

1. Record Nr.	UNINA9910739448303321
Autore	Sannino Francesco
Titolo	Dynamical stabilization of the Fermi scale : towards a composite universe // Francesco Sannino
Pubbl/distr/stampa	Heidelberg ; ; New York, : Springer, c2013
ISBN	1-283-90907-3 3-642-33341-9
Edizione	[1st ed. 2013.]
Descrizione fisica	1 online resource (128 p.)
Collana	SpringerBriefs in physics
Disciplina	539.7 539.7/2 539.721
Soggetti	Particles (Nuclear physics) Phenomenological theory (Physics)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Technicolor Prelude -- Conformal Dynamics Interlude -- Minimal Technicolor Models: Toccata and Fugue -- Composite Dark Matters: Coda -- Appendix.
Sommario/riassunto	This lecture-based, concise primer introduces and summarize basic features associated with dynamical breaking of the electroweak symmetry in elementary particle physics. In particular, the phase diagram of strongly-coupled theories as function of the number of colors, flavors and matter representation, playing a fundamental role when trying to construct viable extensions of the standard model, are examined for SU(N) gauge theories with fermionic matter transforming according to arbitrary representations of the underlying gauge group. We will further discuss how the phase diagram can be used to construct unparticle models and then review Minimal Walking Technicolor (MWT) and other extensions, such as partially gauged and split technicolor. Eventually, the unification of the standard model gauge couplings will be revisited within technicolor extensions of the standard model. A number of appendices will help student and newcomers to the field reviewing some basic methods and provide them with useful details.

