Contribution ID: **180** Type: **not specified**

Dark sector in Two Higgs Doublet extensions with a Complex Scalar Singlet

Wednesday 28 September 2022 15:00 (15 minutes)

Extension of the Two Higgs Doublet model augmented with a complex scalar singlet (2HDMS) is a well motivated candidate for Beyond Standard Model (BSM) Physics. In this talk, we focus on the dark matter (DM) phenomenology of 2HDMS and investigate cases where the singlet develops a vacuum expectation value (vev) and thereby leading to pseudoscalar DM candidate. We perform a parameter scan to study the impact of relic density and direct detection scenarios on the model parameter space for both cases. Some representative benchmarks are chosen for the former case and potential signals at future e+e- colliders are presented.

Summary

Co-authors: LI, Cheng (FTX (FTX Fachgruppe SLB)); MOORTGAT-PICK, Gudrid (University of Hamburg / DESY); DUTTA, Juhi (UNI/TH (Uni Hamburg, Institut fuer Theoretische Physik)); SHEIKH FARAH, Tabira (sheikh.farah.tabira@desy.de)

Presenters: ZIEGLER, Julia (Uni Hamburg); ZIEGLER, Julia (University of Hamburg)

Session Classification: Parallel Session Wednesday Cosmo

Track Classification: Cosmology & Astroparticle Physics