

Project: Approximation Results in Probability Theory and Quantum Physics

Markus Haase (Delft)

The Trotter–Kato approximation theorems and the Chernoff product formula can be used to give proofs for some results in probability theory (Central Limit Theorem, Weak Law of Large Numbers) and in quantum physics (Feynman Path Formula). These ideas go back to works of Trotter [6] (in the first case) and Nelson [5] (in the second) and were developed in papers of Goldstein [3, 2, 4], inspired by [1].

The aim of this project is to give a concise presentation of these results building on Goldstein’s papers and the ISEM notes as background material.

References

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