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Hypercubic symmetry restauration of Boriçi - Creutz fermions: costs and effects

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Minimally doubled fermions, have been proposed as lattice fermions which preserve chiral symmetry and being strictly local too. In our previous works, we have studied how the broken hypercubic symmetry of Boriçi - Creutz fermions affect the light hadrons spectrum, have proposed a method of how to restore it and also made a simple test on the pion mass using the corrected action. In this work we calculate the light hadrons spectrum, after have restored the hypercubic symmetry, in two different lattice directions, and see how the spectrum is affected. Also we investigate the computational cost of the restauration and how effective the use of BC fermions can be.

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