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| 1. Record Nr. | UNINA9910822931203321 |
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| Titolo | Wilson lines in quantum field theory // Igor Olegovich Cherednikov, Tom Mertens, Frederik F. Van der Veken |
| Pubbl/distr/stampa | Berlin, [Germany] ; ; Boston, [Massachusetts] : , : De Gruyter, , 2014 ©2014 |
| ISBN | 3-11-038293-8 3-11-030921-1 |
| Descrizione fisica | 1 online resource (269 p.) |
| Collana | De Gruyter Studies in Mathematical Physics, , 2194-3532 ; ; Volume 24 |
| Classificazione | UO 4060 |
| Disciplina | 530.14/35 |
| Soggetti | Loops (Group theory) Quantum field theory - Mathematics Gauge fields (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 and index. |
| Nota di contenuto | Front matter -- Preface -- Contents -- 1 Introduction: What are Wilson lines? -- 2 Prolegomena to the mathematical theory of Wilson lines -- 3 The group of generalized loops and its Lie algebra -- 4 Shape variations in the loop space -- 5 Wilson lines in high-energy QCD -- A. Mathematical vocabulary -- B. Notations and conventions in quantum field theory -- C. Color algebra -- D. Brief literature guide -- Bibliography -- Index |
| Sommario/riassunto | Wilson lines (also known as gauge links or eikonal lines) can be introduced in any gauge field theory. Although the concept of the Wilson exponentials finds an enormously wide range of applications in a variety of branches of modern quantum field theory, from condensed matter and lattice simulations to quantum chromodynamics, high-energy effective theories and gravity, there are surprisingly few books or textbooks on the market which contain comprehensive pedagogical introduction and consecutive exposition of the subject. The objective of this book is to get the potential reader acquainted with theoretical and mathematical foundations of the concept of the Wilson loops in the context of modern quantum field theory, to teach him/her to perform independently some elementary calculations with Wilson lines, and to |

familiarize him/her with the recent development of the subject in different important areas of research. The target audience of the book consists of graduate and postgraduate students working in various areas of quantum field theory, as well as researchers from other fields.
