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Autore	Horn Alexander
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Sommario/riassunto	This textbook explains the fundamental processes involved in the interaction of electromagnetic radiation with matter. It leads students from a general discussion of electrodynamics, forming the

mathematical foundation for the Maxwell equations, to key results such as the Fresnel equations, Snell's law, and the Brewster angle, deriving along the way the equations for accelerated charges and discussing dipole radiation, Bremsstrahlung and synchrotron radiation. By considering more and more interacting particles, the book advances its treatment of the subject, approaching the solid-state regime using both classical and quantum mechanical approaches to describe interaction paths with electromagnetic radiation. Finally, specific interactions of laser radiation with matter are explained such as ultrafast, coherent, and selective interaction. With an emphasis on achieving an intuitive grasp of the basic physics underlying common laser technology, this textbook is ideal for graduate students seeking both a better fundamental and applied understanding of laser–matter interaction.