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Collana	Advanced series on directions in high energy physics, , 1793-1339 ; ; volume 22
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Nota di contenuto	 What is an electron? / M. J. Perry 2. The what and why of moduli / J. Conlon 3. Perspective on the weakly coupled heterotic string / M. K. Gaillard 4. Geography of fields in extra dimensions: String theory lessons for particle physics / H. P. Nilles and P. K. S. Vaudrevange 5. The string landscape: A personal perspective / K. R. Dienes 6. Mathematics for string phenomenology / M. R. Douglas 7. The string theory landscape / A. N. Schellekens 8. Local string models and moduli stabilisation / F. Quevedo 9. F-theory: From geometry to phenomenology / S. Schafer-Nameki 10. Compactified string theories - Generic predictions for particle physics / P. Kumar 11. How could (should) we make contact between string/M theory and our four-dimensional world? / G. Kane 12. String cosmology - large- field inflation in string theory / A. Westphal 13. Dark energy in string theory / B. Greene and G. Shiu 14. Cosmological SUSY breaking and the pyramid scheme / T. Banks.
Sommario/riassunto	The remarkable recent discovery of the Higgs boson at the CERN Large Hadron Collider completed the Standard Model of particle physics and has paved the way for understanding the physics which may lie beyond it. String/M theory has emerged as a broad framework for describing a plethora of diverse physical systems, which includes condensed matter systems, gravitational systems as well as elementary particle physics

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interactions. If string/M theory is to be considered as a candidate theory of Nature, it must contain an effectively four-dimensional universe among its solutions that is indistinguishable from our own. In these solutions, the extra dimensions of string/M theory are "compactified" on tiny scales which are often comparable to the Planck length. String phenomenology is the branch of string/M theory that studies such solutions, relates their properties to data, and aims to answer many of the outstanding questions of particle physics beyond the Standard Model. This book contains perspectives on string phenomenology from some of the leading experts in the field. Contributions will range from pedagogical general overviews and perspectives to more technical reviews. We hope that the reader will get a sense of the significant progress that has been made in the field in recent years (e.g. in the topic of moduli stabilization) as well as the topics currently being researched, outstanding problems and some perspectives for the future.