1. Record Nr. UNINA9910788853703321

Autore	Barbe Philippe
Titolo	Asymptotic expansions for infinite weighted convolutions of heavy tail distributions and application / / Ph. Barbe, W.P. McCormick
Pubbl/distr/stampa	Providence, Rhode Island : , : American Mathematical Society, , 2009 ©2009
ISBN	1-4704-0528-8
Descrizione fisica	1 online resource (133 p.)
Collana	Memoirs of the American Mathematical Society, , 0065-9266 ; ; Number 922
Disciplina	519.2/4
Soggetti	Distribution (Probability theory) - Mathematical models Asymptotic expansions Stochastic processes
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	""Contents""; ""1. Introduction""; ""1.1. Prolegomenom""; ""1.2. Mathematical overview and heuristics""; ""2. Main result""; ""2.1. Some notation""; ""2.2. Asymptotic scales""; ""2.3. The Laplace characters""; ""2.4. Smoothly varying functions of finite order""; ""2.5. Asymptotic expansion for in finite weighted convolution""; ""3. Implementing the expansion""; ""3.1. How many terms are in the expansion?""; ""3.2. [sub (*)]-Asymptotic scales and functions of class m""; ""3.3. Tail calculus: From Laplace characters to linear algebra""; ""3.4. Some examples"" ""3.5. Two terms expansion and second order regular variation""""""3.6. Some open questions""; ""4. Applications""; ""4.1. ARMA models""; ""4.2. Tail index estimation""; ""4.3. Randomly weighted sums""; ""4.4. Compound sums""; ""4.5. Queueing theory""; ""4.6. Branching processes""; ""4.7. Infinitely divisible distributions""; ""4.8. Implicit transient renewal equation and iterative systems""; ""5. Preparing the proof""; ""5.1. Properties of Laplace characters""; ""5.2. Properties of smoothly varying functions of finite order""; ""6. Proof in the positive case"" ""6.1. Decomposition of the convolution into integral and multiplication operators""""""6.2. Organizing the proof""; ""6.3. Regular variation and basic tail estimates""; ""6.4. The fundamental estimate""; ""6.5. Basic

lemmas""; ""6.6. Inductions""; ""6.7. Conclusion""; ""7. Removing the sign restriction on the random variables""; ""7.1. Elementary properties of U[sub(H)]""; ""7.2. Basic expansion of U[sub(H)]""; ""7.3. A technical lemma""; ""7.4. Conditional expansion and removing conditioning""; ""8. Removing the sign restriction on the constants""
""8.1. Neglecting terms involving the multiplication operators""""""8.2. Substituting H[sup((k))] and G[sup((k))] by their expansions""; ""9. Removing the smoothness restriction""; ""Appendix. Maple code""; ""Bibliography""