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One-loop approximation of Lattice HQET parameters

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We present a one-loop order lattice perturbation theory calculation of a subset of Heavy Quark Effective Theory parameters.
HQET being an effective theory is defined through a set of parameters which should be fixed in a process called matching, order by order in 1/m.
We consider 6 matching conditions which are needed for the determination of, for example, the f_B decay constant
and which include the 1/m corrections. The one-loop approximation of the matching conditions is obtained using the pastor package for automated lattice perturbation theory calculations in the Schrodinger functional.
We can study the discretization effects and the effects of higher orders in 1/m due to the matching.
Our results are complementary to the non-perturbative determination of HQET parameters by the ALPHA collaboration.

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