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	Autore	O'Neill, Barrett
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	Autore	Graña Mariana
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Nota di contenuto

Chapter 1 Lecture 1: Introduction to String Theory -- Chapter 2 Lecture 2: Compactifications on tori -- Chapter 3 Lecture 3: Calabi-Yau Compactifications -- Chapter 4 Lecture 4: Fluxes and Generalized Geometry -- Chapter 5 Lecture 5: 4D Effective actions for compactifications on manifolds of reduced structure -- Chapter 6 Lecture 6: Open problems in phenomenology .

Sommario/riassunto

The lectures in this book provide graduate students and non-specialist researchers with a concise introduction to the concepts and formalism required to reduce the ten-dimensional string theories to the observable four-dimensional space-time - a procedure called string compactification. The text starts with a very brief introduction to string theory, first working out its massless spectrum and showing how the condition on the number of dimensions arises. It then dwells on the different possible internal manifolds, from the simplest to the most relevant phenomenologically, thereby showing that the most elegant description is through an extension of ordinary Riemannian geometry termed generalized geometry, which was first introduced by Hitchin. Last but not least, the authors review open problems in string phenomenology, such as the embedding of the Standard Model and obtaining de Sitter solutions.
