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	Sommario/riassunto	In recent years, technological progress created a great need for complex mathematical models. Many practical problems can be formulated using optimization theory and they hope to obtain an optimal solution. In most cases, such optimal solution can not be found. So, non-convex optimization problems (arising, e.g., in variational calculus, optimal control, nonlinear evolutions equations) may not possess a classical minimizer because the minimizing sequences have typically rapid oscillations. This behavior requires a relaxation of notion of solution for such problems; often we can obtain such a relaxation by means of Young measures. This monograph is a self-contained book which gathers all theoretical aspects related to the defining of Young measures (measurability, disintegration, stable convergence, compactness), a book which is also a useful tool for those interested in theoretical foundations of the measure theory. It provides

a complete set of classical and recent compactness results in measure and function spaces. The book is organized in three chapters: The first chapter covers background material on measure theory in abstract frame. In the second chapter the measure theory on topological spaces is presented. Compactness results from the first two chapters are used to study Young measures in the third chapter. All results are accompanied by full demonstrations and for many of these results different proofs are given. All statements are fully justified and proved.