Product Profile
VISUALIZATION OF NATURAL PHENOMENA

Authors: Robert S. Wolff and Larry Yaeger
Title: Visualization of Natural Phenomena
Electronic Component: CD-ROM disk on Macintosh platform
Estimated Price: $49.95
ISBN: 0-387-97809-7
Projected Bound Book Date: December 1, 1992
Length: 320 pages
Trim Size: 8 1/2 x 11

Special Features:

- Integrated book/CD-ROM package achieved through the use of icons and cross-referencing
- Approximately 150 full-color images in book, plus 50 black and white illustrations
- Use of a second color throughout the book for chapter openers, running heads boxes and shadings
- Macintosh CD-ROM prepared with Apple Computer's multimedia software, Quicktime
- Technical Notes, containing more technical and algorithmic discussions, are included in a special section at the end of the book and on CD-ROM in the the form of Mathematica Notebooks
- Glossary of Terms
- Very competitively priced
- Author expertise and name recognition
- Special Appendix describes how the manuscript and CD-ROM were produced by th

authors

Primary Market:

Broad range of computer professionals, scientists, researchers, teachers, and students. Some adoption potential in computer science and other curricula where graphics courses are taught.

Book Information:

The book segment of this project has essentially three parts: visualization, imagery (graphics), basic principles of scientific visualization (text), and practical information on the use of various powerful visualization analysis and image processing software, such as Mathematica, IDL, Spyglass Transfer and Dicer, Photoshop, Voxelview,
Wayfront Visualizer, and Electric Image. Images will be drawn from a variety of sources, including NCSA (National Center for Supercomputer Applications) in Champaign, Illinois, the Jet Propulsion Laboratory in Pasadena, California, Apple Computer, Inc., major film and television visualization research companies, along with other sources across the globe.

Noteworthy book design features, in addition to the visuals and the use of a second color, include icons with interstitial materials to indicate to the reader the bridges between the book and the CD-ROM.
The book will consist of a preface, an introduction, seven chapters, a guide to references, a glossary, index, and an appendix describing how the CD-ROM was produced. In addition, there will be forewords contributed by David Nagel, Senior Vice President of Technology at Apple Computer, Inc., and Larry Smarr, Director of the National Center for Supercomputer Applications.

The entire book is produced on Apple Macintosh computers, while the CD-ROM is done in HMS Macintosh format. The CD has Quicktime Supercard Interface, with animations in Quicktime format, and sound. There are Mathematica Notebooks and inclusion of Wolfram Research Inc.'s Mathreader (2.1 Version). This combination book/CD-ROM project enables creation of a scientific visualization package more powerful and unique than anything produced to date!

Author Information:

Robert S. Wolff is a Senior Research Scientist with the Advanced Technology Group at Apple Computer, Inc., Cupertino, California. He was previously a research scientist in planetary astronomy with the NASA/Cal Tech JPL in Pasadena, California. Rob Wolff has worked on a number of planet missions, including Voyager, Galileo and Pioneer Venus. Besides being an active member of SIGGRAPH, Wolff is the Visualization Editor for Computers in Physics magazine, published by the American Institute of Physics, as well as a contributing Editorial Board Member for the Mathematica Journal, published by Miller Freeman. He has also written science fiction books, and in 1989 produced the Apple Science CD, Volume I.

Larry Yaeger is a Principal Engineer with the Advanced Technology Group at Apple Computer, Inc. His background includes computational fluid dynamics, computer graphics imaging and neural network research. He was Director of Software Development at Digital Productions and one of the principle architects of their computer graphics rendering software. He also combined fluid dynamics and computer graphics to create the simulation of the planet Jupiter seen in the film "2010," and technically directed the special effects creation of the opening title sequence of the film, "Labyrinth." While working at Apple for Alan Kay's Vivarium Program, he designed neural network simulators, wrote software to give Koko the gorilla a "voice," and built and filmed a

proof-of-concept system for integrating Macintosh graphics into routine film production for "Star Trek: The Next Generation." He is currently working on character recognition for pen-based microcomputers and combining computer graphics, neural networks and genetic algorithms to study artificial life and artificial intelligence.

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