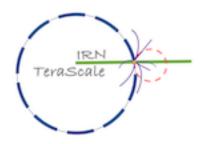ID de Contribution: **39**   Type: **Non spécifié**

Functional one-loop matching of effective field theories

mardi 25 avril 2023 14:20 (20 minutes)

The separation of scales in effective field theories is essential for studying the low-energy phenomenology of BSM models. An effective theory, containing only light degrees of freedom, can be obtained from an underlying UV theory by integrating out heavy states using path integral techniques, ensuring that both theories describe the same low-energy dynamics. It is important to perform this matching beyond the leading order, as a great number of observables, like FCNC, only appear at the loop level. In this talk we discuss the functional matching procedure and highlight some of the technical challenges arising from operator reduction and evanescent operators in the EFT Lagrangian. We also present Matchete: a Mathematica code for the automatic one-loop matching of effective theories based on functional methods.

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