Contribution ID: 57 Type: Talk

Searching for new physics detecting anomalies in jets

Wednesday, 31 July 2024 11:00 (20 minutes)

A model-agnostic search for new physics in the dijet final state with the CMS experiment is presented. Other than the requirement of a narrow dijet resonance with a mass in the range of 1800-6000 GeV, minimal additional assumptions are placed on the signal hypothesis. Search regions are obtained by utilizing multivariate machine learning methods to select jets with anomalous substructure. A collection of complementary anomaly detection methods –based on unsupervised, weakly-supervised and semi-supervised algorithms –are used in order to maximize the sensitivity to unknown new physics signatures.

Primary authors: SEIDITA, Roberto (Istituto Nazionale di Fisica Nucleare); LIAO, hongbo

Presenter: SEIDITA, Roberto (Istituto Nazionale di Fisica Nucleare)

Session Classification: BSM

Track Classification: BSM