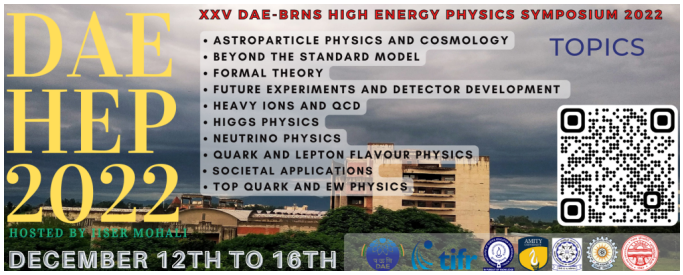

Contribution ID: **272** Type: **Poster**

RECONSTRUCTION OF WZ MASS AND DETERMINATION OF LIMITS ON SMEFT DIMENSION-8 OPERATORS USING UNITARITY OBSERVING FORMALISM IN THE WZ SCATTERING PROCESS

Thursday 15 December 2022 14:00 (1 hour)

Vector Boson Scattering (VBS) is widely recognized as an indirect probe for BSM searches in the gauge boson sector which can be described using the standard model effective field theory (SMEFT) approach. However, the EFT formalism is often not applied in a truly consistent manner. In this paper, limitations of the EFT approach to constrain new physics effects in the data are discussed with particular emphasis on perturbative unitarity conditions on the EFT amplitudes. We study the WZ scattering process in the fully leptonic decay mode using CMS Run II data. Results for the searches of the anomalous quartic gauge couplings (aQGC) using the full clipping method will be presented. A comparison between standard observable transverse WZ mass and new observable full WZ mass reconstructed using a simulation based approach will also be shown.

Session

Beyond the Standard Model

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Session Classification: Poster - 3