

Radion Activated Higgs Mechanism

Monday, 20 May 2019 18:00 (20 minutes)

The Randall-Sundrum models provide an appealing foundation to engineer BSM models, especially the ones which attempt to explain the small Higgs mass. The modulus field in these models (the “radion”) should play a role in determining the value of the Higgs vacuum expectation value (VEV), and vice versa, as the Higgs VEV itself should backreact on the geometry. This would imply that the Higgs mass is a function of the brane separation. Hence a moderate separation of scales between the electroweak scale, and the scale associated with the conformal symmetry breaking can be generated if the minimum of the modulus potential coincides with the region where the Higgs mass is small. In this talk, I will discuss the interplay between the radion stabilization mechanism and the Higgs mechanism in two-brane Randall-Sundrum models by paying particular attention to models where electroweak symmetry breaking occurs at specific points of the moduli space.

Primary authors: ERÖNCEL, Cem (Syracuse University); HUBISZ, Jay (Syracuse University); RIGO, Gabriele (Syracuse University)

Presenter: ERÖNCEL, Cem (Syracuse University)

Session Classification: Electroweak, Top and Higgs Physics

Track Classification: Electroweak, Top and Higgs Physics