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Nota di contenuto	Introduction (A. Aguirre, B. Foster, Z. Merali) -- "It From Bit" and the Quantum Probability Rule (M. Leifer) -- It From Qubit (G. D'Ariano) -- It From Qubit: How to Draw Quantum Contextuality (M. Planat) -- The Tao of It and Bit (C. Stoica) -- Information-Based Physics and the Influence Network (K. Knuth) -- Relative Information at the Foundation of Physics (C. Rovelli) -- Information and the Foundations of Quantum Theory.- An Insight into Information, Entanglement and Time (P. Borrill)

-- These From Bits (Y. Shikano) -- Self-Similarity, Conservation of Entropy/Bits and the Black Hole Information Puzzle (D. Singleton, E. Vagenas, T. Zhu) -- Spacetime Weave - Bit as the Connection between its or the Informational Content of Spacetime (T. Asselmeyer-Maluga) -- Now Broadcasting in Planck Definition (C. Hogan) -- Is Spacetime Countable? (S. Gryb).- Without Cause (M. Feeley) -- Information and the Foundations of Quantum Theory (A. Bassi, S. Ghosh, T. Singh) -- Reality, no Matter how you Slice it (K. Wharton) -- "Bit From It" (J. Barbour) -- Contextuality: Wheeler's Universal Regulating Principle (I. Durham) -- It From Bit From It From Bit Nature and Nonlinear Logic (W. McHarris).

Sommario/riassunto

The essays in this book look at the question of whether physics can be based on information, or – as John Wheeler phrased it – whether we can get “It from Bit”. They are based on the prize-winning essays submitted to the FQXi essay competition of the same name, which drew over 180 entries. The eighteen contributions address topics as diverse as quantum foundations, entropy conservation, nonlinear logic and countable spacetime. Together they provide stimulating reading for all physics aficionados interested in the possible role(s) of information in the laws of nature. The Foundational Questions Institute, FQXi, catalyzes, supports, and disseminates research on questions at the foundations of physics and cosmology, particularly new frontiers and innovative ideas integral to a deep understanding of reality, but unlikely to be supported by conventional funding sources.