

## Electroweak Multi-Higgs Production: A Smoking Gun for the Type-I 2HDM

*Tuesday 15 October 2024 18:15 (15 minutes)*

In the Type-I 2HDM, all the five new physical Higgs states can be fairly light,  $\mathcal{O}(100)$  GeV or less, without conflicting with current data from the direct Higgs boson searches and the B-physics measurements. In this talk, I will discuss how the new neutral and the charged Higgs bosons of the model can be simultaneously observable in the *multi* – *b* final state, resulting from the electro-weak (EW) production. Since the parameter space configurations where this is achievable are precluded in the other, more extensively pursued, 2HDM Types, experimental validation of our findings would be a clear indication that the true underlying Higgs sector in nature is the Type-I 2HDM.

### Track type

Collider and BSM Physics

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