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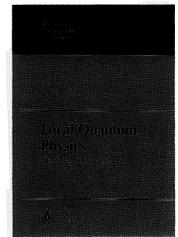
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Local Quantum Physics

Fields, Particles, Algebras

1st ed. 1992. Corr. 2nd printing 1993. XIV, 356 pp. 15 figs. (Texts and Monographs in Physics) Hardcover DM 102,- ISBN 3-540-53610-8

This book gives a comprehensive account of local quantum physics understood as the synthesis of quantum theory with the principle of locality. Centered on the algebraic approach, it describes both the physical concepts and the mathematical structures and their consequences. These include the emergence of the particle picture, general collision theory covering the cases of massless particles and infraparticles, the analysis of possible charge structures and exchange symmetries including braid group statistics. Thermal states of an unbounded medium and local equilibrium are discussed in detail.



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Quantum Mechanics

Foundations and Applications

3rd, enlarged ed. 1993. Approx. 700 pp. 100 figs. (Texts and Monographs in Physics) Hardcover DM 108,-ISBN 3-540-97944-1

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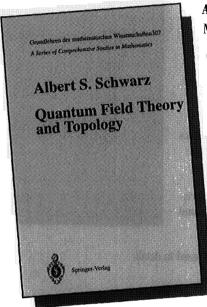
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Of interest to physicists and mathematicians



Translated from the Russian by E. Yankowsky, S. Levy 1993. VIII, 274 pp. 30 figs. (Grundlehren der mathematischen Wissenschaften, Vol. 307) Hardcover DM 138,-ISBN 3-540-54753-3 **A.S. Schwarz**, Moscow Physical Engineering Institute, Moscow, Russia

Quantum Field Theory and Topology

In recent years topology has firmly established itself as an important part of the physicist's mathematical arsenal. It has many applications, first of all in quantum field theory, but also in other areas of physics. The main focus of this book is on the results of quantum field theory that are obtained by topological methods. Some aspects of the theory of condensed matter are also discussed.

Part I is an introduction to quantum field theory: it discusses the basic Lagrangians used in the theory of elementary particles. Part II is devoted to the

applications of topology to quantum field theory. Part III covers the necessary mathematical background in summary form.

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