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Light composite scalar and other spectra in $N_f=8$ QCD

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We (LatKMI Collaboration) present the first observation of a flavor-singlet scalar meson as light as the pion in $N_f=8$ QCD on the lattice, using the HISQ action. Such a light scalar meson can be regarded as a composite Higgs with mass 125 GeV, and may be a technidilaton, a pseudo Nambu-Goldstone boson of the approximate scale symmetry in walking technicolor.

We also report the update about the chiral behavior of other spectra, particularly the pion and the rho meson masses, the pion decay constant and the chiral condensate, in order to test walking signals in $N_f=8$ QCD.

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