

# ORIGIN<sup>®</sup> 2015

## Graphing & Analysis

## Key Features

Use the following tables to check what new features have been added to Origin, compared to your version.

PROJECT MANAGEMENT	2015	9.1	9	8.6	8.5*	<8.5
Graph Preview, Comments Tooltip in Project Explorer	✓					
Find String anywhere in Project	✓					
Password Protection for Project/Worksheet/Files, and Audit Log of Project Save with Optional Password Protection	+	+	✓	✓	✓	✓
Add Comment to Origin Window/Folder	+	✓	✓	✓	✓	✓
Project Explorer(PE) to Help Organize Origin Data	+	✓	+	+	✓	✓
TIME SAVING FEATURES	2015	9.1	9	8.6	8.5*	<8.5
Collapsible Menus and Context Menus	✓					
F(x) Column Label Row for Column Formula	+	✓				
Set Multiple Column Values	✓	✓				
Copy & Paste Formula and Labels between Columns	✓	✓				
Copy & Paste Fitting Operation	✓	✓				
Batch Plotting - Duplicate Graphs Using Data from Different Sheets	+	✓				
Batch Analysis: Generate Gadget Output for All Data Plots in the Graph	✓	✓				
Repeat Analysis on All Plots in Graph or All Columns in Worksheet	✓	✓	✓	✓		
Copy, Paste and Apply Graph Format and Theme	+	✓	✓	✓	✓	✓
Batch Processing with Summary Report Using Analysis Templates™	✓	✓	+	✓	✓	✓
Batch Peak Fitting of Multiple Datasets Using Peak Analyzer Theme	PRO	PRO	PRO	PRO	PRO	PRO
Analysis Templates™ with Custom Report Sheets for Repeat Analysis	✓	✓	✓	✓	✓	✓
Consolidated Reports with Collapsible Tables	✓	✓	✓	✓	✓	✓
Save Analysis Dialog Settings as Theme for Future Use	✓	✓	✓	✓	✓	✓
Recalculation of Results on Data or Parameter Change	✓	✓	✓	✓	✓	✓

GRAPH TYPES	2015	9.1	9	8.6	8.5*	<8.5
Heat Map	✓					
Column Scatter Plot With or Without Jitter	✓					
Kernel Density Plot	✓					
Grouped Column Plots, Grouped Box Chart	+	✓				
Variable Column/Bar Width	✓	✓				
100% Stacked Column/Bar Plots	✓	✓				
3D OpenGL Waterfall	✓	✓				
3D Ternary Surface	✓	✓				
Piper/Trilinear Diagram	✓	✓				
Marginal Histogram/Box Chart	✓	✓				
3D Surface/Bar Plot From Worksheet XYZ Columns	✓	✓	✓			
3D Bar Plot with Z Error Bars	✓	✓	✓			
3D Parametric Function Plot	✓	✓	✓			
Radar/Spider Chart	✓	✓	✓	✓		
2D/3D Function Plot and 2D Parametric Function Plot	✓	✓	✓	✓		
Multiple Intersecting Surfaces	✓	✓	✓	+	✓	
3D Vector Plot	✓	✓	✓	+	✓	
3D Bar Plot	✓	+	+	✓	✓	✓
Image/Contour Profile Plot	+	✓	✓	✓	+	✓
Scatter Matrix	✓	✓	+	✓	✓	✓
Contour Plot	+	+	✓	✓	+	✓
Basic 2D, 3D, and Statistics Graphs	✓	✓	✓	✓	✓	✓

8.5\* is for Origin 8.5 and 8.5.1, + Feature improved in version

GRAPH CUSTOMIZATION	2015	9.1	9	8.6	8.5*	<8.5
New Tab-based Axis Dialog with Multi-axis Selection and Easy Navigation	✓					
Wrap Axis Tick Labels, Customize Individual Special Ticks, Custom Axis Scale Formula for 3D OpenGL Axis	✓					
Boundary Customization in Contour Plot	✓					
More Customization of Color Scale in Contour Plot	✓					
Linear and Nested Bubble Scale for Bubble Plot	✓					
Drag Legend to Multiple Columns, Hide Legend of Hidden Plots, Reverse Order of Legend	✓					
Custom Percentile and Jitter Points in Box Chart	✓					
Plot: User Defined Menu to Access Customized Templates	✓	✓				
Smart Labels - Auto Position of Data Labels	✓	✓				
User Defined Axis Scale Type	✓	✓				
Multiple Axis Breaks with No Gap	✓	✓				
Multiple Special Tick Labels	✓	✓				
Isometric - Link Axis Length to Scale	✓	✓				
More Legend Types: Box Chart Components, Point by Point, Categorical Values	+	✓				
Customized Color/Shape/Interior Increment List for Plot	✓	✓				
3D Surface Improvements: Lighting Effect, Mesh, Flatten, Shift	✓	✓	✓			
Zoom and Pan inside Graph Layer	✓	+	✓			
Customizable Data Info. Window to Read Coordinates and more	✓	✓	+	✓	✓	
Transparency and Gradient Fill Control in Graphs	✓	✓	✓	✓	✓	
Embed and Edit Microsoft Word, Excel and Equation Objects Inside Graphs and Layouts	✓	✓	✓	✓	✓	
Non-Linear Z-Axis, and Y- and Z-Value Colormap Support for Waterfall Plots	✓	+	✓	✓	✓	
Move, Rotate, Skew and Resize 3D Graphs	✓	✓	+	✓	✓	✓
Axis Tick Locations Controls	✓	+	✓	✓	+	✓
Box Chart with Box/Whisker/Outliers Controls	+	+	✓	✓	✓	✓
Fill Area Under/Between Line Plots	+	+	✓	✓	✓	✓
Polar Plot with Azimuth and Radial Axis Controls	✓	+	✓	✓	✓	✓

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DATA MANAGEMENT	2015	9.1	9	8.6	8.5*	<8.5
Search & Insert Function and Show Function Syntax Hint in Set Column Values Dialog Box	✓					
Customize Categorical Data Order and Apply it to other Columns	✓					
Append Worksheet Row-wise or Column-wise	✓					
Generate Patterned Data	✓	✓				
Sort Column by Values in Column Label Rows, Reduce Columns	✓	✓				
Lock Filter Condition in those Columns Linked to Source Columns	✓	✓				
Excel-Like Data Filtering	✓	✓	✓			
Floating Graphs in Worksheet	✓	✓	✓			
Split a Worksheet into Multiple Worksheets by Number of Columns/ Rows, or by Column Label	✓	✓	✓	✓		
XYZ Gridding in Logarithmic Scale	✓	✓	✓	✓	✓	
Reduce XY Data by Group, Reduce Data to Evenly Spaced X	✓	PRO	PRO	PRO	PRO	PRO
Reduce Each Column in Worksheet by Combining Duplicate Rows	+	✓	✓	✓	✓	✓
Pivot Table	+	+	✓	✓	+	✓
Stack Columns and Unstack Columns	✓	+	✓	✓	+	✓
Reduce XY Data by Group, Reduce Data to Evenly Spaced X	✓	PRO	PRO	PRO	PRO	PRO
Reduce Duplicate X Data, Reduce Data by Skipping Every N Points	✓	✓	✓	✓	✓	✓
Worksheet Query (Extract Values from Worksheet)	✓	✓	✓	✓	✓	✓
MISCELLANEOUS	2015	9.1	9	8.6	8.5*	<8.5
Zoom and Pan on Graphs, Worksheets, Matrices and Layouts	✓	✓	✓	+	✓	
Native 64-Bit and 32-Bit Applications	✓	✓	✓	✓		

