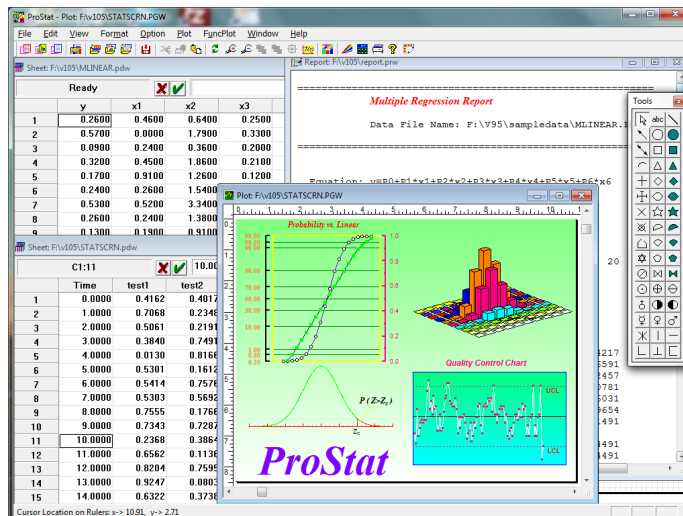# ProStat

Version 6.5

Win XP/Vista/Win 7

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 popular graphic formats for use in your word processing or presentation software.

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
- multiple regression and stepwise regression
- logistic regression
- descriptive statistics
- data testing: t-test, F-test, nonparametric
- ANOVA, MANOVA, and ANCOVA
- factor analysis with rotation
- principal component analysis
- cluster analysis
- discriminant analysis
- correspondence analysis
- canonical analysis
- correlation analysis
- Time series analysis
- Dose-response analysis
- FFT and Fourier transform
- spectacular 2D and 3D graphics
- object oriented graphics editing tool
- impressive slide presentation
- superior publication quality output

Multiple graphs in one page --- created with ProStat
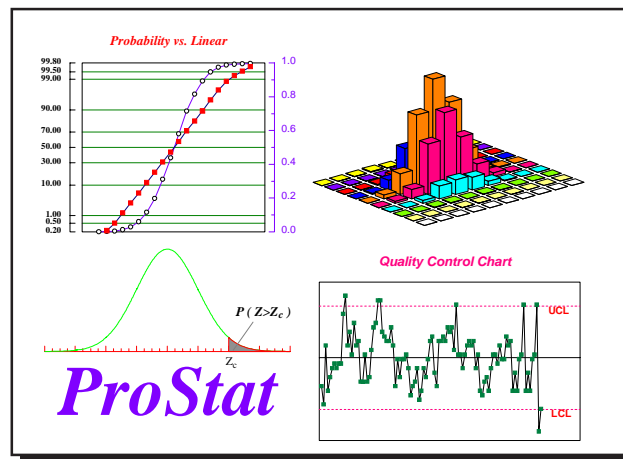
Poly Software International ®
www.polysoftware.com
P.O. Box 60
Pearl River, NY 10965
USA
Phone (845) 735-9301
Fax (845) 735-9303

30-Day Money Back Guarantee !!!

System requirements
- Win 95/98/ME/2000/XP/Vista

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

- 1,048,576 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, and user-defined
- handling of missing data
- data sieving, ranking, sorting, normalizing, differencing, combining, spltting, 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
- user-defined macro

Data import and export

- import: ASCII, Excel, CSV, Lotus, dBase, DIF, Wave, and Quattro Pro
- export: ASCII , Excel, Lotus, and dBase

Testing

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

Analysis

- factor analysis with four rotating methods: varimax, quartimax, equamax, and arsimax
- principal component analysis with four rotating methods
- cluster analysis: k-means and hierarchical
- discriminant analysis
- correspondence analysis
- canonical analysis
- Kaplan-Meier survival
- Weibull analysis

Regression analysis

- maximum likelihood methods for generalized linear models (GLM)
- over 100 predefined models
- three robust fitting methods: Levenberg-Marquardt, Powell, and simplex
- user defined model with up to 50 equations
- user specified weighting factors
- parameter statistics: goodness-of-fit statistics, confidence & 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, Duncan, and Dunnett
- ANCOVA
- one- and two-way MANOVA

Correlation

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

Dose-response analysis

- logit and probit models for LD50/LC50 (or LD/LC at any probabilty level) with confidence intervals
- four- and three-parameter sigmoidal models for EC50/IC50/DC50/GI50

Fourier transform

- FFT and discrete Fourier transform
- data convolution

Time series

- singular spectrum analysis
- autocorrelation and partial autocorrelation
- trend removal: mean, linear, power, exponential, and polynomial
- smoothing and forecasting: simple and 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:

  $C_{pk}, C_p, C_m, C_r, Z_U, Z_L,$ 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 data to 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 with changeable mouse cursor
- 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
- 32 accurate symbols
- user-controllable line size, style, and color
- data inspection: verification of data point along a curve
- moving, resizing, and rotation
- multiple curves in one graph
- multiple graphs in one page
- user-designed background patterns for slide presentations
- template and batch plotting
- real-time plotting
- exportation to most popular graphics formats: Postscript, EPS, WMF, EMF, JPG, PDF, TIFF, GIF, BMP, and PNG

Plot types

- 2D curve: scatter, line, drop-line, polar, and vertical/horizontal error bars
- user-defined: different symbol color, style, size, and text label for each data point
- 2D pie chart
- 2D bar: horizontal/vertical bar charts with error bars, stack bars, and grouped bars
- 2D special: open/closed area, vector, step, boxplot, hi-lo, candle stick, column, histogram, Pareto, quality control, and tableau plots
- 3D plot: linear, log, reciprocal, probability, logit, and probit scales
- 3D curve: scatter, line, vector, drop line, and projection
- 3D bar: vertical bars, stack bars, 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, log(log), logit, decibel, exponential, probability, probit, reciprocal percent, currency, date-time, and text
- axis breaking
- axis with optional arrowhead
- 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
- error bars in four directions
- 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
- creation of equations including symbols, superscripts, and subscripts
- alignment of text and graphics objects