Record Nr. UNISALENTO991002947969707536 Lévy matters V: functionals of Lévy processes / by Lars Nørvang **Titolo** Andersen ... [et al.] Pubbl/distr/stampa Cham [Switzerland]: Springer, 2015 **ISBN** 9783319231372 Descrizione fisica xvi, 224 p.: ill. (some color.); 24 cm Collana Lévy matters ; 5 Lecture notes in mathematics, 0075-8434; 2149 Classificazione AMS 60-06 AMS 60E07 AMS 60F99 AMS 60G51 AMS 60K25 LC QA274.73 Altri autori (Persone) Andersen, Lars Nørvangauthor Disciplina 519.2 Soggetti Lévy processes **Probabilities** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references Makoto Maejima: Classes of infinitely divisible distributions and Nota di contenuto examples; Lars Nørvang Andersen, Søren Asmussen, Peter W. Glynn and Mats Pihlsgard: Lévy processes with two-sided reflection; Persistence probabilities and exponents; Frank Aurzada and Thomas Simon: Persistence probabilities and exponents Sommario/riassunto This three-chapter volume concerns the distributions of certain functionals of Lévy processes. The first chapter, by Makoto Maejima, surveys representations of the main sub-classes of infinitesimal distributions in terms of mappings of certain Lévy processes via stochastic integration. The second chapter, by Lars Nørvang Andersen, Søren Asmussen, Peter W. Glynn and Mats Pihlsgård, concerns Lévy processes reflected at two barriers, where reflection is formulated à la Skorokhod. These processes can be used to model systems with a finite capacity, which is crucial in many real life situations, a most important quantity being the overflow or the loss occurring at the upper barrier. If

a process is killed when crossing the boundary, a natural question

concerns its lifetime. Deep formulas from fluctuation theory are the key to many classical results, which are reviewed in the third chapter by Frank Aurzada and Thomas Simon. The main part, however, discusses recent advances and developments in the setting where the process is given either by the partial sum of a random walk or the integral of a Lévy process