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Nota di contenuto	1 Introduction -- 2 Motivation of the investigation. Discussion of some problems -- 3 Some estimates about sums of independent random variables -- 4 On the supremum of a nice class of partial sums -- 5 Vapnik– ervonenkis classes and L2-dense classes of functions -- 6 The proof of Theorems 4.1 and 4.2 on the supremum of random sums -- 7 The completion of the proof of Theorem 4.1 -- 8 Formulation of the main results of this work -- 9 Some results about U-statistics -- 10 MultipleWiener–Itô integrals and their properties -- 11 The diagram formula for products of degenerate U-statistics -- 12 The proof of the diagram formula for U-statistics -- 13 The proof of Theorems 8.3, 8.5 and Example 8.7 -- 14 Reduction of the main result in this work -- 15 The strategy of the proof for the main result of this work -- 16 A symmetrization argument -- 17 The proof of the main result -- 18 An overview of the results and a discussion of the literature.
Sommario/riassunto	This work starts with the study of those limit theorems in probability theory for which classical methods do not work. In many cases some form of linearization can help to solve the problem, because the linearized version is simpler. But in order to apply such a method we have to show that the linearization causes a negligible error. The estimation of this error leads to some important large deviation type problems, and the main subject of this work is their investigation. We provide sharp estimates of the tail distribution of multiple integrals

with respect to a normalized empirical measure and so-called degenerate U-statistics and also of the supremum of appropriate classes of such quantities. The proofs apply a number of useful techniques of modern probability that enable us to investigate the non-linear functionals of independent random variables. This lecture note yields insights into these methods, and may also be useful for those who only want some new tools to help them prove limit theorems when standard methods are not a viable option.