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Autore	Klingbeil Harald
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Soggetti	Particle acceleration Microwaves Optical engineering Physical measurements Measurement Nanoscale science Nanoscience Nanostructures Mathematical physics Particle Acceleration and Detection, Beam Physics Microwaves, RF and Optical Engineering Measurement Science and Instrumentation Nanoscale Science and Technology Mathematical Applications in the Physical Sciences
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Nota di contenuto	Introduction -- Theoretical Basics -- RF Acceleration -- RF Cavities -- Advanced Topics -- Power Amplifiers -- Closed-Loop Control -- Appendix -- Bibliography -- Tables.

This course-tested text is an ideal starting point for engineers and physicists entering the field of particle accelerators. The fundamentals are comprehensively introduced, derivations of essential results are provided, and a consistent notation style used throughout the book allows readers to quickly familiarize themselves with the field, providing a solid theoretical basis for further studies. Emphasis is placed on the essential features of the longitudinal motion of charged particle beams, together with the corresponding RF generation and power amplification devices for synchrotron and storage ring systems. In particular, electrical engineering aspects such as closed-loop control of system components are discussed. The book also offers a valuable resource for graduate students in physics, electronics engineering, or mathematics looking for an introductory and self-contained text on accelerator physics.
