



JMSL Numerical Library for Java™ Applications

"The numerical libraries in the JMSL Numerical Library allow iSTRDYN (Dynatech analysis software package) to reliably solve heat transfer, forced response, and natural frequency calculations of large, complicated rotating systems. This frees us to concentrate on providing analysis features, rather than worrying about developing solution algorithms."

LYN GREENHILL
PRESIDENT
DYNA TECH ENGINEERING

"I use JMSL's classes as the building blocks to construct Java applets. I tried other products that provided both numerical functions and graphing capabilities. However, they did not provide adequate interactivity comparable to Java applets."

GARY McCLELLAND
PROFESSOR, DEPARTMENT OF PSYCHOLOGY
UNIVERSITY OF COLORADO, BOULDER

Advanced Numerical Analysis Combined with Charting

The JMSL Numerical Library for Java applications is the broadest collection of mathematical, statistical, financial, data mining and charting classes available in 100% Java. It is the only Java programming solution that combines integrated charting with the reliable mathematical and statistical functionality of the industry-leading IMSL® Numerical Library algorithms. This blend of advanced numerical analysis and visualization on the Java platform allows organizations to gain insight into valuable data and share analysis results across the enterprise quickly.

Mathematical, Statistical and Charting Functionality

The JMSL Library provides robust data analysis and visualization technology for the Java platform and a fast, scalable framework for tailored analytical applications. By leveraging its pre-built algorithms, users can save weeks or months of development effort by embedding JMSL Library functions rather than building new algorithms from scratch.

The JMSL Library provides a broad range of functionality, from basic algorithms such as linear algebra and regression to advanced neural network forecasting and other data mining, modeling and prediction technologies. The neural network forecasting classes have tremendous potential for businesses by offering the ability to build predictive models using historical data and training the network to optimize the model over time as more information is obtained. This functionality can be applied to an unlimited set of applications, such as bioinformatics and life sciences, fraud detection, risk management and portfolio optimization, manufacturing yield analysis and more.

Mathematical Functionality	Statistical Functionality	Charting Functionality	Data Mining Functionality
Linear Systems	Basic & Non-parametric Statistics	Function and Spline	Neural Network Engines
Eigensystem Analysis	Time Series and Forecasting	Line, Pie, Scatter Bar, & Box	Neural Network Data Pre-processors
Interpolation & Approximation	Tests of Goodness of Fit	Polar, Area, Contour, & Histogram	...and much more
Nonlinear Equations	Regression	Support for XML	
Optimization	Multivariate Analysis	Date and Time Support	
Finance & Bond Calculations	Probability Distribution Functions	Fully Interactive Capabilities	
Differential Equations	Random Number Generator	High-Low-Close	
...and much more	...and much more	Heat Map	
		...and much more	

WHAT'S NEW IN VERSION 5.0

- **Improved performance**
- **Process control charts**
- **New functions**
 - Sparse linear algebra
 - Spline 2D
- **Additional updates and enhancements**

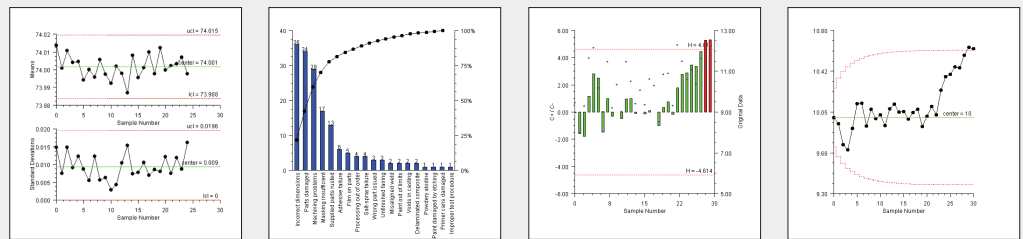
Improved Performance

Algorithms in the JMSL Numerical Library V5.0 have been updated to take advantage of new features in Java that will help improve application performance. JMSL Numerical Library users should see significant performance improvement, especially in function areas like Fast Fourier Transform (FFT) algorithms and matrix multiplication.

Process Control Charts

The JMSL Numerical Library V5.0 offers 13 new classes of process control charts. Any application that requires quantitative analysis (e.g., SixSigma quality management applications, environmental applications, life sciences applications) could benefit from these highly customizable charts. New types available include:

- X-Bar/R-Chart
- CuSum Chart
- P-Chart and NP-Chart
- Pareto Chart
- U- and C-Charts



Many new quality control charts are available with the JMSL Numerical Library V5.0

New Functions

A new sparse linear algebra function adds to the extensive list of linear system functions available in the JMSL Numerical Library. The sparse linear algebra function efficiently solves the sparse matrix problems (matrices in which most of the elements are zero) that are common in application areas like engineering and financial modeling.

Also new with V5.0 is a spline 2D function to help with the computation of curves. Common application areas for spline computations include science (e.g., surface computations in physics), biomechanics and business.

Expert Consulting Services

Augment development productivity by utilizing Visual Numerics' expert consulting team to help find the best solution to any problem and deliver the support needed to ensure continued success. The highly-skilled technical experts in Visual Numerics' consulting organization collaborate with customers to identify specific application requirements at the initial phase of every project. Visual Numerics' consultants provide all levels of support from custom algorithm development to simply helping customers better understand their analysis and visualization needs. Customers can rely on Visual Numerics' technical expertise and dedicated, hands-on help to achieve the highest return on investment.

USA Contact Information

Visual Numerics has Offices Worldwide