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| Collana                 | Series on advances in quantum many-body theory ; ; v. 8   |
| Altri autori (Persone)  | AlfordMark Gower<br>ClarkJ. W <1935-> (John Walter)<br>SedrakianA <1965-> (Armen)   |
| Disciplina              | 539.7/21  |
| Soggetti                | Fermions<br>Many-body problem<br>Pairing correlations (Nuclear physics)<br>Superconductivity<br>Electronic books.   |
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| Livello bibliografico   | Monografia  |
| Note generali           | Description based upon print version of record.   |
| Nota di bibliografia    | Includes bibliographical references and index.  |
| Nota di contenuto       | Contents ; Preface ; 1. Color Superconductivity in Dense but not Asymptotically Dense Quark Matter ; 1.1. Introduction ; 1.2. Review of color superconductivity ; 1.3. The crystallography of three-flavor quark matter ; 1.4. Coda ; Bibliography<br>2. Larkin-Ovchinnikov-Fulde-Ferrell Phases in QCD<br>2.1. Introduction ; 2.2. High density effective theory ; 2.3. Two-species fermions with unpaired Fermi surfaces ; 2.4. LOFF phase in QCD with two flavors: one plane wave ; 2.5. LOFF phase of QCD with two flavors and more plane waves ; 2.6. LOFF phase of QCD with three flavors in the GL approximation<br>Bibliography ; 3. Phase Diagram of Neutral Quark Matter at Moderate Densities ; 3.1. |

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in absence of neutrino trapping ;  
3.4. Phase diagram in presence of neutrino trapping  
3.5. Conclusions Bibliography ; 4.  
Spontaneous Nambu-Goldstone Current Generation Driven by  
Mismatch ; 4.1.  
Introduction ; 4.2. The gauged SU(2) Nambu-Jona-  
Lasinio model ; 4.3. Chromomagnetic  
instabilities driven by mismatch ;  
4.4. Color-neutral baryon-current instability  
4.5. Spontaneous Nambu-Goldstone current generation  
4.6. Conclusion and discussion ; Bibliography  
; 5. The CFL Phase and ms: An Effective Field Theory Approach  
; 5.1. Introduction ; 5.2. High density effective theory  
; 5.3. Chiral theory of the CFL phase ; 5.4.  
Cold atomic systems  
5.5. Outlook

Sommario/riassunto

Cooper pairing of fermions is a profound phenomenon that has become very important in many different areas of physics in the recent past. This book brings together, for the first time, experts from various fields involving Cooper pairing, at the level of BCS theory and beyond, including the study of novel states of matter such as ultracold atomic gases, nuclear systems at the extreme, and quark matter with application to neutron stars. Cross-disciplinary in nature, the book will be of interest to physicists in many different specialties, including condensed matter, nuclear, high-energy, and a