IMPORTING	2015	9.1	9	8.6	8.5*	<8.5
Import SPSS Data Files	✓					
Importing OPJ	✓	✓				
Import Mat File Structure	✓	✓				
Specify Channel When Import MDF, NITDM, DIADem, Prism, pClamp, Matlab Data	✓	✓	✓			
File Import Menu Customization Dialogue	✓	✓	✓	✓		
Import TDMS 2009, MZXML and Prism Files	✓	✓	+	✓	✓	
SQL Editor for Database Import	✓	✓	✓	✓	✓	
Import Excel, Multi-Line CSV and Binary 2D Array	+	+	✓	✓	✓	✓
3rd Party Formats Support for pCLAMP 2.0, NI DIADem/TDM, ETAS MDF, JCAMP-DX, NetCDF, HDF5 etc.	✓	+	✓	✓	✓	✓
Graphically Construct SQL Queries	✓	✓	✓	✓	✓	✓
ASCII and Binary Import Wizard Provides Visual Feedback during Import	✓	+	✓	✓	✓	✓
Import Images (PNG, GIF, TIF, TGA, PCX, PSD, WMF ect (Convert to Raster))	✓	✓	✓	✓	+	✓
Drag-and-Drop Data File from Windows Explorer into Origin	✓	✓	✓	✓	✓	✓
Import Wizard Filter for Repeat Import of Similar Data	✓	✓	✓	✓	✓	✓
EXPORTING & PRESENTATION	2015	9.1	9	8.6	8.5*	<8.5
Creating Movies from Origin Windows using GUI Tool or Script	✓	✓	✓			
Graph Export Supports Transparency for PDF and EPS Format	✓	✓	✓	✓	✓	
Export All Graphs to PowerPoint	✓	+	✓	✓	✓	✓
Export ASCII Data to Existing File by Appending or Replacing	✓	✓	✓	✓	✓	✓
Slide Show Graphs and Layouts	✓	✓	✓	✓	✓	✓
Export Worksheet as Image, WAV, NI TDM/TDMS File or Multi-Page PDF Document	✓	✓	✓	✓	✓	✓
Graph Export Formats Include: AI, CGM, EPS, TIFF, PDF, JPEG, EMF, PSD, etc.	✓	✓	✓	✓	✓	✓
Export Image to Raster File Format	✓	✓	✓	✓	✓	✓

GADGETS	2015	9.1	9	8.6	8.5*	<8.5
Profile Gadget	✓					
Surface Integration Gadget	PRO	PRO				
Global Vertical Cursor Gadget Across Graphs	✓	✓	✓			
Intersect Gadget	✓	✓	✓	✓		
Quick Sigmoidal Fit Gadget	✓	✓	✓	✓		
Cluster Gadget	PRO	PRO	PRO	PRO	PRO	
Differentiate Gadget	✓	✓	✓	✓	✓	
Interpolate Gadget	✓	✓	✓	✓	✓	
Quick Peaks Gadget	+	✓	✓	+	✓	
Digitizer	✓	+	✓	+	✓	
Quick Fit Gadget	✓	✓	✓	✓	✓	✓
Rise Time Gadget	PRO	PRO	PRO	PRO	PRO	PRO
Integrate Gadget	✓	✓	✓	✓	✓	✓
FFT Gadget	✓	✓	✓	✓	✓	✓
Statistics Gadget	✓	✓	✓	✓	✓	✓
MATHEMATICS	2015	9.1	9	8.6	8.5*	<8.5
Show Polygon Area of Selected Contour Line in Data Display	✓					
Akima Spline in Interpolation	✓	✓				
2D Interpolation and Extrapolation	✓	✓				
Compute Polygon Area	✓	✓	✓	✓	✓	
Compute Surface Area and Matrix Area	PRO	PRO	PRO	PRO	PRO	PRO
2D Volume Integration	PRO	PRO	PRO	PRO	PRO	PRO
3D Interpolation	✓	PRO	PRO	PRO	PRO	PRO
Trace Interpolation on XY Data	PRO	PRO	PRO	PRO	PRO	PRO
1D Interpolation and Extrapolation	+	+	✓	✓	✓	✓
Interpolation and Extrapolation of Y From X	+	+	✓	✓	✓	✓
Trace Interpolation on XYZ Data	✓	✓	✓	✓	✓	✓
Normalization Across Multiple Columns or Curves	✓	✓	✓	✓	✓	✓
Set Column or Matrix Values by Using Mathematics Operations	+	+	+	+	✓	✓

