting with a number create error messages on saving. (The projects do save correctly.) This bug existed in versions 6.0, 6.1, and 6.1 Patch 1. ID = 8800

3) Statistics on columns fails if the leftmost selected column is empty. This bug existed in versions 6.1 and 6.1 Patch 1. ID = 8796

4) Subtracting a baseline causes the loss of one data point in the raw dataset. This bug existed in versions 6.0 Patch 4, 6.1, and 6.1 Patch 1. ID = 8826

5) Baseline subtraction uses the last computed baseline, not the baseline of the active dataset. This is only a problem when changing datasets in a multi-layer graph. This bug existed in versions 6.0 Patch 4, 6.1, and 6.1 Patch 1. ID = 8825

6) The **doc -e DY {***script***}** command executes {*script*} for all datasets in the active worksheet. This bug existed in version 6.0 and up. ID = 8814
The documentation for this command option follows:
If a graph window is active, execute for all data plots in the active layer excluding error bars and labels. If a worksheet is active, execute for all Y datasets (only) in the active worksheet. (If a matrix is active, there is only one iteration.) **%H** contains the window name and **%C** the dataset name in each iteration.

7) Offset plotting ignores indexed color and shape settings. This bug existed in versions 6.1 and 6.1 Patch 1. ID = 8791, 8792

LabTalk Additions

1) A new **window** command option has been added to specify a window label for the *windowName* window, and set the window to display the label in the window title. ID = 8816
window -rl *windowName* "*labelContents*";
This is equivalent to:
*windowName***!page.title = 1;**
*windowName***!page.label$ = "***labelContents***";**

2) A new threshold replace function is available for reviewing values in a dataset and replacing them with other values based on a condition. In the **treplace(***dataset, value1, value2* **[***, condition***])** function, each value in *dataset* is compared to *value1* according to the *condition*.

When the comparison is true, the value may be replaced with *Value2* or - *Value2* depending on the value of *condition*. When the comparison is false, the value is retained or replaced with a missing value depending on the value of *condition*. The **treplace( )** function is much faster than the ternary operator. (Continued on next page.)

The *condition* argument is optional and represents a sum of the following bit values:

Bit	Value	Condition
0	1	1 = Use Less Than in the comparison. 0 = Do not consider Less Than.
1	2	2 = Use Equal in the comparison. 0 = Do not consider Equal.
2	4	4 = Use Greater Than in the comparison. 0 = Do not consider Greater Than.
3	8	8 = Use the absolute value of *dataset* in the comparison. 0 = Use value of *dataset*.
4	16	16 = Keep original sign when replacing. 0 = Use *value2* regardless of original sign.
5	32	32 = When comparison fails, replace *dataset* with a missing value. 0 = Leave *dataset* alone.

You can calculate the value of *condition* by adding the number found in the Value column for all those conditions which should apply. Note that the first four bits affect the way the comparison is made, while the last two bits affect the action as a result of the comparison.

If *value1* is a missing value, then testing will only look at the Equal bit (bit value = 2) and ignore bit values 1, 4, and 8. If this bit is set to 2, then each value in *dataset* is tested to see if it is a missing value. All missing values in *dataset* are replaced with *value2*. If this bit is set to 0, then each value in *dataset* is tested to see if it is not a missing value. All non missing values in *dataset* are replaced with *value2*.

When the optional *condition* is not specified, the function assumes its value is 12 which is the sum of 4 and 8: Replace *dataset* with *value2* if the absolute value of *dataset* is greater than *value1*.

When the first three bits of *condition* are all zero (0, 8, 16, 24, 32, 40, 48 and 56), the comparison is always false.

When the first three bits are all one (7, 15, 23, 31, 39, 47, 55 and 63), the Less Than condition is ignored.

When Less Than and Greater Than are both set and Equal is not (5, 13, 21, 29, 37, 45, 53 and 61), the comparison is equivalent to Not Equal.

