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	Sommario/riassunto	This book introduces advanced graduate students and researchers to causal set theory, offering a comprehensive discussion of its core tools. It begins with a broad, largely non-technical overview of causal set theory, situating it within the broader context of the quantum gravity problem. Discreteness and causality serve as the cornerstones of this approach, as articulated by Bombelli, Lee, Meyer, and Sorkin. The technical introduction to causal set theory starts with results on the order-theoretic foundations of Lorentzian geometry, providing a strong theoretical basis. Subsequent chapters address kinematics, including geometrical reconstruction from the discrete substructure, quantum field theory on causal sets, non-perturbative formulations, and results in the quantum dynamics of causal sets. The book concludes with a brief discussion of causal set phenomenology and some open questions. Written with a clear and pedagogical approach, this book

highlights the mathematical challenges inherent in causal set theory. Readers are expected to have prior knowledge of general relativity and quantum field theory. To support understanding, exercises are included throughout the text, enabling readers to test their knowledge.