1. Record Nr. UNINA9911006551103321 Autore Berestetskii V. B (Vladimir Borisovich) **Titolo** Quantum electrodynamics / / by V.B. Berestetskii, E.M. Lifshitz and L.P. Pitaevskii; translated from the Russian by J.B. Sykes and J.S. Bell Oxford, : Butterworth-Heinemann, 1982 Pubbl/distr/stampa **ISBN** 1-280-58278-2 9786613612564 0-08-050346-2 Edizione [2nd ed.] Descrizione fisica 1 online resource (669 p.) Course of theoretical physics;; v. 4 Collana Altri autori (Persone) LifshitsE. M (Evgenii Mikhailovich) PitaevskiiL. P (Lev Petrovich) BerestetskiiV. B (Vladimir Borisovich) SykesJ. B (John Bradbury) BellJ. S Disciplina 537.6 Soggetti Quantum electrodynamics Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Rev. ed. of: Relativistic quantum theory. 1st ed. 1971-1974. Note generali Includes index. Nota di contenuto Front Cover; Quantum Electrodynamics: Course of Theoretical Physics; Copyright Page; PREFACE TO THE SECOND EDITION; FROM THE PREFACE TO THE FIRST EDITION; TABLE OF CONTENTS; NOTATION; INTRODUCTION; 1. The uncertainty principle in the relativistic case; CHAPTER I. PHOTONS; 2. Quantization of the free electromagnetic field; 3. Photons: 4. Gauge invariance: 5. The electromagnetic field in quantum theory; 6. The angular momentum and parity of the photon; 7. Spherical waves of photons; 8. The polarization of the photon; 9. A two-photon system; CHAPTER II. BOSONS 10. The wave equation for particles with spin zero11. Particles and antiparticles; 12. Strictly neutral particles; 13. The transformations C, P and T: 14. The wave equation for a particle with spin one: 15. The wave equation for particles with higher integral spins; 16. Helicity states of a particle; CHAPTER III. FERMIONS; 17. Four-dimensional spinors; 18. The relation between spinors and 4-vectors; 19. Inversion of spinors; 20.

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Sommario/riassunto

Several significant additions have been made to the second edition, including the operator method of calculating the bremsstrahlung cross-section, the calculation of the probabilities of photon-induced pair production and photon decay in a magnetic field, the asymptotic form of the scattering amplitudes at high energies, inelastic scattering of electrons by hadrons, and the transformation of electron-positron pairs into hadrons.