

Partially Composite Dark Matter in Composite Higgs Model

Wednesday 30 September 2015 16:05 (15 minutes)

In composite Higgs scenario, interactions to generate the top Yukawa coupling provide the Higgs potential due to the explicit breaking of a global symmetry. However, such a scenario generically requires a little cancellation in the leading contribution in order to achieve the correct electroweak symmetry breaking with $VEV = 246$ GeV. We, instead, consider the possibility that the dark matter (DM) sector also contributes to generate the Higgs potential. The contribution from DM balances against that from the top quark, then, such a small electroweak VEV (246 GeV) can be realized. In a consistent region of the parameter space, the DM thermal relic explains the observed DM abundance and the direct detection is found to be promising. We will also discuss the phenomenology of this scenario.

Primary authors: Dr ASANO, Masaki (Bonn University); Prof. KITANO, Ryuichiro (KEK)

Presenter: Dr ASANO, Masaki (Bonn University)

Session Classification: Cosmology & Astroparticle Physics