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Path Integral Evaluation of a Time-Dependent Oscillator in an External Field

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Abstract: The Lagrangian of a system describing the dynamical behaviour of a time-dependent harmonic oscillator is modified and then used to evaluate the Feynman path integral of the oscillator. The path integral of the time-dependent oscillator is shown to reduce to the time-independent within certain limits.

Key Words: Path Integral Propagator, Green functions and harmonic oscillator