Contribution ID: **44**   Type: **Oral presentation using Zoom**

The THDMa and possible e+e- signatures

Wednesday, 27 October 2021 19:00 (20 minutes)

The THDMa is a new physics model that extends the scalar sector of the Standard Model by an additional doublet as well as a pseudoscalar singlet and allows for mixing between all possible scalar states. In the gauge eigenbasis, the additional pseudoscalar serves as a portal to the dark sector, with a priori any dark matter spin states. The option where dark matter is fermionic is currently one of the standard benchmarks for the experimental collaborations, and several searches at the LHC constrain the corresponding parameter space. However, most current studies constrain regions in parameter space by setting all but 2 of the 12 free parameters to fixed values.

I will discuss a generic scan on this model, allowing all parameters to float. All current theoretical and experimental constraints are applied. I identify regions in the parameter space which are still allowed after these have been applied and which might be interesting for an investigation at a future e+e- collider.

1st preferred time slot for your oral presentation

19:00-21:00 JST (12:00-14:00 CEST, 6:00-8:00 EDT, 3:00-5:00 PDT)

2nd preferred time slot for your oral presentation

15:30-17:30 JST (8:30-10:30 CEST, 2:30-4:30 EDT, 23:30-1:30 PDT)

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Session Classification: F&H-2: Higgs properties & BSM particle production

Track Classification: Parallel sessions: Topical Groups: Session F: Higgs properties