

Meson correlators in a finite volume near the chiral limit

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Abstract: We calculate meson correlators in a finite volume with the overlap fermion near the chiral limit (down to $m_q = 2.6$ MeV). For these small quark masses, the scalar and pseudo-scalar correlators are well saturated with a few hundred eigenmodes. By matching both the connected and disconnected correlators with their theoretical expectations from the quenched chiral perturbation theory, we obtain the low energy parameters F_π and Σ .