

ProStat

Version 3

Win 95/98/ME/NT/2000/XP

Statistical Analysis and Technical Plotting

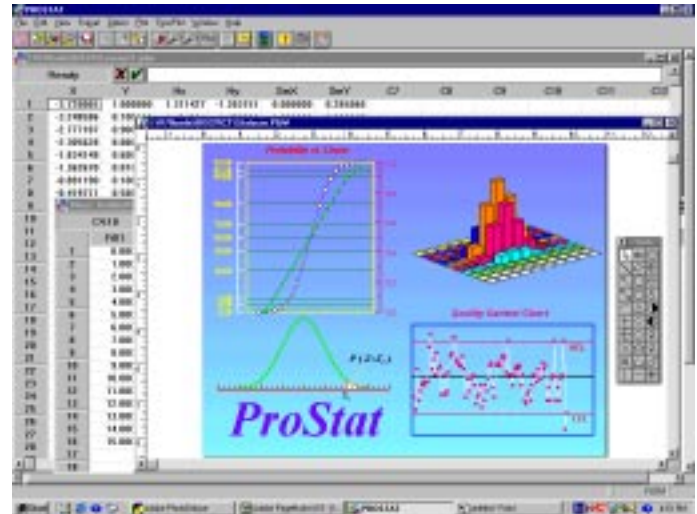
Overview

EASY TO USE: ProStat is specially designed for scientists and engineers, and minimal computer experience is required. Nine tutorial lessons are included to give users a quick start.

FAST: ProStat for Windows employs the best algorithms available and highly efficient memory management for numerical analysis and data storage.

POWERFUL: ProStat provides a powerful data sheet in which you can enter your data and begin analyzing immediately. You can also easily generate data from a variety of predefined functions. For data analysis, ProStat includes a full range of basic statistical methods and advanced multivariate statistical methods. For commonly used distributions, ProStat provides a convenient facility for conversion of area probabilities and critical values. ProStat also provides many mathematical methods for data manipulation, such as mathematical transformation, numerical integration and differentiation, and FFT.

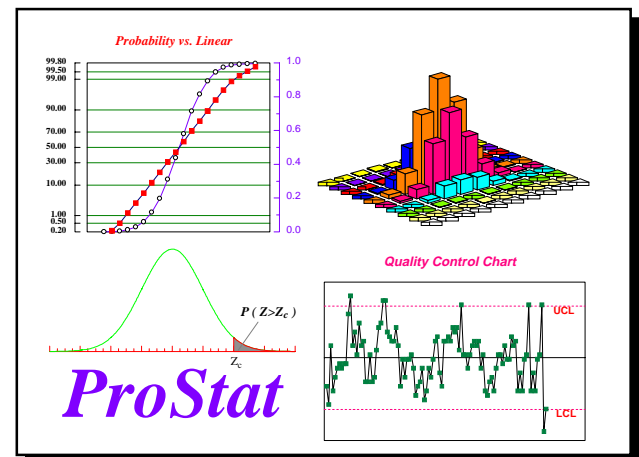
ProStat has a powerful plot window in which you can easily plot your data and statistical results. More than twenty 2D and 3D plot types are built in. A variety of plot-editing tools enable you to achieve publication-quality graphs. Your graphs can be easily exported into fifteen popular graphic formats for use in your word processing or presentation software.



Multiple graphs in one page --- created with ProStat

ProStat Offers:

- powerful scientific spreadsheet
- user friendly interface: easy to learn, easy to use
- data management over 100 million data points
- a wide range of numerical techniques
- data interpolation and curve fitting
- experimental model builder
- descriptive statistics
- data testing: t-test, F-test, nonparametric
- ANOVA, MANOVA, and ANCOVA
- multiple regression and stepwise regression
- factor analysis with rotation
- principal component analysis
- cluster analysis
- discriminant analysis
- correspondence analysis
- canonical analysis
- correlation analysis
- Time series analysis
- FFT and Fourier transform
- spectacular 2D and 3D graphics
- object oriented graphics editing tool
- impressive slide presentation
- superior publication quality output



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System requirements

- Win 95/98/ME/NT/2000/XP

Price

- Introductory price: \$299
- Shipping charge: \$8 in USA and Canada; \$30 elsewhere

Documentation

- Well-written users' handbook
- Online help system

Technical support

- Unlimited free technical support to all registered customers

ProStat Features List



ProStat Features List

Advanced Statistical Analysis

Data management

- 131,072 rows by 1024 columns
- WYSIWYG data sheet preview
- full data block-editing options: cut, copy, paste, delete, clear, insert, and undo
- supporting numbers, ASCII text, date, time
- data generation: algebraic, geometric, random (uniform, binomial, Gaussian, Poisson, and exponential), and user-defined
- IEEE numerics
- handling of missing data
- data sieving, ranking, sorting, normalizing, differencing, combining, summation, and frequency counting
- math transforms for multiple variables
- numerical differentiation and integration
- descriptive statistics and weighted average
- built-in calculator
- user-defined hot keys

