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Autore	Schoerling Daniel
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Nota di contenuto	Part 1. Introduction -- Chapter 1. SC magnets in particle accelerators (D. Schoerling) -- Chapter 2. Nb3Sn strand and cable progress (E. Barzi) -- Chapter 3. Historical overview (1960s-1980s) (L. Rossi) -- Part 2. Cos-theta dipoles -- Chapter 4. CERN-ELIN (R. Perin) -- Chapter 5. CERN-MSUT (A. den Ouden) -- Chapter 6. LBNL D20 (S. Caspi) -- Chapter 7. FNAL HFDA (A. Zlobin) -- Chapter 8. FNAL/CERN MBH (F. Savary) -- Part 3. Block-type dipoles -- Chapter 9. TAMU (P. McIntyre) -- Chapter 10. LBNL HD (GL. Sabbi) -- Part 4. Common coil dipoles -- Chapter 11. BNL (R. Gupta) -- Chapter 12. LBNL (S. Gourlay) -- Chapter 13. FNAL HFDC (A. Zlobin) -- Part 5. Outlook -- Chapter 14. Nb3Sn accelerator needs for FCC (D. Tommasini) -- Chapter 15.

Sommario/riassunto

This open access book is written by world-recognized experts in the fields of applied superconductivity and superconducting accelerator magnet technologies. It provides a contemporary review and assessment of the experience in research and development of high-field accelerator dipole magnets based on Nb₃Sn superconductor over the past five decades. The reader attains clear insight into the development and the main properties of Nb₃Sn composite superconducting wires and Rutherford cables, and details of accelerator dipole designs, technologies and performance. Special attention is given to innovative features of the developed Nb₃Sn magnets. The book concludes with a discussion of accelerator magnet needs for future circular colliders.