Example:

Data1_result = treplace(Data1_A, 1.5, 999, *condition*);

Values of **Data1_Result** for various *conditions*:

Data1_A	1	2	3	5	13	14
2	2	2	2	999	999	999
1.5	1.5	999	999	1.5	1.5	999
1	999	1	999	999	999	1
0	999	0	999	999	999	0
-1	999	-1	999	999	999	-1

Data1_A	1	2	3	5	13	14
-1.5	999	-1.5	999	999	-1.5	999
-2	999	-2	999	999	999	999

Data1_A	22	25	32	36	49	63
2	999	2	--	999	--	999
1.5	999	1.5	--	--	--	999
1	1	999	--	--	999	--
0	0	999	--	--	999	--
-1	-1	-999	--	--	-999	--
-1.5	-1.5	-1.5	--	--	-999	-999
-2	-2	-2	--	--	-999	-999

If you assign the results to the same dataset as the first argument, the original data may be changed. ID = 8793

3) A new **OnTool** macro is available to intercept the Data Reader and Screen Reader tools. The macro takes two arguments: **%1** = the tool's ID (3 for Data Reader, 2 for Screen Reader), **%2** = the tool's state. The tool's state is
%2 = 1 OnToolBegin
%2 = 0 OnToolEnd
%2 = 100 OnToolTrack
The **OnTool** macro has no script definition by default. ID = 8811

Patch 1 for English Origin 6.1

Bugs Fixed

1) If you paste missing values into a numeric column, the missing values display as zero values. ID = 8648

2) Vectors with zero magnitude display vector heads in the graph. ID = 8662

3) Identical data points (X,Y pairs) that are separated by missing values are not drawn correctly in the graph. ID = 8633

4) The 'Max. Number of Ticks' text boxes on the Axis tab of the Options dialog box do not correctly handle entries greater than 127. ID = 8657

5) Pressing CANCEL in the Export Options dialog box results in a Script window error message with some raster formats, and fails to stop the export with some vector formats. ID = 8620

6) An example does not display when Expression is selected for a user defined fitting function. ID = 3296

7) When certain HP printer drivers are set as the default on Windows 95/98 computers, Origin crashes when performing some math operations. ID = 8623, 8673

8) Simultaneously fitting a large number of datasets to a user defined fitting function causes a crash. ID = 8652

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9) Opening, selecting, adding, editing, or deleting a long fitting function (>250 characters) causes a crash. ID = 8653

10) Some nonlinear curve fitting categories are not displaying all functions. ID = 8679

11) The **diff( )** function treats missing values as zero. ID = 8680

12) You cannot assign a string to an Excel workbook cell using the **WorkbookName_ColName[*rowNum*]$ = "*string*"** notation. ID = 8606

13) In certain cases a crash occurs when you remove and add back data into a layer, and then change the plot type from line to column. ID = 8630

14) If a column's numeric display is set to Set Decimal Places and you select a cell in the column that contains an exponent ending in zero (such as E-10), when you activate another cell the value in the first cell changes. (Set Decimal Places is not the default setting, so this bug is rare.) ID = 8631

15) If you select an object that is "attached to the page", the layer that the object was created in becomes active. ID = 1364

16) If you magnify a graph that includes grouped data by pressing the CTRL key as you drag with the Enlarger tool, the Enlarged graph window does not display the grouped data with the correct display attributes. ID = 8670

17) If you assign an Excel workbook cell a missing value through script, the cell displays Origin's internal missing value. ID = 8712

18) Worksheet cell values exceeding 10^290 display as missing values and those below 10^-290 display as zeros. (The new upper and lower numeric display range is 10^307 and 10^-307.) ID = 8706

19) If you install a Dialog Builder OPK that contains a DLL onto a network client computer, the DLL is not found when you run the Origin client and the Dialog Builder application. ID = 8676

20) If you save a notes window with spaces in the file name, you cannot open the file using the **open -n *fileName* [*winName*]** command. (Note: Enclose *fileName* in quotation marks " ".) ID = 8608

21) If the *winName* notes window currently exists, the **open -n *fileName winName*** command will not open *fileName* into *winName*. ID = 8608

22) When simultaneously fitting multiple datasets, simulation does not always produce a theoretical curve. ID = 7585

