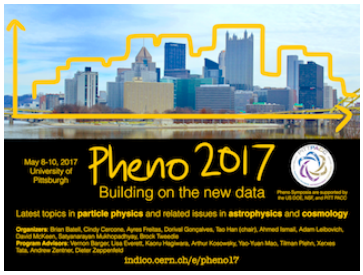

Contribution ID: **435** Type: **parallel talk**

Self-interacting Vector Dark Matter in the Higgsed-Phase

Monday 8 May 2017 18:30 (15 minutes)

One simple proposal to explain observed anomalies in the small-scale structure of the universe is that dark matter self-interacts. In that spirit, we consider a model of non-abelian, non-confining, gauge boson dark matter that self-interacts through a light vector mediator. The dark sector consists of an SU(2) Yang-Mills theory that is twice-higgsed so that the physical low-energy spectrum includes two heavy, dark-charged vectors and a light dark vector mediator. Perturbative unitarity then puts upper limits on the radial higgs masses, leading to potentially interesting phenomenology. Discussion will center on the generation of the dark sector mass spectrum, its consequences and constraints, and how the model relates to the self-interacting dark matter paradigm.

Summary

Primary author: KOWNACKI, Corey (University of California, Riverside)

Co-authors: Prof. TANEDO, Flip (UC Riverside); POPOV, Oleg (UC Riverside)

Presenter: KOWNACKI, Corey (University of California, Riverside)

Session Classification: Dark Sector & ALPs