ID de Contribution: **15** Type: **Non spécifié**

Artificial Proto-Modelling for Dispersed Signals at the LHC

mardi 25 novembre 2025 16:36 (18 minutes)

Despite the success of the Standard Model of particle physics, several evidence point towards the existence of physics beyond the Standard Model. However, no compelling signal of new physics has been observed so far, notwithstanding the slew of dedicated experimental searches. The absence of positive results and the stringent constraints reflect the need to shift from the usual top-bottom, theory-driven approach. The proto-model machine, initially published as a proof-of-concept, goes in that direction and proposes a more model-independent, data-driven approach aimed at highlighting dispersed beyond the Standard Model signals should they be hiding in LHC data. This presentation will introduce an improved version of this machine, with a more furnished database, a refined statistical treatment, and the possibility to probe off-shell regions of the parameter space. The current best fitting model, i.e. the one maximally violating the Standard Model while respecting LHC constraints, will also be discussed.

Auteurs: LESSA, Andre; REYES-GONZALES, Humberto; YELLEN, Jamie; ALTAKACH, Mohammad Mahdi; KRAML, Sabine; NARASIMHA, Sahana; PASCAL, Timothee; WALTENBERGER, Wolfgang

Orateur: PASCAL, Timothee

Classification de Session: Beyond the Standard Model

Classification de thématique: BSM