23) If you click on the Data Selector tool from the Tools toolbar when a ternary diagram is active, Origin crashes after you click Yes in the Reminder Message. ID = 8733

24) User defined DLL fitting functions do not work on a network client installation. ID = 8703

Origin and OriginPro Additions

1) The nonlinear curve fitter now supports external DLL fitting functions where expressions for the partial derivatives are supplied in the implementation of the function. ID = 8665, 8639

2) The nonlinear curve fitter now supports external DLL fitting functions with more than one independent variable. ID = 8639, 7018

LabTalk Additions and Changes

1) The **cell(*colNum,rowNum*)** function has been changed to **cell(*rowNum,colNum*)**. ID = 8606

2) A new option has been added to the **layer** command to copy all data plots from one layer to another:

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layer -ic *plotName layerNumber*;
where *layerNumber* can be a variable that represents the layer number (1, 2, 3...). ID = 8670

3) The **exist( )** function has been expanded to check the version number and date of a DLL.
version=exist(*fileName***,1);**   // 1, 2, 3, or 4 to get the four bytes from the version resource
date=exist(*fileName***,5);**   // get the date in double, same unit as @D or internal Julian date
system. ID = 8591

4) Wizards developed with Dialog Builder can now be modeless. To open a modeless wizard, use the **dialog.start(***DllName***,** *DialogName***[,***ProcedureName***][,***OriginWindowState***])** method. ID = 8671

5) When displaying a graph in a Dialog Builder resource, use the following property to get the name of the source graph: *DialogName***!***GraphPlaceholderName***.graph$**. ID = 8739

6) New methods have been added to the Dialog Builder edit box object
EditBox.save(*path******fileName***)**   Write the contents of the edit box to an ASCII file.
EditBox.read(*path******file***.***ext***)**   Read text from the specified file and display it in the edit box. Handles up to 64 KB in size.
EditBox.set(*strVar***)**   Write the contents of the edit box to the specified string variable. The **%A** through **%Y** string variables have a buffer length of 267 bytes. For **%Z** it is 8192 bytes.
EditBox.get(*strVar***)**   Read the contents of the specified string variable and display it in the edit box. ID = 8667

7) A method has been added to the **type** object to clear the Results Log
type.clearResults( )   Clear all the results from the Results Log. ID = 8719

8) A property has been added to the **mat** object
mat.profile.interpolate   Control whether or not interpolation is used with the **mat.profile( )** method. 0 = no interpolation, 1 = interpolation. ID = 8700

Documentation Updates

1) The **image** object was incompletely documented in the version 6.1 LabTalk Help file. The complete information follows:

Properties:

FileName$ Read/write, string. Use to specify the source and destination file name.

LibError   Read only, numeric. Equals the last error that occurred in a third-party library. The **image** object is handled by the OIMG60 DLL. This DLL makes calls to third-party libraries. If an error occurs in a third party library then **LibError** will be set to the error number returned by the third-party library.

ShowOptions   Read/write, numeric. Used to specify if the Options dialog box should be displayed when the Image Export methods are called.

Methods:

GetExtList(*strVar***,** *list***)**   Get a list of supported file extensions and put it into *strVar*.
The extensions depend on the value of *list*. *list* can be one of the following:
        "EP" = Export Page
        "EM" = Export Matrix
        "IM" = Import Matrix
        "R" = Raster
        "V" = Vector
Returns the number of extensions copied into *strVar* or -1 for error.

IsVector(*extension***)**   Test if the specified extension is a vector format.
Returns 1 if format is vector, else 0.

Export SubObject:

Properties:

TempRaster   Read/write, numeric. When exporting to a raster format Origin creates a temporary image that will be converted to the destination image by the third-party library. Origin can pass an EMF or a BMP to the third-party library. Each format has its advantages and disadvantages. This property specifies which format to use.

  0 = EMF
  1 = BMP
  2 = BMP first, if BMP not successful then EMF

Option two exists because high resolution BMPs can quickly consume lots of memory and Windows 95 and 98 are limited to 16MB BMPs in memory. If the BMP is fails to be created then Origin will try an EMF.

