Record Nr. UNISA996466680803316 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.] 1 online resource (XV, 268 p.) Descrizione fisica 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 History of the Bernoulli Potential -- Basic Concepts -- Balance of Forces Nota di contenuto -- Thermodynamical Correction -- Phenomenological Description --Non-local Corrections -- Extended Ginzburg-Landau Theory -- Quasineutral 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. The motion of electrons in superconductors seems to defy our Sommario/riassunto imagination based on daily experience with Newtonian mechanics. This book shows that the classical concepts, such as the balance of forces

imagination of electrons in superconductors seems to dery 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.