

Comparison of Origin and OriginPro

OriginPro provides all of the features of Origin, plus additional analysis tools and capabilities. The following tables provide comparisons between Origin and OriginPro in such areas as curve fitting, peak analysis, statistics, signal analysis, and image handling.*

Curve Fitting		Origin	OriginPro
	Linear Regression	✓	✓
	Linear Fit with X Error		✓
	Confidence Ellipse for Linear Fit	✓	✓
LINEAR AND POLYNOMIAL	Polynomial Regression	✓	✓
FITTING	Multiple Linear Regression	✓	✓
	Partial Leverage Plots in Multiple Regression	√	✓
	Residual Analysis	✓	✓
	Fitting Multiple Datasets	✓	✓
	Built-in Fitting Function and User- defined Fitting Function	√	✓
	Parameter Initialization and Derived Parameter Definition	√	√
	Bounds and Constraints	✓	✓
	Weighted Fitting	✓	✓
	Fitting with Y Error	✓	✓
NONLINEAR	Fitting with X and Y Errors (Orthogonal Regression)		✓
FITTING	Global Fit with Parameter Sharing	√	✓
	Fitting Replica Data	✓	✓
	Residual Analysis	✓	✓
	Fitting with Implicit Functions (Orthogonal Distance Regression)		✓
	Fitting Comparison		✓
	Fit and Rank Multiple Models		✓
	Surface Fitting		✓

Mathematics		Origin	OriginPro
	Simple Mathematics Operations on or Between Datasets	✓	√
SIMPLE MATH- EMATICS OPERA- TIONS	Set Cell, Column or Matrix Values by Using Mathematics Operations	✓	✓
	Normalization	√	✓
	1D Interpolation and Extrapolation	√	√
	Interpolation and Extrapolation of Y From X	✓	√
INTERPOLATION AND	Trace Interpolation on XY Data	✓	✓
EXTRAPOLATION	Trace Interpolation on XYZ Data	√	✓
	2D Interpolation and Extrapolation	√	√
	3D Interpolation	✓	✓
DIECEDENI	Numerical Differentiation	√	✓
DIFFEREN- TIATION AND INTEGRA- TION	1D Numerical Integration	√	✓
HON	2D Volume Integration		✓
	Polygon Area	√	✓
AREA CALCULATION	XYZ Surface Area		✓
	Matrix Surface Area		✓
OTHERS	Average Multiple Curves	√	√
OTHERS	Inverse of a Matrix	√	√

Note: New Apps are released frequently. Please visit originlab.com/Apps for the most up-to-date list.



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			Origin	OriginPro

Statistics		Origin	OriginPro
	Basic Descriptive Statistics	✓	✓
	1D and 2D Frequency Counts	√	√
	Correlation Coefficient		✓
	Partial Correlation Coefficient		√
	Cross Tabulation		✓
DESCRIPTIVE	Discrete Frequency	√	✓
STATISTICS	Distribution Fit		√
	Normality Test (Shaprio-Wilk, Lilliefors, Kolmogorov-Smirnov, Anderson-Darling, D'Agostino-K Squared, Chen-Shapro)	√	√
	Statistics Charts: Histogram, Box Chart, Scatter Matrix, QC Chart, Probability Plot, Q-Q Plot, and Pareto Chart	√	✓
	Grubbs Test and Q-test to Detect Outliers	√	✓
	One Sample and Two-Sample t-Test, Pair-Sample t-Test	✓	✓
HYPOTHESIS	Two Sample and Paired-Sample t-Test on Rows		√
TESTING	One Sample and Two Sample Hypothesis Tests for Variance		√
	One and Two-Proportion Test		✓
	One Way ANOVA, Two Way ANOVA	√	√
ANALYSIS OF VARIANCE	Three Way ANOVA		√
	ANOVA: Mean Comparison (Tukey, Bonferroni , Scheffe, Dunn-Sidak, Fisher LSD, Holm-Bonferroni, Holm-Sidak)	√	✓
	One Way and Two Way Repeated Measure ANOVA		✓