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CURVE FITTING	2015	9.1	9	8.6	8.5*	<8.5
Zoom on Preview tab of Nonlinear Curve Fit	✓					
Improved Fitting Results: Add Normal Probability Plot of Residuals, Put Residual Plots in a Single Graph	✓					
Fit and Rank All Functions in a Category	✓	✓				
Orthogonal Regression for Implicit/Explicit Functions	PRO	+	PRO			
Calculate Standard Error for Derived Parameter	✓	✓	✓	✓		
Linear Fit with Support for X Error	PRO	+	PRO	PRO		
Surface Fit with Multiple Peaks	PRO	PRO	PRO	PRO	PRO	
New Fitting Function Builder for Fitting Function Creation	✓	✓	✓	✓	✓	
Graphical Residual Analysis for Fitting	✓	✓	✓	✓	✓	✓
Find-X/Find-Y Tool for Linear, Polynomial, and Nonlinear Fit	✓	✓	✓	✓	✓	✓
New Find-Z Tool for Nonlinear Surface/Matrix Fit	PRO	PRO	PRO	PRO	PRO	PRO
Fitting Comparison	PRO	PRO	PRO	PRO	PRO	PRO
PEAK ANALYSIS	2015	9.1	9	8.6	8.5*	<8.5
Multiple Peak Fit Tool	✓	✓	✓	✓	+	✓
Batch Peak Fitting	PRO	PRO	PRO	PRO	PRO	PRO
Peak Analyzer: Peak Fitting	PRO	PRO	PRO	PRO	PRO	PRO
Peak Analyzer: Fit Baseline with Peaks	PRO	PRO	PRO	PRO	PRO	PRO
Peak Analyzer: Peak Integration	+	✓	✓	+	+	✓
Peak Analyzer: Peak Finding	+	✓	✓	+	+	✓
Peak Analyzer: Baseline Detection	+	✓	✓	+	+	✓
Peak Analyzer: Baseline Subtraction	+	✓	✓	+	+	✓
SIGNAL PROCESSING	2015	9.1	9	8.6	8.5*	<8.5
LOWESS and LOESS Smoothing	✓	✓				
IIR Filter Design	PRO	PRO	PRO			
2D FFT Filter	PRO	PRO	PRO	PRO	PRO	PRO
Signal Envelope	PRO	PRO	PRO	PRO	PRO	PRO
Coherence	PRO	PRO	PRO	PRO	PRO	PRO
Signal Decimation to Reduce/Resample Data	PRO	PRO	PRO	PRO	PRO	PRO
1D FFT, Inverse FFT and 1D FFT Filter	✓	✓	✓	✓	✓	✓
2D FFT, 2D Inverse FFT	PRO	PRO	PRO	PRO	PRO	PRO
Short-Time Fourier Transform (STFT)	PRO	PRO	PRO	PRO	PRO	PRO
Wavelet Analysis	PRO	PRO	PRO	PRO	PRO	PRO
Hilbert Transform	PRO	PRO	PRO	PRO	PRO	PRO
2D Correlation	PRO	PRO	PRO	PRO	PRO	PRO

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STATISTICS	2015	9.1	9	8.6	8.5*	<8.5
Distribution Fit	PRO					
t-Tests on Rows	PRO					
Partial Least Squares Regression	PRO	PRO				
One/Two-Proportion Testing	PRO	PRO				
More Power & Sample Size Tests(One/Two-Proportion, One/Two Variance)	PRO	PRO				
Grubbs Test and Q-test to Detect Outliers	✓	+	✓			
Multivariate Analysis: Cluster Analysis	+	PRO	+	PRO		
Multivariate Analysis: Principal Component Analysis	+	PRO	+	PRO		
Multivariate Analysis: Discriminant Analysis	+	PRO	+	PRO		
ROC Curve	PRO	PRO	PRO	+	PRO	PRO
Survival Analysis: Kaplan-Meier, Cox Proportional Hazard, Log-Rank, etc.	PRO	+	PRO	PRO	PRO	PRO
Nonparametric Tests: Mann-Whitney Test, etc.	PRO	PRO	PRO	+	PRO	PRO
Power and Sample Size	PRO	+	PRO	PRO	PRO	PRO
One- and Two-Way Repeated Measures ANOVA	+	PRO	PRO	PRO	PRO	PRO
Hypothesis Testing	✓	+	✓	✓	✓	✓
Correlation Coefficient	+	PRO	PRO	PRO	PRO	PRO
Normality Test	✓	✓	✓	+	✓	✓
Basic Descriptive Statistics, 1D and 2D Frequency Count, Discrete Frequencies, One/Two-Way ANOVA	+	✓	✓	✓	✓	✓
PROGRAMMING	2015	9.1	9	8.6	8.5*	<8.5
Integrate Python as a Scripting Language in Origin	✓					
Ability to Encrypt OC code	✓					
Code Builder has New Editor Based on Scintilla Code, which Supports Code Folding, etc.	✓	✓	✓			
Origin C Access to Full NAG Mark 9 Library	✓	✓	✓	✓		
Generate LabTalk Script Command from Current Dialog Box Settings	✓	✓	✓	✓	✓	✓
X-Function: Easy Creation of Custom Tools with Automatic GUI by X-Function	✓	✓	✓	✓	✓	✓
X-Function: Execute X-Function from LabTalk Script and Menu	✓	✓	✓	✓	✓	✓
Command Window: Auto-Complete Support for Scripting	✓	✓	✓	✓	✓	✓