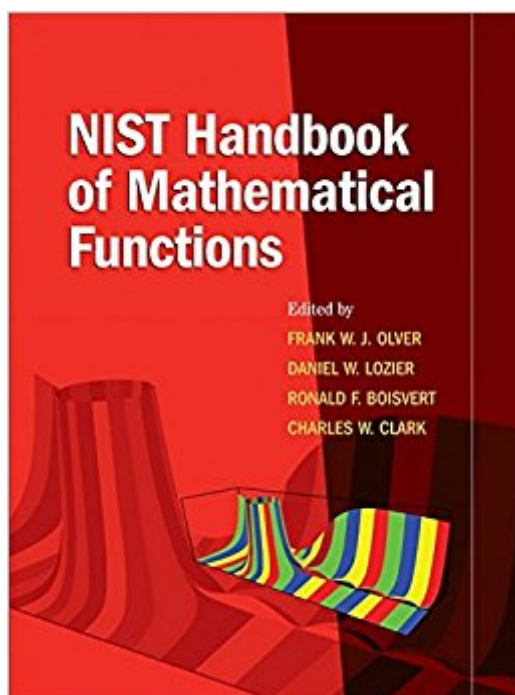


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# NIST Handbook Of Mathematical Functions Paperback And CD-ROM



## Synopsis

Modern developments in theoretical and applied science depend on knowledge of the properties of mathematical functions, from elementary trigonometric functions to the multitude of special functions. These functions appear whenever natural phenomena are studied, engineering problems are formulated, and numerical simulations are performed. They also crop up in statistics, financial models, and economic analysis. Using them effectively requires practitioners to have ready access to a reliable collection of their properties. This handbook results from a 10-year project conducted by the National Institute of Standards and Technology with an international group of expert authors and validators. Printed in full color, it is destined to replace its predecessor, the classic but long-outdated Handbook of Mathematical Functions, edited by Abramowitz and Stegun. Included with every copy of the book is a CD with a searchable PDF of each chapter.

## Book Information

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"The NIST Handbook is a handsome product, with large pages and large type. The book is quite heavy; for convenience, one might be inclined to place it on a stand, as with an unabridged dictionary. The book contains numerous graphics, almost all in color. References and cross references to books and articles abound. Applications to both the mathematical and physical sciences are indicated. The NIST Handbook is indeed a monumental achievement, and the many, many individuals who participated in its creation and dissemination are to be congratulated and thanked." Philip J. Davis for SIAM News "An outstanding group of editors, associate editors and validators updated and extended the classic NBS Handbook of Mathematical Functions, edited by

Abramowitz and Stegun. The National Institute of Standards and Technology (NIST) and Cambridge University Press are to be congratulated for publishing a treasury. It is eminently readable with clear, sharp, high-contrast text, mathematical notation and colored graphs and figures, The entire book is contained in a CD-ROM with a searchable PDF. From Leibnitz to Hilbert, from modern science and engineering to other disparate fields of study, functions are ubiquitous, fascinating and beautiful objects of human ingenuity. A prerequisite to their use is to understand their properties, and this handbook provides a direct and concise solution. It contains an extensive bibliography, a list of notations, and an index. The general format for each group of functions includes notation, properties, applications, computation and references. People who work with functions will delight in this handbook." Barry Masters for Optics & Photonics News"... an excellent product." J. H. Davenport, Computing Reviews"This is like trying to review the bible: it would be eccentric to argue that it is not a "thoroughly good thing". It's the modern successor to the wonderful Handbook of Mathematical Functions, edited by Abramowitz and Stegun, and maybe that's enough said. In summary, this splendid work doesn't really need the approbation of a mere reviewer. And now I'm off to look up my first unidentified integral to see if it's a standard form." Martin Crowder, International Statistical Review"The editors, associate editors, chapter authors, validators, and NIST staff members deserve our thanks for their very successful and valuable product." Robert E. O'Malley, SIAM Review"NHMF and the online version DLMF are a treasure for the mathematical and scientific communities, one that will be used and valued for decades. The organization, presentation, and general appearance are excellent. This beautiful book reflects credit on everyone and every organization involved; NIST; the National Science Foundation for funding; those who organized the project and obtained the funding; the advisors, editors, authors, and validators; and Cambridge University Press. Above all, NHMF and DLMF are a monument to the efforts of the editor-in-chief, author of one chapter of A&S and author or coauthor of five chapters of this successor volume, Frank Olver." Richard Beals, Notices of the AMS

This handbook results from a 10-year project conducted by the National Institute of Standards and Technology with an international group of expert authors and validators. Printed in full color, it is destined to replace its predecessor, the classic but long-outdated Handbook of Mathematical Functions, edited by Abramowitz and Stegun. Included with every copy is a CD with a searchable PDF of each chapter.

The new NIST Handbook of Mathematical Functions began as a project in 1996, culminating in the

publication of the Handbook in 2010. As a successor to another classic -- Abramowitz & Stegun -- much was expected, and has been delivered. Compared to the original, the overall style is similar, yet somehow the presentation appears to be less telegraphic, even though it is clearly meant to be used as a reference. The graphics are much improved and the sections on computation methods provide useful references (the use of tables, now obsolete, has been dispensed with). There are also some relatively unique contributions (e.g., the chapter on integrals with coalescing saddles). Finally, one must also mention the Handbook's Web companion, the NIST Digital Library of Mathematical Functions (DLMF; [...]), containing even more information and packed with extra resources (Handbook errata, hyperlinks, downloads, LaTeX encodings). The editors and the mathematicians who labored over the Handbook and the DLMF deserve all of our praise and gratitude.

This book in its new form has become a very valuable and indispensable to any researcher in mathematics, especially in the field of special functions. It is one of the books that does not leave my office, as well its electronic version on my personal computer. It really guides me in all of my lectures, as well as a basic reference in all my research.

This is a awesome collection of math functions.

A great resource! Lovely plots and graphs. The fonted PDF is WONDERFUL! I teach a course on special functions and find having the PDF on my tablets/laptops/computers/dropbox to be a big plus.

Great book. If you are not into computational graphical simulation this is the book to visualize all sorts of behaviors of functions. Better to have Tables of integrals series and products - Gradshteyn and Ryzbik with this book though.

A must have in every engineer's collection. So far I have used only the chapter on exponential (and related) integrals. Liked the presentation very much. Well typeset, easy to refer to and with plenty of references to follow-up. A fitting "sequel" to the venerable "Handbook of Mathematical Functions."

Almost everyone who works with special mathematical functions will have had reason to profit from the 1960's classic Abramowitz and Stegun. The NIST Handbook takes all the useful stuff from A&S

(leaving out all the tables of values which are now of little use), and adds the extra knowledge accumulated during the last 50 years of numerical and analytic research. The NIST Handbook will be indispensable to all those applying mathematics to technical subjects.

This new edition is exactly what I was waiting! The book was updated to include new material, in particular, those important and related with the new research areas in Physics. The book also included the corrections for the prior editions mistakes as well as some typographical errors. There is no doubt, it is a nice and precious volume!

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