Statistics (con't)		Origin	OriginPro
	Paired Sample Sign Test		✓
	Wilcoxon Test for One Sample and Paired Sample		✓
	Two Sample Kolmogorov-Smirnov Test		√
NONPARA- METRIC TESTS	Mann-Whitney Test		√
	Kruskal-Wallis ANOVA		√
	Mood's Median Test		√
	Friedman ANOVA		√
	Principal Component Analysis		√
	Cluster Analysis		√
MULTIVARIATE ANALYSIS	Discrimininant Analysis		√
	Canonical Discriminant Analysis		√
	Partial Least Squares		√
	Kaplan-Meier Estimator		√
SURVIVAL ANALYSIS	Test Equality of Survival Functions (Log-Rank, Breslow and Tarone-Ware)		√
	Cox Proportional Hazard Model		✓
	Weibull Fit		√
POWER AND SAMPLE SIZE	One, Two and Paired-Sample t-Test, One Way ANOVA, One and Two-Proportion Test, One and Two -Variance Test		√
ROC CURVE	ROC Curve		√





	$\frac{2}{5}$ 5 total		
Signal Analysis		Origin	OriginPro
SMOOTHING AND FILTERING	Smoothing using Savitzky-Golay Filter, Adjacent Averaging, FFT Filter, and Percentile Filter	✓	✓
	FFT Filters: Low Pass, Low Pass Parabolic, High Pass, Band Pass, Band Block, and Threshold	√	✓
	IIR Filter Design		✓
	FFT with Basic Options	√	√

2D FFT and 2D FFT Basic

Discrete Wavelet Transform (DWT) and Inverse Discrete Wavelet Transform (IDWT)

Short-Time Fourier Transform (STFT)

Wavelet Smoothing

Wavelet Denoising

Continuous Wavelet Transform (CWT)

Coherence

1D Correlation

2D Correlation

Hilbert Transform

Signal Envelope

Signal Decimation

Rise and Fall Time Analysis

Evaluation of Continuous Wavelet Function

Convolution and Deconvolution

Filtering

Peak Analysis		Origin	OriginPro
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	Baseline Detection	✓	✓
	Baseline Subtraction	✓	✓
	Peak Finding	√	✓
	Peak Integration	√	✓
PEAK ANALYSIS	Batch Peak Analysis	√	√
	Peak Fitting		√
	Fit Baseline with Peaks		√
	Fit Individual Peaks with Different Fitting Functions		√
Gadget		Origin	OriginPro
	Surface Integration Gadget		✓
	Global Vertical Cursor Gadget Across Graphs	✓	√
	Intersect Gadget	✓	✓
	Sigmoidal Fit Gadget	√	√
	Cluster Gadget		✓
GADGETS	Quick Peaks Gadget	✓	√
	Differentiate and Interpolate Gadget	√	√
	Quick Fit Gadget	✓	✓
	Rise Time Gadget		✓
	Integrate, FFT and Statistics Gadget	✓	✓
Graphing		Origin	OriginpPtro
GRAPHING	Connect Data Points to Centroid, Show Convex Hull or Confidence Ellipse for Scatter Plot		√
	2D and 3D Graphing	√	✓

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FAST FOURIER

TRANSFORM

(FFT)

WAVELET

ANALYSIS

OTHERS



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APPS		Origin	OriginPro
	Best Subset Selection		√
	Pulse Fit		✓
	Redlich-Kister Polynomial Fit		✓
	Rank Models by Fit Reports		✓
	Linear Regression with Marginal Distribution		✓
	Neural Network Regression		✓
	Quantile Regression		✓
	Fit ODE		✓
	Global Fit with Multiple Functions		✓
	3D Smoother		✓
	Rank Models		✓
CURVE FITTING	Polynomial Surface Fit		✓
	Sequential Fit		√
	Piecewise Fit		✓
	Enzyme Kinetics		✓
	General Linear Regression		✓
	Composite Spectrum Regression		✓
	Fit Adsorption Isotherm		✓
	Find a Fitting Function	✓	✓
	2D Smoother	✓	✓
	Simple Fit	✓	✓
	Compare Datasets	✓	✓
	Compare Linear Fit Parameters and Datasets	✓	√
	Piecewise Peak Fitting		✓
	Batch Peak Integration		✓
	Tangential Baseline		✓
	X-Ray Diffraction Analysis		✓
PEAK ANALYSIS	2D Peak Analysis		✓

