1.	Record Nr.	UNINA9910480549703321
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	Titolo	Generalized Gamma Convolutions and Related Classes of Distributions and Densities [[electronic resource] /] / by Lennart Bondesson
	Pubbl/distr/stampa	New York, NY : , : Springer New York : , : Imprint : Springer, , 1992
	ISBN	1-4612-2948-0
	Edizione	[1st ed. 1992.]
	Descrizione fisica	1 online resource (XIV, 585 p.)
	Collana	Lecture Notes in Statistics, , 0930-0325 ; ; 76
	Disciplina	519.2/4
	Soggetti	Applied mathematics Engineering mathematics Applications of Mathematics
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Bibliographic Level Mode of Issuance: Monograph
	Nota di bibliografia	Includes bibliographical references (pages [161]-167) and indexes.
	Nota di contenuto	1. Introduction and Summary -- 1.1 Introduction -- 1.2 Summary -- 1.3 General remarks and notation -- 2. Basic Concepts and Facts -- 2.1 Some facts from probability theory -- 2.2 Particular probability distributions -- 2.3 Infinite divisibility -- 2.4 Pick functions and some applications -- 2.5 Some complementary results -- 3. Generalized Gamma Convolutions -- 3.1 Definition and basic theory -- 3.2 Examples of distributions in ? -- 3.3 A composition theorem -- 3.4 Two real characterizations of the mgf of a GGC -- 3.5 Widened GGC's -- 3.6 Bivariate GGC's -- 3.7 Complementary results and notes -- 4. Densities of Generalized Gamma Convolutions -- 4.1 GGC's as mixtures of Gamma distributions -- 4.2 A class of mixtures of Exponential distributions in ? -- 4.3 A fundamental class of densities in ? -- 4.4 A multiplicative property of GGC's -- 4.5 Complementary results and notes -- 5. Hyperbolically Completely Monotone Densities -- 5.1 The class b -- 5.2 The ?-class -- 5.3 A surprise and its consequences -- 5.4 Decreasing HCM-functions -- 5.5 Creation of new densities in ? by composition -- 5.6 Multiplication of ?-variables -- 5.7 ?-distributions with explicit Laplace transforms -- 5.8 Complementary results and notes -- 6. Back to ? -- 6.1 Real characterizations of some transforms -- 6.2 Multiplicative properties of ? -- 6.3 Some nested subclasses of ? and their properties -- 6.4 Summary and a new perspective -- 6.5 Complementary results and notes -- 7. Extended

Generalized Gamma Convolutions -- 7.1 Definition and basic theory -- 7.2 Examples -- 7.3 EGGC's as variance mixtures of the Normal distribution -- 7.4 More on composition -- 7.5 Self-reciprocal densities -- 7.6 Complementary results and notes -- 8. Generalized Negative Binomial Convolutions -- 8.1 Definition and main properties -- 8.2 Examples of distributions in ?d -- 8.3 In search of a discrete ?-class -- 8.4 Complementary results and notes -- 9. The ?2-class of Distributions -- 9.1 Definition and main properties -- 9.2 Examples of ?2-distributions -- 9.3 First passage time distributions as ?2-distributions -- 9.4 On densities of distributions in ?2 -- 9.5 Extensions -- 9.6 Notes -- 10. Shot-Noise Distributions -- 10.1 Shot-noise processes -- 10.2 Classes of shot-noise distributions on R+ -- 10.3 Discrete shot-noise distributions -- 10.4 Notes -- Final Words -- Author Index.

| Sommario/riassunto | Generalized Gamma convolutions were introduced by Olof Thorin in 1977 and were used by him to show that, in particular, the Lognormal distribution is infinitely divisible. After that a large number of papers rapidly appeared with new results in a somewhat random order. Many of the papers appeared in the Scandinavian Actuarial Journal. This work is an attempt to present the main results on this class of probability distributions and related classes in a rather logical order. The goal has been to be on a level that is not too advanced. However, since the field is rather technical, most readers will find difficult passages in the text. Those who do not want to visit a mysterious land situated between the land of probability theory and statistics and the land of classical analysis should not look at this work. When some years ago I submitted a survey to a journal it was suggested by the editor, K. Krickeberg, that it should be expanded to a book. However, at that time I was rather reluctant to do so since there remained so many problems to be solved or to be solved in a smoother way than before. Moreover, there was at that time some lack of probabilistic interpretations and applications. Many of the problems are now solved but still it is felt that more applications than those presented in the work could be found. |