

1. Record Nr.	UNINA9910968486303321
Autore	Šimánek Eugen
Titolo	Inhomogeneous superconductors : granular and quantum effects / / Eugen Šimánek
Pubbl/distr/stampa	New York ; , : Oxford University Press, , 2023
ISBN	0-19-773236-4 1-280-52643-2 9786610526437 0-19-536013-3 1-4294-0560-0
Edizione	[1st ed.]
Descrizione fisica	1 online resource (394 p.)
Collana	Oxford scholarship online
Disciplina	537.6/236
Soggetti	Superconductors Inhomogeneous materials Fluctuations (Physics)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Previously issued in print: 1994.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Contents; 1. Introduction; 2. Dynamics and Fluctuations of the Order Parameter; 3. Regular Arrays without Dissipation; 4. Quantum Effects and Ohmic Dissipation; 5. Microscopic Theory of Superconducting Tunneling; 6. Phase Transitions in Dissipative Arrays; 7. Two-dimensional superconductors; 8. Dynamics and Quantum Tunneling of Vortices; A1. Partition Function for One-Body Motion; A2. Partition Function for N-body Systems and Fields; A3. Partition Function for a Particle on a Circle; A4. Free Particle on a Circle; A5. Particle on a Circle-High-Temperature Limit A6. Perturbation Expansion for Thermal AveragesA7. Path Integral for the Correlation Function; A8. Correlation Function in the Classical Limit; A9. Derivation of Eq. (2.3); A10. Path integral for the transition amplitude; A11. Extremal path (bounce) and fluctuations about it; A12. Bounce contribution to the transition amplitude; A13. Expression for bounce action; A14. Dissipative action for weak damping; A15. Bounce trajectory for strong damping; A16. Cumulant expansion theorem for $Z[\text{sub}(G)]$; A17. Green's function in the presence of $V()$; References;

Sommario/riassunto

Represents the unified treatment of an important field of research - the theory of quantum fluctuations in inhomogeneous superconductivity materials. This book can be used as a main or supplementary text in graduate courses on superconductivity, many-body systems, phase transitions, submicron physics, and surface science.
