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   Note generali   Description based upon print version of record.

   Nota di bibliografia   Includes bibliographical references at the end of each chapters and
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   Nota di contenuto Accelerator X-Ray Sources; Contents; Preface; 1 Beams of Electrons or
                      Photons; 1.1 Preview; 1.2 Coordinate Definitions; 1.3 One-dimensional
                      Transverse Propagation Equations; 1.4 Transfer Matrices for Simple
                      Elements; 1.4.1 Drift Space; 1.4.2 Thin Lens; 1.4.3 Thick Lens; 1.4.4
                      Erect Quadrupole Lens; 1.5 Elliptical (in Phase Space) Beams; 1.6 Beam
                      Envelope E(s); 1.7 Gaussian Beams: their Variances and Covariances;
                      1.8 Pseudoharmonic Trajectory Description; 1.9 Transfer Matrix
                      Parametrization; 1.10 Reconciliation of Beam and Lattice Parameters;
                      1.10.1 Beam Evolution Through a Drift Section
                      1.10.2 Beam Evolution Through a Thin LensReferences; 2 Beams
                      Treated as Waves; 2.1 Preview; 2.2 Scalar Wave Equation; 2.3 The Short
                      Wavelength, Geometric Optics Limit; 2.3.1 Determination of Rays from
                      Wavefronts; 2.3.2 The Ray Equation in Geometric Optics; 2.3.3
                      Obtaining Phase Information from Intensity Measurement; 2.4 Wave
                      Description of Gaussian Beams; 2.4.1 Gaussian Beam in a Focusing
                      Medium; 2.4.2 Spatial Dependence of a Wave Near a Free Space Focus;
                      2.4.3 The ABCD Law; 2.4.4 Optics Using Mirrors; 2.4.5 Wave Particle

| Sommario/riassunto | This first book to cover in-depth the generation of x-rays in particle accelerators focuses on electron beams produced by means of the novel Energy Recovery Linac (ERL) technology. The resulting highly brilliant x-rays are at the centre of this monograph, which continues where other books on the market stop. Written primarily for general, high energy and radiation physicists, the systematic treatment adopted by the work makes it equally suitable as an advanced textbook for young researchers. |