FOUNDATIONS OF SPACE AND TIME

Reflections on Quantum Gravity

After almost a century, the field of quantum gravity remains as difficult and inspiring as ever. Today, it finds itself a field divided, with two major contenders dominating: string theory, the leading exemplification of the covariant quantization program; and loop quantum gravity, the canonical scheme based on Dirac's constrained Hamiltonian quantization. However, there are now a number of other innovative schemes providing promising new avenues.

Encapsulating the latest debates on this topic, this book details the different approaches to understanding the very nature of space and time. It brings together leading researchers in each of these approaches to quantum gravity to explore these competing possibilities in an open way. Its comprehensive coverage explores all the current approaches to solving the problem of quantum gravity, addressing the strengths and weaknesses of each approach, to give researchers and graduate students an up-to-date view of the field.

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Edited by

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