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Jeremy James Becnel* (becneljj@sfasu.edu), Department of Mathematics and Statistics,
Stephen F. Austin State University, Nacogdoches, TX 75965. *Quantum Hidden Subspace
Algorithm.*

In this talk we demonstrate a quantum algorithm which uses Feynman path integrals to find a hidden subspace of a functional. The algorithm was first developed at a very formal level by Samuel Lomonaco and Louis Kauffman. We demonstrate how the context of white noise analysis can be used to construct a rigorous version of the quantum algorithm. (Received August 24, 2007)