Record Nr. UNINA9910338260103321 Autore Arras Benjamin Titolo On Stein's Method for Infinitely Divisible Laws with Finite First Moment / / by Benjamin Arras, Christian Houdré Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2019 **ISBN** 3-030-15017-8 Edizione [1st ed. 2019.] Descrizione fisica 1 online resource (111 pages) Collana SpringerBriefs in Probability and Mathematical Statistics, , 2365-4333 511.4 Disciplina Soggetti **Probabilities** Probability Theory and Stochastic Processes Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia 1 Introduction -- 2 Preliminaries -- 3 Characterization and Coupling --Nota di contenuto 4 General Upper Bounds by Fourier Methods -- 5 Solution to Stein's Equation for Self-Decomposable Laws -- 6 Applications to Sums of Independent Random Variables. This book focuses on quantitative approximation results for weak limit Sommario/riassunto theorems when the target limiting law is infinitely divisible with finite first moment. Two methods are presented and developed to obtain such quantitative results. At the root of these methods stands a Stein characterizing identity discussed in the third chapter and obtained thanks to a covariance representation of infinitely divisible distributions. The first method is based on characteristic functions and Stein type identities when the involved sequence of random variables is itself infinitely divisible with finite first moment. In particular, based on this technique, quantitative versions of compound Poisson approximation of infinitely divisible distributions are presented. The second method is a general Stein's method approach for univariate selfdecomposable laws with finite first moment. Chapter 6 is concerned with applications and provides general upper bounds to quantify the rate of convergence in classical weak limit theorems for sums of independent random variables. This book is aimed at graduate students and researchers working in probability theory and mathematical statistics.