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**Z'-portal for dark mesons in the SIMP scheme**

Recently, it has been proposed that dark mesons with Wess-Zumino-Witten term realizes the SIMP scheme, in which dark matter relic density is determined by freeze-out of 3 -> 2 self annihilation, in a natural way. This model can be completed after considering communication between dark sector and Standard Model sector in order to prevent the dark matter over-heating. In this talk, kinetic mixing between dark U(1) and hypercharge U(1) gauge bosons is suggested as a plausible interaction satisfying such requirement. Possible ways of assigning U(1) charge are restricted by the presence of Wess-Zumino-Witten term, so more information on dark sector can be extracted. Requirement of sufficient interaction between dark- and Standard Model sector provides lower bound of the dark photon mass and the magnitude of kinetic mixing. Several additional issues concerning the model is also visited.

**Friday, Oct 30, 2015**  
**12:30pm**  
**401 Physical Sciences Building**