

Workshop on Spinning Particles in Quantum Field Theory: Worldline
Formalism, Higher Spins and Conformal Geometry



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Second Order Fermions

Tuesday 5 November 2013 17:00 (30 minutes)

In this talk, recent advances in the second order formalism for fermions in gauge theories are studied. This framework has a direct correspondence to the Dirac formalism but allows the description of an anomalous gyromagnetic factor. Besides, due to its close resemblance of scalar theory, this model incorporates naturally fermion self-interactions. The aim of this work is to analyze the one-loop renormalization of the second order formalism for spin $1/2$ fermions with arbitrary gyromagnetic factor and self-interaction couplings in QED and QCD.

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Session Classification: Plenary