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Titolo	Cosmological Applications of Algebraic Quantum Field Theory in Curved Spacetimes / / by Thomas-Paul Hack
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ISBN	3-319-21894-8
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Descrizione fisica	1 online resource (129 p.)
Collana	SpringerBriefs in Mathematical Physics, , 2197-1757 ; ; 6
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Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Introduction -- A Pedagogical Introduction to Algebraic Quantum Field Theory on Curved Spacetimes -- Outline of the Cosmological Applications -- Algebraic Quantum Field Theory on Curved Spacetimes -- Globally Hyperbolic Spacetimes and Related Geometric Notions -- Linear Classical Fields on Curved Spacetimes -- Linear Quantum Fields on Curved Spacetimes -- Hadamard States -- Locality and General Covariance -- The Quantum Stress–Energy Tensor and the Semiclassical Einstein equation -- Further Reading -- Cosmological Applications -- A Brief Introduction to Cosmology -- The Cosmological Expansion in QFT on Curved Spacetimes -- A Birds–Eye View of Perturbations in Inflation -- Index.
Sommario/riassunto	This book provides a largely self-contained and broadly accessible exposition on two cosmological applications of algebraic quantum field theory (QFT) in curved spacetime: a fundamental analysis of the cosmological evolution according to the Standard Model of Cosmology; and a fundamental study of the perturbations in inflation. The two

central sections of the book dealing with these applications are preceded by sections providing a pedagogical introduction to the subject. Introductory material on the construction of linear QFTs on general curved spacetimes with and without gauge symmetry in the algebraic approach, physically meaningful quantum states on general curved spacetimes, and the backreaction of quantum fields in curved spacetimes via the semiclassical Einstein equation is also given. The reader should have a basic understanding of General Relativity and QFT on Minkowski spacetime, but no background in QFT on curved spacetimes or the algebraic approach to QFT is required.>.