Contribution ID: **74** Type: **not specified**

Dark matter phenomenology in two higgs doublet model with a complex scalar singlet

Thursday 23 September 2021 09:35 (15 minutes)

Extensions of the two higgs doublet models with a singlet scalar can easily accommodate all current experimental constraints and are highly motivated candidates for Beyond Standard Model Physics. It can successfully provide a dark matter candidate, explain baryogenesis and provide gravitational wave signals. In this work, we focus on the dark matter phenomenology of the two higgs doublet model extended with a complex scalar singlet which serves as the dark matter candidate. We study the variations of the dark matter observables, i.e relic density and direct detection cross-section, with respect to the model parameters. We obtain a few benchmark points in the light and heavy dark matter mass region. We are also currently studying possible signatures of this model at current and future colliders and the possibility to distinguish this model from other new physics scenarios.

Do you wish to attend the workshop on-site?

yes

Summary

Primary author: DUTTA, Juhi (UNI/TH (Uni Hamburg, Institut fuer Theoretische Physik))

Co-authors: Prof. MOORTGAT-PICK, Gudrid (DESY & University of Hamburg); Ms SCHREIBER, Merle (University of Hamburg)

Presenter: DUTTA, Juhi (UNI/TH (Uni Hamburg, Institut fuer Theoretische Physik))

Session Classification: Parallel Session: Phenomenology

Track Classification: Particle Phenomenology