

| | |
|-------------------------|---|
| 1. Record Nr. | UNINA9910146563303321 |
| Autore | Lipavsky P (Pavel) |
| Titolo | Bernoulli potential in superconductors : how the electrostatic field helps to understand superconductivity / / Pavel Lipavsky [and five others] |
| Pubbl/distr/stampa | Berlin ; ; Heidelberg : , : Springer-Verlag, , [2008] ©2008 |
| ISBN | 3-540-73456-2 |
| Edizione | [1st ed. 2008.] |
| Descrizione fisica | 1 online resource (XV, 268 p.) |
| Collana | Lecture Notes in Physics ; ; Volume 733 |
| Disciplina | 537.2 |
| Soggetti | Electrostatics Superconductors |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Note generali | Bibliographic Level Mode of Issuance: Monograph |
| Nota di contenuto | History of the Bernoulli Potential -- Basic Concepts -- Balance of Forces -- Thermodynamical Correction -- Phenomenological Description -- Non-local Corrections -- Extended Ginzburg–Landau Theory -- Quasi-neutral Limit -- Diamagnetic Current at Surface -- Surfaces -- Matching of Electrostatic Potentials at Surfaces -- Diamagnetic Currents Deep in the Bulk -- Electrostatic Potential Above a Surface with Vortices -- Layered Structures -- Charge Transfer in Layered Structures -- Effect of the Electrostatic Field on the Superconductor -- Outlook and Perspectives. |
| Sommario/riassunto | The motion of electrons in superconductors seems to defy our imagination based on daily experience with Newtonian mechanics. This book shows that the classical concepts, such as the balance of forces acting on electrons, are useful for understanding superconductivity. The electrostatic field plays a natural part in this balance as it mediates forces between electrons at long distances. Due to its classical interpretation, the theory presented in this book is suitable for introductory courses. |