

“Walking with Maskawa about half a century”

Walking gauge theory was first studied back in 1974 by Maskawa and Nakajima who discovered spontaneous chiral symmetry breaking solution for the gauge theory with scale-invariant (non-running) coupling larger than a critical coupling in the ladder Schwinger-Dyson equation. Based on this, I together with Bando and Matumoto proposed a scale-invariant technicolor (“walking technicolor”), where the perturbatively non-running coupling becomes slowly running (“walking”) nonperturbatively towards critical coupling (ultraviolet fixed point) in the broken phase, having a large anomalous dimension $\gamma_m \simeq 1$ as a solution for the flavor-changing neutral current problem of the original technicolor, and a pseudo dilaton (“technidilaton”), a pseudo Nambu-Goldstone boson of the scale symmetry, as a candidate for the composite Higgs. In this talk I will describe the walking gauge theory from the original version up to the most recent lattice studies for which Maskawa has been a member of our LatKMI Collaboration at Kobayashi-Maskawa Institute (KMI) at Nagoya University.