

White noise path integrals and some applications

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The path integral for various quantum mechanical systems can be evaluated using white noise calculus. In this method first introduced by Hida and Streit, there would be: (a) no need of analytic continuation to imaginary time, or imaginary mass, and (b) no need for a time-slicing procedure. The additional appeal of this approach, aside from being mathematically well-defined, is that it could handle various quantum mechanical systems including those with general boundary conditions, as well as topologically constrained systems.