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TRSM benchmark planes

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I briefly review the Benchmark Planes in the Two-Real-Singlet Model (TRSM), a model that enhances the Standard Model (SM) scalar sector by two real singlets that obey a Z2 x Z2' symmetry. In this model, all fields acquire a vacuum expectation value, such that the model contains in total 3 CP-even neutral scalars that can interact with each other. All interactions with SM-like particles are inherited from the SM-like doublet via mixing. I remind the readers of the previously proposed benchmark planes, and briefly discuss possible production at future Higgs factories, as well as regions in a more generic scan of the model. For these, I also discuss the use of the W-boson mass as a precision observable to determine allowed/ excluded regions in the models parameter space. This work builds on a whitepaper submitted to the Snowmass process.

Collaboration / Activity

Theory

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