Gel Molecular Weight Analyzer

Global Peak Fit

Align Peaks

Peak Deconvolution

APPS (con't)		Origin	OriginPro
	Propagation of Error		✓
	Matrix Analysis		✓
	Optimization Solver		✓
	Apparent Integraion		✓
	Equations Solver		✓
	Concave Hull		✓
MATHEMATICS	Convert Global to Local Coordinates	✓	✓
	Popular Constants	✓	✓
	Curvature Radius	✓	✓
	Tangent	✓	✓
	Tafel Extrapolation	✓	√
	Distance Between Two Points	✓	√
	Level Crossing	✓	✓
	IIR Comb Filter		✓
	Signal-to-noise Ratio		✓
	Power Spectral Density		✓
	Gaussian Filtering in Surface Metrology		✓
	Rainflow Counting		✓
	Zoom FFT		✓
	Empirical Mode Decomposition		✓
SIGNAL	Modified Short-Time Fourier Transform		✓
PROCESSING	Direct Linear Transformation		✓
	Independent Component Analysis		✓
	Dynamic Time Warping		✓
	Simple pCLAMP Analyzer		✓
	Time-Frequency Analysis		✓
	Fourier Self-Deconvolution		✓
	FFT Examiner		✓
	Extract Ridge from Spectrogram		✓
	White Noise	✓	√

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APPS (con't)		Origin	OriginPro
	Reliability and Survival Analysis		✓
	Random Sample		✓
	Decision Tree Analysis		√
	Partial Least Squares-Discriminant Analysis		✓
	Time Series Analysis		✓
	Tolerance Interval		✓
	Attribute Agreement Analysis		✓
	Gage R&R Study		✓
	Statistical Process Control		✓
	Design of Experiments		✓
	Poisson Regression		✓
	Generalized Additive Model		✓
	Chi-Square Test for Contingency Table		✓
STATISTICS	Power and Sample Size for Equivalence Tests		√
	Sparse Principal Components Analysis		✓
	Generalized Linear Mixed Model		✓
	Abbott-Firestone Curve		✓
	Bootstrap Sampling		✓
	Effect Size for ANOVA		✓
	Steel-Dwass Test		✓
	Radiometric Geochronology Analysis		✓
	Advanced Time Series Analysis		✓
	Welch ANOVA		✓
	Overlap of Empirical Distributions		✓
	Structural Equation Modeling		✓
	Drug Dissolution Analysis		√
	Surface Roughness Parameters		✓
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PPS (con't)		Origin	OriginPro
	MANOVA		\checkmark
	Probit Analysis		✓
	ANOVA from Summary Data		✓
	Optimal Cluster Number		✓
	1D Statistical Parametric Mapping		√
	Detrended Correspondence Analysis		√
	Standard Curve Analysis		✓
	Linear Mixed Effects Model		✓
	SVM Classification		√
	Canonical Correlation Analysis		✓
	Nonmetric Multidimensional Scaling		√
ATICTICS	2D Correlation Spectroscopy Analysis		√
TATISTICS	Change Point Analysis		√
	Gaussian Mixture Models		✓
	Factor Analysis		✓
	Simple Time Series Analysis		✓
	Principal Component Analysis for Spectroscopy		√
	Advanced Principal Component Analysis		✓
	Post-hoc Analysis for Nonparametric Tests		√
	NetCDF Data Analysis		✓
	Mann-Kendall Test		√
	Asymmetric Correlation Matrix	√	✓
	Logistic Regression	√	√
	Hurst Exponent	√	√





