### Communications in

# Mathematical Physics

#### Volume 164 1994

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Springer-Verlag Berlin Heidelberg New York Tokyo Hong Kong Barcelona Budapest

Printers: Brühlsche Universitätsdruckerei, Giessen

Printed in Germany - © Springer-Verlag Berlin Heidelberg 1994

Springer-Verlag GmbH & Co KG, Berlin, Germany

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CMPHAY 164 (3) 433-648

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# The World of Chaos and Fractals



H.-O. Peitgen, H. Jürgens, D. Saupe

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#### Hardware requirements:

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A. Bunde, S. Havlin (Eds.)

# Fractals and Disordered Systems

1991. XIV, 350 pp. 163 figs., 10 tabs. Hardcover DM 94,- ISBN 3-540-54070-9



A. Bunde, S. Havlin (Eds.)

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H.J. Korsch, H.J. Jodl

#### Chaos

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#### H.-O. Peitgen, H. Jürgens, D. Saupe

#### **Chaos and Fractals**

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1st ed. 1992. Corr. 2nd printing 1994. XVI, 984 pp. 686 figs., 40 in color Hardcover DM 102,-ISBN 3-540-97903-4

The fourteen chapters of this book cover the central ideas and concepts of chaos and fractals as well as many related topics including the Mandelbrot Set, Julia Sets, Cellular Automata, L-Systems, Percolation and Strange Attractors.

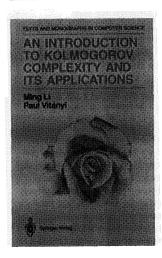


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## **Kolmogorov Complexity**



M. Li, P. M. B. Vitányi

# An Introduction to Kolmogorov Complexity and Its Applications

1993. XX, 546 pp. 33 figs. 4 tabs. (Texts and Monographs in Computer Science) Hardcover DM 108,- ISBN 3-540-94053-7

With this book, the authors present an introduction to the central ideas and their applications of the Kolmogorov Complexity, the theory dealing with the quantity of information in individual objects. Although the mathematical theory of Kolmogorov complexity contains sophisticated mathematics, the amount of math one needs to know to apply the notions in widely divergent areas is very little. The authors' purpose is to develop the theory in detail and outline a wide range of illustrative applications.

O. Watanabe (Ed.)

# Kolmogorov Complexity and Computational Complexity

1992. VII, 105 pp. (EATCS Monographs on Theoretical Computer Science)
Hardcover DM 50,- ISBN 3-540-55840-3

There are many ways to measure the complexity of a given object, but there are two measures of particular importance in the theory of computing: One is Kolmogorov complexity, which measures the amount of information necessary to describe an object. Another is computational complexity, which measures the computational resources necessary to recognize (or produce) an object.

This book consists of four survey papers concerning these recent studies on resource bounded Kolmogorov complexity and computational complexity. It also contains one paper surveying several types of Kolmogorov complexity measures.

V. E. Zakharov, V. S. L'vov, G. Falkovich

# Kolmogorov Spectra of Turbulence I

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