

Preface

The present volume is a collection of reprints related to the Yang-Baxter equation. The papers are grouped into 7 chapters, each headed by a brief guide about their contents and related works. A bibliography consisting of some 270 papers is given at the end of the book.

A few words are in order on the nature of this volume. Firstly, there exist in the literature several other ways to call the equation— the *star-triangle relation*, the *triangle equation* and the *factorization equation*. We have chosen here the name *Yang-Baxter equation* as it seems to be comparatively more in common use. Secondly, and more importantly, this is a subject related to many other branches. To name a few: the Bethe Ansatz, solvable lattice models, factorized S -matrices, quantum inverse method, quantum groups, link invariants and conformal field theory. Some of them are so intimately connected with the Yang-Baxter equation — in fact contain the latter as a part of the structure— that it might be senseless to separate this specific topic from them at all. Even so we have limited our selection of reprints to only those papers that are directly related to the Yang-Baxter equation in order to keep the book within a reasonable size. As for conformal field theory the reprint volume of Itzykson, Saleur and Zuber is available (“Conformal Invariance and Applications to Statistical Mechanics”, World Scientific 1988). A reprint volume on knot theory is also being prepared by T. Kohno. We hope the other topics could be covered by future publications. Thirdly, we have not always attempted to single out the very first papers that deal with a specific problem. We have rather tried to include readable and informative account among the papers of similar nature. About this point the reader is referred to the comments at the beginning of each chapter. We have also tried to avoid overlaps with the reprint volumes mentioned above. Finally, despite our effort we feel that the bibliography is still very incomplete. We apologize to the authors whose papers happened to be out of the list because of our ignorance.

In preparing this volume we have benefited from conversations with V. V. Bazhanov, E. Date, V. E. Korepin, T. Miwa, Y. Nakagami and J. H. H. Perk, to whom we are most grateful. We hope this volume is useful for people interested in this rich field.

November 1989

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