

**Kaucher/Kulisch/Ullrich (Eds.)**

**Computerarithmetic**

**Scientific Computation and Programming Languages**

**1987. 456 pages.**

**ISBN 3-519-02448-9 Paper DM 88.--**

The volume presented herewith informs about some methods on which the latest releases of ACRITH - ACRITH is the joint development of the Institute of Applied Mathematics at the University of Karlsruhe and IBM - are based. Other articles cover applications of these methods in various fields of numerical mathematics, such as sparse matrices, non-linear systems of equations, ordinary and partial differential equations, etc.

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Kulisch (Ed.)

**PASCAL-SC**

**Information Manual and Floppy Disks**

**A PASCAL Extension for Scientific Computation**

By Dipl.-Math. Ulrich Allendörfer, Dr. Harald Böhm, Dr. Gerd Bohlender, Dr. Kurt Grüner, Dr. Jürgen Wolff von Gudenberg, Dr. Edgar Kaucher, Dr. Reinhard Kirchner, Dr. Rudi Klatte, Prof. Dr. Ulrich Kulisch, Dr. Michael Neaga, Prof. Dr. L. B. Rall, Dr. Siegfried M. Rump, Ralf Sailer, Lioba Schindele, Prof. Dr. Christian Ullrich, Prof. Dr. Hans-Wilm Wippermann

1987. 216 pages and two Floppy disks for IBM-PC.  
(Wiley-Teubner Series in Computer Science)  
ISBN 3-519-02106-4 Bound DM 88,--

The new extended PASCAL system called PASCAL-SC (PASCAL for Scientific Computation) is the result of a long-term effort by a team of scientists to produce a powerful tool for solving scientific problems. Due to its properties, PASCAL-SC is also an excellent educational system. The highlights of the system are:

- PASCAL-SC contains ordinary PASCAL
- powerful language extensions like functions with arbitrary result type and user defined operators
- the screen-oriented editor checks the syntax interactively
- decimal floating-point arithmetic and packages providing optimal arithmetic for many higher data types such as complex numbers and intervals as well as corresponding vectors and matrices
- PASCAL-SC demonstration package
- application packages solving linear systems, computing eigenvalues and eigenvectors and evaluating zeros of polynomials and rational expressions

This manual describes the complete PASCAL-SC system and its implementation and use on the IBM-PC (operating system DOS). Two included floppy disks put the whole system (compiler) at the user's disposal.

**From the Contents**

Language properties / Language description / Standard operators / Functions of arbitrary result type / User defined operators / Syntax diagrams / System installation / Running the system / Using the syntax checking editor / Demonstration package / Generation of external subroutines / Interface to DOS and graphics / Arithmetic packages / Scalar product / Vector and matrix arithmetic / Problem solving routines



Kulisch (Ed.)

**PASCAL-SC for the ATARI ST**  
**Information Manual and Floppy Disks**  
**A PASCAL Extension for Scientific Computation**

By Dipl.-Math. Ulrich Allendörfer, Dr. Harald Böhm, Dr. Gerd Bohlender,  
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Ralf Sailer, Lioba Schindele, Prof. Dr. Christian Ullrich,  
Prof. Dr. Hans-Wilm Wippermann

1987.X, 179 pages and two floppy disks for the ATARI ST.  
ISBN 3-519-02108-0 book/disk pack DM 198,--

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- application packages solving linear systems, computing eigenvalues and eigenvectors and evaluating zeros of polynomials and rational expressions
- access to all GEMDOS, BIOS and XBIOS functions as well as AES and VDI routines
- linking of assembler or C routines

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