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A perturbative study of the chirally rotated Schrödinger functional in QCD

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The chirally rotated Schrödinger functional renders the mechanism of automatic O(a) improvement compatible with the Schrödinger functional (SF) formulation.
We here report on the determination to 1-loop order in perturbation theory of the renormalization coefficients necessary to achieve automatic O(a) improvement and the boundary improvement coefficients needed to eliminate the extra boundary O(a) effects present in any SF formulation.
After this is done, we perform a set of tests of automatic O(a) improvement and of the universality between standard and chirally rotated SF formulations.
Finally we discuss the determination of the non-singlet current renormalization constants ZA and ZV from ratios of 2-point functions in the chirally rotated setup.

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