

Lecture Notes in Physics

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A selection

H.Moraal

Volume 214

Classical, Discrete Spin Models:

Symmetry, Duality and Renormalization

1984. VII, 251 pages. Soft cover DM 32,-. ISBN 3-540-13896-X

The purpose of this book is to present three aspects of the statistical mechanical theory of discrete, classical spin systems:

- The largely mathematical theory of the possible (finite) symmetry groups of spin models and their classification.
- The theory of the duality transformation.
- The theory of the renormalization of fields and interactions on recursively defined sequences of graphs developed from a new point of view.

Volume 212

Gravitation, Geometry and Relativistic Physics

Proceedings of the "Journées Relativistes"

Held at Aussois, France, May 2-5, 1984

1984. VI, 336 pages. Soft cover DM 45,-. ISBN 3-540-13881-1

Contents: General Relativity. - Theoretical Physics and Geometry. - Experimental Relativity and

Gravitation. - Astrophysics and Cosmology.

Volume 211

Resonances - Models and Phenomena

Proceedings of a Workshop

Held at the Centre for Interdisciplinary Research, Bielefeld University, Bielefeld, Germany, April 9-14, 1984

1984. VI, 359 pages. Soft cover DM 52,-. ISBN 3-540-13880-3

This book presents a study of resonances as a phenomenon in physical and chemical systems and their mathematical description.

Volume 210

Cellular Structures in Instabilities

Proceedings of the Meeting "Structures cellulaires dans les instabilités-périodicité, défauts, turbulence de phase", Held at Gif-sur-Yvette, France, June 20-22, 1983

1984. VI, 389 pages. Soft cover DM 52,-. ISBN 3-540-13879-X

This book reviews some recent experimental and theoretical work on cellular structures in systems such as Rayleigh-Bénard convection, hydrodynamic and mechanical instabilities, and in the case of extended geometries.

Volume 205

Solutions of Einstein's Equations: Techniques and Results

Proceedings of the International Seminar on Exact Solutions of Einstein's Equations

Held at Reitzenbach, Germany, November 14-18, 1983

1984. VI, 439 pages. Soft cover DM 59,-. ISBN 3-540-13366-6

These proceedings are an introduction to the techniques for generating solutions of nonlinear differential equations. The methods presented are selfcontained and represent the state of the art.

Volume 201

Group Theoretical Methods in Physics

Proceedings of the XIIth International Colloquium

Held at the International Centre for Theoretical Physics, Trieste, Italy, September 5-11, 1983

1984. XXVII, 518 pages. Soft cover DM 63,-. ISBN 3-540-13335-6

Contents: Group Representations, Group Extensions, Contractions and Bifurcations. - Completely Integrable Systems. - Elementary Particles and Gauge Theories. - Supersymmetry and Supergravity. - Atomic and Nuclear Physics. - Symmetries in Condensed Matter Physics and Statistical Mechanics. - Canonical Transformations and Quantum Mechanics.

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