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Report on "From Models to SMEFT and Back?"

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In this paper, the authors have presented a rigorous global analysis of the triplet extension of the Standard Model. For this purpose, they have employed the SMEFT framework by performing 1-loop level matching to it using functional methods. In addition to the tree-level matching given in Appendix A.2, they have also provided the full expressions at the 1-loop level on a GitHub link which is Ref. [64] of this paper. Even though tree-level expressions are already known in Ref. [85] of the manuscript, these 1-loop matching expressions are new.

As far as the global fit is concerned they have included the measurements from the electroweak precision observables, Higgs, diboson measurements, and resonance searches at the LHC. Importantly, with the help of SFitter framework, they also have also included the theoretical uncertainties due to the choice of matching scale which is detailed in Section 3. The results of Global fit (given in Section 4) are sufficiently detailed.

The analysis is quite detailed and has sufficient new content. Further, since it is very well done as well as written and explained in a clear manner, I have no doubts that this work should be published in SciPost Physics.

So in my view, this work can be published in Scipost Physics.