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	Nota di contenuto	Prima facie questions in quantum gravity -- Hamilton's formalism for systems with constraints -- The classical theory of canonical general relativity -- Ashtekar variables in classical general relativity -- Quantization of systems with constraints -- Canonical quantum gravity and the question of time -- The semiclassical approximation to quantum gravity -- Loop representations -- Gauge theory and gravity in the loop formulation -- Reduced models for quantum gravity -- Adjointness relations as a criterion for choosing an inner product -- Overview and outlook.
	Sommario/riassunto	The search for a quantum gravity theory, a theory expected to combine the principles of general relativity and quantum theory, has led to some of the most deepest and most difficult conceptual and mathematical questions of modern physics. The present book, addressing these issues in the framework of recent versions of canonical quantization, is

the first to present coherently the background for their understanding. Starting with an analysis of the structure of constrained systems and the problems of their quantization, it discusses the canonical formulation of classical relativity from different perspectives and leads to recent applications of canonical methods to create a quantum theory of gravity. The book aims to make accessible the most fundamental problems and to stimulate work in this field.