Bibliography of Superconductivity


"Physics and Applications of the Josephson Effect," A. Barone and G. Paterno, New York: John Wiley and Sons (1982). The Josephson effect and superconducting magnets are the presently important applications of superconductivity. This book provides an exhaustive account of the former and is recommended to those specializing in this area. A valuable comprehensive review of the field.


“RF Superconductivity for Accelerators,” Hasan Padamsee, Jens Knoblock, and Tom Hays, John Wiley, New York, 1998. Everything you ever wanted to know about designing, building and testing superconducting RF accelerator cavities. It is impressive to see what a mature superconducting technology (based on Nb) has achieved!


"Superconductivity" Parts I and II, R. Parks, Ed., New York: Marcel Dekker (1969). Exhaustive treatments, by acknowledged experts in the field, intended to summarize the state of the field of superconductivity as it
existed in 1969. Although a primary reference for many subjects, the level of sophistication needed to utilize the material varies widely among sections.

"Superconductivity," by J. B. Ketterson and S. N. Song, (Cambridge University Press, Cambridge, 1999). The book is in three parts: the first deals with phenomenological aspects of superconductivity, the second with the microscopic theory of uniform superconductors, and the third with the microscopic theory of nonuniform superconductors. It presents a series of important calculations and derivations related to superconductivity.


"Superfluidity and Superconductivity," O. R. Tilley and J. Tilley, Bristol: Adam Hilger Ltd (1986); (3d ed.), Institute of Physics, Bristol (1990). An introductory survey which emphasizes the connection between superfluid helium and superconductivity, contains many helpful illustrations. This book, which is intended for graduate and undergraduate students, treats many topics at a somewhat simpler level. It is useful as an introduction to various topics in superconductivity.


"Type II Superconductivity," D. Saint-James, E. J. Thomas and G. Sarma, New York: Pergamon (1969). Likely the best discussion of the high field properties of Type II superconductors. The Bogoliubov deGennes approach is adopted for the microscopic properties and the discussions of paramagnetic effects and gapless superconductivity are particularly useful. The G-L treatment of surface superconductivity is also recommended.

Collections


Parks, R. D. (ed.): *Superconductivity*, two vols., Dekker, New York (1969); reissued by the publisher in 1992. This two-volume treatise, with chapters written by two dozen distinguished authors on their special areas of interest, is the most comprehensive available treatment of the subject as it stood in 1968.

**Review articles**


**Applied Superconductivity Conference proceedings**

The proceedings of the biennial Applied Superconductivity Conferences provide an ongoing source of up-to-date surveys of the state of the field. Some of the recent ones are found in: