

1. Record Nr.	UNINA9910254628603321
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Titolo	Quantum Field Theory : The Why, What and How // by Thanu Padmanabhan
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2016
ISBN	3-319-28173-9
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (XVII, 283 p. 46 illus., 44 illus. in color.)
Collana	Graduate Texts in Physics, , 1868-4513
Disciplina	530.143
Soggetti	Quantum field theory String theory Elementary particles (Physics) Mathematical physics Quantum Field Theories, String Theory Elementary Particles, Quantum Field Theory Mathematical Physics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	From Particles to Fields -- Disturbing the Vacuum -- From Fields to Particles -- Real Life I: Interactions -- Real Life II: Fermions and QED -- A Potpourri of Problems.
Sommario/riassunto	This book describes, in clear terms, the Why, What and the How of Quantum Field Theory. The raison d'etre of QFT is explained by starting from the dynamics of a relativistic particle and demonstrating how it leads to the notion of quantum fields. Non-perturbative aspects and the Wilsonian interpretation of field theory are emphasized right from the start. Several interesting topics such as the Schwinger effect, Davies-Unruh effect, Casimir effect and spontaneous symmetry breaking introduce the reader to the elegance and breadth of applicability of field theoretical concepts. Complementing the conceptual aspects, the book also develops all the relevant mathematical techniques in detail, leading e.g., to the computation of anomalous magnetic moment of the electron and the two-loop renormalisation of the self-interacting scalar field. It contains nearly a

hundred problems, of varying degrees of difficulty, making it suitable for both self-study and classroom use. .
