CHERNOFF’S THEOREM FOR BACKWARD PROPAGATORS
AND APPLICATIONS TO DIFFUSIONS ON MANIFOLDS

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Abstract. The classical Chernoff’s theorem is a statement about discrete-time approximations of
semigroups, where the approximations are constructed as products of time-dependent contraction
operators strongly differentiable at zero. We generalize the version of Chernoff’s theorem for
semigroups proved in [3] (see also [4] and [5]), and obtain a theorem about discrete-time
approximations of backward propagators.


Keywords and phrases: Chernoff’s theorem, backward propagator, diffusion on a manifold, generator.

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