

De Grande-De Kimpe, N.; Khrennikov, A. Yu.

The non-Archimedean Laplace transform. (English) Zbl 0845.46047

Bull. Belg. Math. Soc. - Simon Stevin 3, No. 2, 225-237 (1996).

Summary: Topological properties of the spaces of analytic test functions and distributions are investigated in the framework of the general theory of non-archimedean locally convex spaces. The Laplace transform, topological isomorphism, is introduced and applied to the differential equations of non-archimedean mathematical physics (Klein-Gordon and Dirac propagators).

MSC:

- 46S10** Functional analysis over fields other than \mathbb{R} or \mathbb{C} or the quaternions; non-Archimedean functional analysis
- 46F12** Integral transforms in distribution spaces
- 44A10** Laplace transform
- 46F05** Topological linear spaces of test functions, distributions and ultradistributions

Cited in **1** Review
Cited in **6** Documents

Keywords:

Klein-Gordon propagators; spaces of analytic test functions; distributions; non-archimedean locally convex spaces; Laplace transform; topological isomorphism; differential equations of non-archimedean mathematical physics; Dirac propagators

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