Contribution ID: **32** Type: **not specified**

Effective Field Theories of the MSSM

Thursday 13 June 2024 15:25 (15 minutes)

We match the Minimal Supersymmetric Standard Model (MSSM) onto its corresponding low-energy EFTs at one loop. For this purpose, we consider several scenarios: (i) matching the full MSSM onto SMEFT; (ii) integrating out only the lightest of the BSM states (such as the stops, sbottoms, gaugeinos, and Higgsinos), while neglecting the heavier states; (iii) integrating out only the heavy states, while retaining the lightest superpartners in the spectrum of the EFT. For these cases, we present the complete one-loop matching implementation in the Matchete code and discuss the challenges and subtleties involved in the calculation. Additionally, we examine some phenomenological implications and compare the different EFT scenarios.

Primary author: WILSCH, Felix (RWTH Aachen University)

Presenter: WILSCH, Felix (RWTH Aachen University)

Session Classification: Session