Phenomenology 2018 Symposium



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The Light Radion Window

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Inspired by the Contino-Pomarol-Rattazzi mechanism we explore scenarios with a very light (100 keV to 10 GeV) radion which could be associated with the suppression of the electroweak contribution to vacuum energy. We construct explicit, realistic models that realize this mechanism and explore the phenomenological constraints on this class of models. Compared with axion-like particles in this mass range, the bounds from SN 1987a and from cosmology can be much weaker, depending on the the mass of the radion and its coupling to other particles. For example with couplings suppressed by a scale lower than 100 TeV much of the mass window from 100 keV to 10 GeV is still open.

Summary

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