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		Origin	OriginPro

APPS (con't)		Origin	OriginPro
IMAGE PROCESS-	NIfTI Slicer		✓
	Brain Atlas Analyzer		✓
	Image Object Counter		✓
	Bubble Image Area		✓
	Soil/Rock Classification Diagrams	✓	√
	Color Editor	✓	✓
	LaTeX	✓	✓
GRAPH	Google Map Import	✓	✓
CUSTOMIZATION	Maps Online	✓	✓
	Import Shapefile	✓	✓
	Colormap for Map Data	✓	✓
	Layer Stack Manager	√	✓
	Time-temperature Superposition		✓
	Classify Points in Graph		✓
	Video Data Explorer		✓
	Distributed Batch Processing		✓
	OPJ Packer		✓
	Text to Columns	✓	✓
DATA PROCESS- ING	Extract XY Data in Graph	✓	✓
	Project Manager	√	✓
	Periodic Report	✓	√
	Hysteresis	✓	✓
	Toolbar Maker	✓	√
	Data Slicer	✓	√
	OPJ Searcher	✓	✓

APPS (con't)		Origin	OriginPro
	Poincaré Plot		✓
	Youden Plot		✓
	Gardner-Altman Plot		✓
	Torsional Angle Wheel Plot		✓
	Piper Diagram		✓
	Marginal Abatement Cost Curve		✓
	Manhattan Plot for GWAS (Genome-Wide Association Studies)		✓
	Image Stack Profile		✓
	Heat Map with Dendrogram		✓
	3D Antenna Radiation Pattern		✓
	Correlation Plot		✓
	Polar Heatmap with Dendrogram		✓
	Stem-and-Leaf Plot	✓	✓
	Nyquist Plot	✓	✓
	Polar Contour Profile	✓	✓
	Means Plot	✓	✓
	Rectangle and Ellipse Profile	✓	✓
GRAPHING	Common Bar Width	✓	✓
	Color Spectrum Plot	✓	✓
	Hansen Solubility Parameter Plot	✓	✓
	Ternary Contour Profile	✓	✓
	Taylor Diagram	✓	✓
	3D Polar Strain Map	✓	✓
	Zoomed Inset Plus	✓	✓
	3D Wind Rose	✓	✓
	Isosurface	✓	✓
	Graph Maker	✓	✓
	Batch Plotting	✓	✓
	Chromaticity Diagram	✓	✓
	Paired Comparison Plot	✓	✓
	Kernel Density for Polar and Ternary	✓	✓
	3D Wall Profile	✓	✓
	Plot Sub Matrix	✓	✓
	Zoomed Inset	✓	✓
	Venn Diagram	✓	✓
	Volcano Plot	✓	√





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APPS (con't)		Origin	OriginPro
	Import Chem Data		✓
	DMD Connector	✓	✓
	RPC3 Connector	✓	✓
	Ivium Connector	✓	✓
	Import and Export STL	✓	✓
	Metrohm Connector	✓	✓
	Neware Connector	✓	✓
	Export to mat	✓	✓
	Perkin Elmer Connector	✓	✓
	XRDML Connector	✓	✓
	ChemStation Reader	✓	✓
	Flow Cytometry Standard Connector	✓	✓
	Nicolet WFT Connector	✓	✓
	Stiegele MDF Connector	✓	✓
	Shapefile Connector	✓	✓
	N42 Connector	✓	✓
	GeoTIFF Export	✓	✓
	Import PDF Tables	✓	✓
IMPORT AND	TDMS Connector	✓	✓
IMPORT AND EXPORT	Yokogawa WDF Connector	✓	✓
	MDF4 Connector	✓	✓
	BioLogic Connector	✓	✓
	MetroPro Connector	✓	✓
	Minitab Connector	✓	✓
	NetCDF Connector	✓	✓
	Word Connector	✓	✓
	Import NMR Data	✓	✓
	LeCroy Connector	✓	✓
	Import SAS XPT Files	✓	✓
	HTML Report Assistant	✓	✓
	Graph Publisher	✓	✓

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Note: If you don't see features listed here, it means they exist in both regular and Pro.



Import LSM

Movie Creator HDF5 Browser

Import Tektronix WFM Files

Agilent MS Reader

Export Multiple Worksheets
Send Graphs to Powerpoint
Send Graphs to Word

