PROCEEDINGS OF SCIENCE

# Scaling tests for overlap fermions

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We present results on the scaling behaviour of mesonic observables with Ginsparg-Wilson fermions in quenched QCD. Using the overlap operator we compute two-point correlation functions on four lattices with $5.8458 \leq \beta \leq 6.1366$. We perform continuum extrapolations for the pseudoscalar decay constant and the vector mass.
Furthermore we compute the non-perturbative renormalization of the scalar density. We interpolate our data to the physical kaon mass and and match it with continuum results for O($a$)-improved Wilson fermions. With this method we are able to obtain $Z_S$ over a range of lattice spacings and extrapolate the renormalized quark condensate to the continuum limit.
A full account of our results can be found in [1].

[1] J. Wennekers and H. Wittig, *On the renormalized scalar density in quenched QCD*, *JHEP* **09** (2005) 059, [hep-lat/0507026].

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