

## The gauge group and flavor number dependence of $m_V/f_{PS}$

*среда, 10 ноября 2021 г. 16:30 (30)*

Composite Higgs model often feature a new strongly interacting sector based on some gauge group and some number of fermions (flavors). The physical scale is typically set by the Goldstone decay constant  $f_{PS}$  and a meson state with the appropriate quantum numbers is identified with the Higgs. The lightest vector meson in these scenarios is a potential new, so far undetected, particle. Its mass in physical units  $m_V/f_{PS}$  can be unambiguously obtained from non-perturbative lattice simulations and serves as a concrete prediction for every choice of gauge group and flavor number. Results will be shown for  $SU(3)$  and  $N_f = 2, \dots, 10$  as well as a compilation of results from the literature with other gauge groups and/or fermion content, including the large- $N$  limit. Interestingly, the  $m_V/f_{PS}$  ratio is finite both inside and outside the conformal window and displays a peculiar  $N_f$ -dependence.

**Primary author(s)** : NOGRADI, Daniel

**Presenter(s)** : NOGRADI, Daniel

**Session Classification** : Evening session 6

**Track Classification** : Lattice Simulations for Hadron Phenomenology