Full QCD algorithm for 2+1 light flavours with the FP action

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Abstract: Due to its complex structure the parametrized fixed point action can not be simulated with the available local updating algorithms. We constructed, coded and tested a partially global updating procedure with 2+1 light flavours, where the targeted s quark mass is at its physical value, while the u,d quarks should produce pions lighter than 300 MeV. A partially global gauge update is followed by different accept/reject steps, where pieces of the determinant are switched on gradually in the order of their expenses. The code is optimized on different architectures and is running on lattices with L=1.2 fm and 1.8 fm at a resolution of 0.15 fm.