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Nota di contenuto	Theoretical Background -- Nodal-line Semimetals -- Dirac and Weyl Semimetals -- Triple-point Semimetals -- Multifold Semimetals -- Summary.
Sommario/riassunto	This book provides a model description for the electromagnetic response of topological nodal semimetals and summarizes recent experimental findings in these systems. Specifically, it discusses various types of topological semimetals – Dirac, Weyl, nodal-line, triple-point, and multifold semimetals – and provides description for the characteristic features of the linear electrodynamic response for all these types of materials. Topological semimetals possess peculiar bulk electronic band structure, which leads to unusual electrodynamic response. For example, the low-energy inter-band optical conductivity

of nodal semimetals is supposed to demonstrate power-law frequency dependence and the intra- and inter-band contributions to the conductivity are often mixed. Further, the magneto-optical response is also unusual, because of the non-equidistant spacing between the Landau levels. Finally, in semimetals with chiral electronic bands, e.g. in Weyl semimetals, thesimultaneous application of parallel magnetic and electric fields leads to the chiral anomaly, i.e. to a misbalance between the electrons with diffident chiralities. This misbalance affects the electrodynamics properties of the material and can be detected optically. All these points are addressed here in detail. The book is written for a wide audience of physicists, working in the field of topological condensed matter physics. It gives a pedagogical introduction enabling graduate students and non-experts to familiarize themselves with the subject.