

1. Record Nr.	UNINA9910821422403321
Autore	Ibanez Luis E. <1952->
Titolo	String theory and particle physics : an introduction to string phenomenology / / Luis E. Ibanez, Angel M. Uranga [[electronic resource]]
Pubbl/distr/stampa	Cambridge : , : Cambridge University Press, , 2012
ISBN	1-107-22427-6 1-280-48557-4 1-139-23262-2 9786613580559 1-139-23039-5 1-139-22895-1 1-139-01895-7 1-139-23186-3 1-139-23340-8
Descrizione fisica	1 online resource (xiii, 673 pages) : digital, PDF file(s)
Classificazione	SCI040000
Disciplina	539.7/258
Soggetti	String models
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Title from publisher's bibliographic system (viewed on 05 Oct 2015).
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Machine generated contents note: Preface; 1. The standard model and beyond; 2. Supersymmetry; 3. Introduction to string theory: the bosonic string; 4. Superstrings; 5. Toroidal compactification of superstrings; 6. Branes and string duality; 7. Calabi-Yau compactification of heterotic superstrings; 8. Heterotic string orbifolds and other exact CFT constructions; 9. Heterotic string compactifications: effective action; 10. Type IIA orientifolds: intersecting brane worlds; 11. Type IIB orientifolds; 12. Type II compactifications: effective action; 13. String instantons and effective field theory; 14. Flux compactifications and moduli stabilization; 15. Moduli stabilization and supersymmetry breaking in string theory; 16. Further phenomenological properties. Strings and cosmology; 17. The space of string vacua; Appendices; Index.

## Sommario/riassunto

String theory is one of the most active branches of theoretical physics and has the potential to provide a unified description of all known particles and interactions. This book is a systematic introduction to the subject, focused on the detailed description of how string theory is connected to the real world of particle physics. Aimed at graduate students and researchers working in high energy physics, it provides explicit models of physics beyond the Standard Model. No prior knowledge of string theory is required as all necessary material is provided in the introductory chapters. The book provides particle phenomenologists with the information needed to understand string theory model building and describes in detail several alternative approaches to model building, such as heterotic string compactifications, intersecting D-brane models, D-branes at singularities and F-theory.

---