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New extended interpolating operators for hadron correlation functions

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New extended interpolating operators made of quenched three dimensional fermions
are introduced in the context of lattice QCD. The mass of the 3D fermions can be tuned in a controlled way to find a better overlap of the extended operators with the states of interest. The extended operators have good renormalisation properties and are easy to control when taking the continuum limit. Moreover the short distance behaviour of the two point functions built from these operators is greatly improved with respect to Jacobi smeared sources and point sources. A numerical comparison with point sources and Jacobi smeared sources on dynamical 2 + 1 flavour configurations is presented.

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