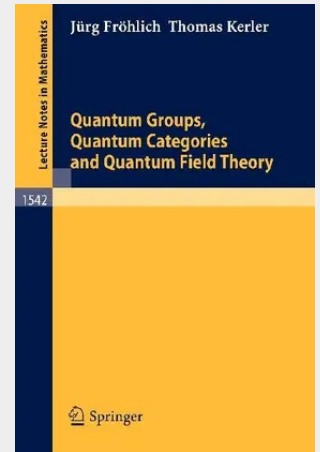


Quantum Groups, Quantum Categories and Quantum Field Theory

This book reviews recent results on low-dimensional quantum field theories and their connection with quantum group theory and the theory of braided, balanced tensor categories. It presents detailed, mathematically precise introductions to these subjects and then continues with new results. Among the main results are a detailed analysis of the representation theory of $U(\mathfrak{sl})$, for q a primitive root of unity, and a semi-simple quotient thereof, a classification of braided tensor categories generated by an object of q -dimension less than two, and an application of these results to the theory of sectors in algebraic quantum field theory. This clarifies the notion of "quantized symmetries" in quantum field theory. The reader is expected to be familiar with basic notions and results in algebra. The book is intended for research mathematicians, mathematical physicists and graduate students.

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