Institut Ruđer Bošković
ZAVOD ZA TEORIJSKU FIZIKU
Bijenička c. 54
Zagreb, Hrvatska

SEMINAR ZAVODA ZA TEORIJSKU FIZIKU

Possible simultaneous explanation of flavor anomalies in B and K decays

Kenji Nishiwaki
Korea Institute for Advanced Study, Seoul, Korea

Datum: utorak, 10. srpnja 2018.
Vrijeme : **11 sati c.t.**
Mjesto: IRB, predavaona I krila

Abstract:

Recently anomalies have been reported and focused in flavor observables of the Kaon and B meson systems such as in the CP-violating Kaon decay (ϵ'/ϵ) and the violation of the lepton universality in the B meson decays ($R_{K^{(*)}}$ and $R_{D^{(*)}}$).

In this talk, we focus on the scenario where vector-boson and vector-leptoquark candidates for addressing them are naturally realized as 'vector-rho mesons' of a hidden strongly-coupled vector-like gauge theory, where the theory is manifestly anomaly-free and the vector particles can contain couplings with the SM fermions in a gauge-invariant way, in the language of hidden-local symmetry.

Addressing ϵ'/ϵ and $R_{K^{(*)}}$ simultaneously is possible in corners of the parameter space, where the ongoing experiments, NA62 and KOTO, will survey such regions exhaustively through the processes ($K^+ \to \pi^+\nu\bar{\nu}$ and $K_L \to \pi^0\nu\bar{\nu}$) in the near future. We also comment on an interesting prediction for $R_{D^{(*)}}$, where the new physics contribution is almost vanishing due to an approximated symmetry of the system.

Voditelj seminara:
Andjelo Samsarov
$\langle asamsarov@irb.hr \rangle$