

The IMSL logo is displayed in a large, white, serif font against a blue background. The letters 'I', 'M', and 'S' are significantly larger than the 'L'. A small 'TM' trademark symbol is positioned to the upper right of the 'L'.

## IMSL Fortran Numerical Library

*"Not only do the algorithms allow researchers to forgo the often arduous task of writing their own, but the IMSL algorithms are accepted as a standard by numerous major government agencies and departments."*

Jim Braun  
Senior Research Engineer  
Johnson Controls

One of the first rules of high performance computing is speed. Program speed is critical for your applications. You need fast, reliable, complete, and convenient algorithms for your most important tasks.

Do not spend months developing your own algorithms or backtracking because of errors in unreliable products or the inability to interface with legacy systems.

You will find accurate and trustworthy Fortran algorithms available in the IMSL™ Fortran Numerical Library with full coverage of mathematics and statistics and 100% backward compatibility for over two decades.

### The Gold Standard for Over Three Decades

The IMSL Fortran Numerical Library is highly accurate and reliable. It contains proven technology that has been thoroughly tested, well documented, continuously maintained and used by developers worldwide for more than three decades. Instead of writing, testing and documenting complex mathematical and statistical algorithms from scratch, the IMSL Fortran Library provides widely used routines that significantly help accelerate development time. It delivers high-performance computing software needed to develop sophisticated numerical analysis applications.

### The Original, Easy-to-Use Fortran Library

The IMSL Fortran Numerical Library is the most convenient to use Fortran Library available today due to the fact that:

- The IMSL Fortran Numerical Library allows users to utilize the fast, convenient optional arguments of the modern Fortran syntax for 100% of the relevant algorithms in the library, saving a tremendous amount of time in coding and helping to avoid errors
- It is backward compatible, ensuring that legacy code can run on future releases
- Naming conventions resemble abbreviations of the actual algorithm name, avoiding the need to learn and remember special function names

### Now, Fortran is Twice as Nice

Visual Numerics now offers the accurate and reliable algorithms from its Fortran Numerical Library in two editions – the IMSL Fortran Numerical Library and the new IMSL Thread Safe Fortran Numerical Library.

**KEY BENEFITS**

- **Saves time and expense**  
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- **Accelerates application development**  
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- **Improves quality and reduces uncertainty**  
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- **The only comprehensive Fortran library provided as a single package**  
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- **Allows development of flexible applications**  
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- **Full backward compatibility**  
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- **Unmatched ease of use**

**IMSL FORTRAN NUMERICAL LIBRARY**

The IMSL Fortran Numerical Library is a comprehensive library of mathematical and statistical algorithms for Fortran developers available in one cohesive package. It combines the powerful and flexible interface features of the Fortran language with the performance benefits of both distributed memory and shared memory multiprocessing architectures.

The current version of the IMSL Fortran Numerical Library has expanded offerings with a number of new routines and easier to use interface modules. It also has new optimization functionality and new statistical time series algorithm codes, making it an even broader and more complete package than ever before.

**IMSL THREAD SAFE FORTRAN NUMERICAL LIBRARY**

In addition to The IMSL Fortran Numerical Library, a new thread safe edition is now available. The IMSL Thread Safe Fortran Numerical Library, which has derived its code base from the IMSL Fortran Numerical Library, is the only commercially available library of its kind that has 100% thread safety for optimal speed and convenience. It has all of the algorithms, features, and benefits of the IMSL Fortran Numerical Library with special functionality for thread safe computing. This means that the routines have been checked and tested to ensure that multi-threaded, parallel applications can rely on the entire library 100% of the time.

Thread safety allows programmers to call the same routine multiple times in the program and have multiple instances of the routine running on multiple threads in parallel. Multi-threading is extremely important because it improves performance and simplifies programming.

The new thread safe edition of the IMSL Fortran Library is available on selected platforms, so please contact Visual Numerics for more information regarding supported computing platforms.



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**Visual Numerics has Offices Worldwide**

USA • UK • France • Germany • Mexico  
Japan • Korea • Taiwan

For contact information, please visit  
[www.vni.com/contact](http://www.vni.com/contact)

**Technical Experts Who Are the Best in the Industry**

You can rely on Visual Numerics' expert consulting team to help you find the best solution to your problem and ensure your continued success. Our consultants and developers collaborate with customers to identify specific application requirements at the initial phase of every project. We can provide any level of support from custom algorithm development to simply helping customers better understand their analysis and visualization needs. Get the technical expertise and dedicated, hands-on help to accomplish the highest return on your application development investment.