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Spin-coherent states and instanton calculus on a Riemann surface TOBIAS GULDEN, MICHAEL JANAS, Department of Physics, University of Minnesota, ALEX KAMENEV, Fine Theoretical Physics Institute, University of Minnesota — Semiclassical instanton calculations require solutions to the classical equations of motion, however in complexified phase space of spin-coherent states these are rarely attainable. But identification of the constant energy submanifold of the phase space with a Riemann surface allows to evaluate the semiclassical actions without explicitely knowing the actual classical paths. Furthermore we show that such actions may be solely derived from monodromy properties of the corresponding Riemann surface. Among other results, we prove that the period of quenched tunneling in an external magnetic field is semiclassically exact.

Tobias Gulden
Department of Physics, University of Minnesota

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