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## Approaching the conformal window in SU(2) field theory: a systematic study of the spectrum for $N_f=2,4,6$ , and 8.

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It is expected that SU(2) gauge theory with  $N_f$  fundamental fermions has an infrared fixed point when  $N_f$  is between  $\sim 6$  and 10. We study the hadron spectrum and scale setting in SU(2) gauge field theory with  $N_f = 2,4,6,8$  using hypercubic stout smeared Wilson-clover (HEX) action. The case  $N_f = 2$  is QCD-like,  $N_f = 6$  is close to the lower edge of the conformal window, and  $N_f=8$  is inside the conformal window. We study the hadron spectrum and decay constants of these theories, and use the gradient flow approach to determine the length scales.

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