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Nota di contenuto	The Case of Manifolds -- The Schwartz Index -- The GSV Index -- Indices of Vector Fields on Real Analytic Varieties -- The Virtual Index -- The Case of Holomorphic Vector Fields -- The Homological Index and Algebraic Formulas -- The Local Euler Obstruction -- Indices for 1-Forms -- The Schwartz Classes -- The Virtual Classes -- Milnor Number and Milnor Classes -- Characteristic Classes of Coherent Sheaves on Singular Varieties.
Sommario/riassunto	Vector fields on manifolds play a major role in mathematics and other sciences. In particular, the Poincaré-Hopf index theorem gives rise to the theory of Chern classes, key manifold-invariants in geometry and

topology. It is natural to ask what is the 'good' notion of the index of a vector field, and of Chern classes, if the underlying space becomes singular. The question has been explored by several authors resulting in various answers, starting with the pioneering work of M.-H. Schwartz and R. MacPherson. We present these notions in the framework of the obstruction theory and the Chern-Weil theory. The interplay between these two methods is one of the main features of the monograph.