VectorKeepSize   Read/write, numeric. When exporting vector formats Origin will pass an EMF to the third-party library. EMFs and WMFs are created using the Copy/Export Page Settings on the Page tab of the Options dialog box. If **VectorKeepSize** is 0 then the metafile is created using the settings in the dialog box. If **VectorKeepSize** is 1 then the metafile is created using the following settings:

Ratio = 100	**System.CopyPage.Ratio** = 100
Margin Control = Page	**System.CopyPage.Closeness** = 2
Advanced On (Simple off)	**System.CopyPage.Advanced** = 1
Keep Size On (Set Resolution off)	**System.CopyPage.AdvKeepSize** = 1

Methods:

Matrix(*matrix_name*, *image_type*)   Export a matrix window to a raster gray scale image.
matrix_name is the name of the matrix window to export.
image_type is the destination image type.
The destination file name is specified in **Image.FileName$**.
Example:
  Image.FileName$="myimage.bmp";
  Image.Export.Matrix(Matrix1, BMP);

PageDPI(*image_type*, *dots_per_inch*, *bits_per_pixel*, *compression*)   Export the active graph or layout window to an image using a dots per inch resolution.
bits_per_pixel is the color depth. Not all image types support all color depths. If the color depth specified is not supported by the specified image type then Origin will use the best matching color depth supported by the specified image type.
compression is the type of compression to use. Not all formats support compression.
  JPG can be from 2 to 255.
  TIF can be 0=none, 1=packbits, 2=LZW (if enabled)
The destination file name is specified in **Image.FileName$**.
Example:
  Image.FileName$="myimage.bmp";
  Image.Export.PageDPI(BMP, 96, 24, 0);

PagePixel(*image_type*, *width_in_pixels*, *height_in_pixels*, *bits_per_pixel*, *compression*)
Export the active graph or layout window to an image using a width and height in pixel resolution.
bits_per_pixel is the color depth. Not all image types support all color depths. If the color depth specified is not supported by the specified image type then Origin will use the best matching color depth supported by the specified image type.
compression is the type of compression to use. Not all formats support compression.
  JPG can be from 2 to 255. 2 is high quality, low compression. 255 is low quality, high compression.
  TIF can be 0=none, 1=packbits, 2=LZW (if enabled)

The destination file name is specified in **Image.FileName$**.
Example:
> **Image.FileName$="myimage.bmp";**
> **Image.Export.PagePixel(BMP, 640, 480, 24, 0);**

Import SubObject:

Methods:

Matrix(*matrix_name*)   Import an image into a matrix.
matrix_name is the name of the destination matrix window.
The source image file is specified in **Image.FileName$**.
Example:
> **Image.FileName$="myimage.bmp";**
> **Image.Export.Matrix(Matrix1, BMP);**

FileDlg SubObject:

Properties:

Title$ Read/write, string. Dialog box's title/caption. If set to "" then Windows default captions are used.

Path$ Read/write, string. Default and ending path.

FileName$ Read/write, string. Default and ending file name.

FileTypes$ Read/write, string. Image types to display in the dialog box's "Files of type" list.
This should be set to a list of image types returned by the **Image.GetExtList** method.

FileType   Read/write, numeric. The index of the default and ending image type in the dialog box's "Files of type" list.

Preview   Read/write, numeric. Set to 1 to enable or 0 to disable the dialog box's preview window.

Methods:

Open([*strVar*])   Show the Open dialog box. If the optional *strVar* is specified then the string variable will contain the full file name if the dialog box closes on OK or Open.
Example:
> **Image.FileDlg.Open( );**

2) The **system.product** and **system.resolution** properties were incompletely documented in the 6.1 LabTalk Help file. Updated information follows:
Only the first bit of the **system.product** property tells you if the version is OriginPro or not. To make a true determination, you must do a bitwise AND of **system.product** and the value 1 using the bitwise AND operator (**&**). For example:
if (system.product&1==1) {type -b "OriginPro";} else {type -b "Origin";};
The **system.resolution** property is the X resolution of the page and is dependent on the resolution of the printer driver in dots per inch (dpi). For related information, see the **page.resX** and the **page.resY** properties.

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