Data import and export

- import: ASCII, Lotus, dBase, DIF, Excel, and Quattro Pro
- automatic file format detection
- export: ASCII, Lotus, dBase, and Excel

Testing

- *t*-test: one / two samples; paired / unpaired
- multiple *t*-test
- *F*-test
- nonparametric: sign, goodness of fit, Poisson, binomial, Wilcoxon rank sum, Wilcoxon sign rank, Friedman, Kruskal–Wallis, Mann–Whitney, Wald–Wolfowitz, Lilliefors, chi-sq, and Kolmogorov–Smirnov

Analysis

- factor analysis with four rotating methods: varimax, quartimax, equamax, and parsimax
- principal component analysis with four rotating methods
- cluster analysis: *k*-means and hierarchical
- discriminant analysis
- correspondence analysis
- canonical analysis

Regression analysis

- predefined: linear, multiple, stepwise, power, exponential, spline, polynomial, decay, logistic, hyperbola, Gaussian...
- user defined: nonlinear model with up to 50 equations
- user specified weighting factors
- parameter statistics: covariance matrix, standard error, standard deviation, goodness-of-fit statistics, and confidence and prediction intervals

ANOVA

- one-way: with or without repeated measurements

- two-way: with or without replication
- three-way factorial
- multiple comparison: Fisher, Bonferroni, Scheffe, Tukey, SNK, and Duncan
- ANCOVA
- one- and two-way MANOVA

Correlation

- Pearson, Spearman, Kendall, partial, multiple, serial, canonical

Fourier transform

- FFT and discrete Fourier transform
- data convolution

Time series

- index number
- autocorrelation and partial autocorrelation
- trend removal: mean, linear, power, exponential, and polynomial
- smoothing and forecasting: simple moving average, weighted moving average, exponential, spline
- simple and seasonal difference
- seasonal decomposition
- periodogram
- data tapering: Barlett and Von Hann

Quality control

- Pareto analysis
- quality control for measurements and attributes with user-defined sigma count
- process capability analysis:
 $C_{pk}, C_p, C_m, C_r, Z_U, Z_L, \text{ and } Z_{Min}$

Distribution

- critical value to (or from) tail probability conversion for commonly used distributions: normal, Student-*t*, *F*, chi-sq, exponential, Poisson, and binomial
- fitting sample data to 10 predefined distributions
- automatic creation of density-function data

Tables

- frequency table, McNemar, Fisher, contingency table

Publication Quality Plots

Plot editor

- full-page WYSIWYG editing mode
- full featured OLE 2.0 implementation: server / client
- dynamic link of plot and data sheet
- editable configuration for plotting objects
- optional on-screen rulers in either metric or English units
- optional page guidelines
- editing tools: copy, cut, paste, undo; group, ungroup; zoom, and unzoom
- drawing toolbox
- 28 accurate symbols
- user-controllable line size, style, and color
- data inspection: verification of data point along a curve

- moving, resizing, and rotation
- multiple graphs in one page
- user-designed background patterns for slide presentations
- template and batch plotting
- exportation to most popular graphics formats: EPS, PCX, CGM, HPGL, TIFF, WPG, DXF, BMP, GIF, JPG, MAC, WMF, PIC, and MacDraw

Plot types

- 2D curve: scatter, line, drop-line, polar, and vertical/horizontal error bars
- user-defined plot: different symbol color, style, size, and text label for each data point
- 2D pie chart
- 2D bar: horizontal/vertical bar charts with error bars, vertical/horizontal stack bars
- 2D special: open/closed area, vector, step, box, hi-lo, candle stick, column, histogram, Pareto, and quality control
- 3D plot: linear and log scales
- 3D curve: scatter, line, vector, drop line, and projection
- 3D bar: vertical and 3D histograms
- 3D surface
- multiple surfaces and curves
- function plot: 2D curves, 3D curves, and 3D surfaces

Axis types and labels

- linear, reciprocal, log decimal, log exponential, ln, logit, 10 base, probability, probit, day, month, date, and text
- axis breaking
- optional arrowhead: user specified arrow length, width, and fill style
- automatic or user-defined axis ranges and increments
- reverse axis scale, flip axis
- user-designed background for axes frame
- multiple axes with independent scales
- user-controllable grid-line style, size, and color
- automatic or manual labeling
- any angle rotation of axis labels

Error bars and confidence intervals

- automatic or user-defined error-bar values
- simultaneous vertical and horizontal error bars
- mean, standard deviation, standard error, median, quartile, and percentiles
- confidence and prediction intervals for nonlinear curve fitting

Coordinate system

- Cartesian 2D and 3D

Annotations

- easy-to-use legend editor
- text tool for annotation: text sizing and rotation
- creation of equations including symbols, superscripts, and subscripts
- alignment of text and graphics objects