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Nota di contenuto	Introduction -- 1. Vector spaces -- 2. Operators in Hilbert spaces -- 3. Tensor algebras -- 4. Analysis in $L_2(\mathbb{R}^d)$ -- 5. Measures -- 6. Algebras -- 7. Anti-symmetric calculus -- 8. Canonical commutation relations -- 9. CCR on Fock spaces -- 10. Symplectic invariance of CCR in finite dimensions -- 11. Symplectic invariance of the CCR on Fock spaces -- 12. Canonical anti-commutation relations -- 13. CAR on Fock spaces -- 14. Orthogonal invariance of CAR algebras -- 15. Clifford relations -- 16. Orthogonal invariance of the CAR on Fock spaces -- 17. Quasi-free states -- 18. Dynamics of quantum fields -- 19. Quantum fields on space-time -- 20. Diagrammatics -- 21. Euclidean approach for bosons -- 22. Interacting bosonic fields.
Sommario/riassunto	Unifying a range of topics that are currently scattered throughout the literature, this book offers a unique and definitive review of mathematical aspects of quantization and quantum field theory. The authors present both basic and more advanced topics of quantum field

theory in a mathematically consistent way, focusing on canonical commutation and anti-commutation relations. They begin with a discussion of the mathematical structures underlying free bosonic or fermionic fields, like tensors, algebras, Fock spaces, and CCR and CAR representations (including their symplectic and orthogonal invariance). Applications of these topics to physical problems are discussed in later chapters. Although most of the book is devoted to free quantum fields, it also contains an exposition of two important aspects of interacting fields: diagrammatics and the Euclidean approach to constructive quantum field theory. With its in-depth coverage, this text is essential reading for graduate students and researchers in departments of mathematics and physics.

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