

Contribution ID : **48** Type : **Poster**

Analysis strategy for a search for a high mass resonance associated with a boson production and an invisible particle with PPS tagged protons

Thursday, 22 October 2026 17:00 (2:00)

Abstract

This work presents an analysis proposal for a search for a heavy scalar particle produced in proton-proton elastic collisions at 13 TeV via a Central Exclusive Process (CEP), tagged with the Proton Precision Spectrometer (PPS) and associated with a boson detected in the central region of the Compact Muon Solenoid (CMS) detector. The proposed analysis is done by evaluating the proton mass spectrum in the [800, 1600] GeV range. Additionally, the analysis would be used with data recorded by the CMS detector and the PPS during the 2018 run. In this proposal, I present the analysis strategy using Monte Carlo simulations and an Asimov dataset.

Primary author(s) : Mr. POMARES VALDÉS, Pablo Jibrán (Benemérita Universidad Autónoma de Puebla)

Co-author(s) : Prof. PEDRAZA MORALES, María Isabel (Benemérita Univesidad Autónoma de Puebla); Dr. ARELLANO HERNÁNDEZ, Haydee (Benemérita Universidad Autónoma de Puebla)

Presenter(s) : Mr. POMARES VALDÉS, Pablo Jibrán (Benemérita Universidad Autónoma de Puebla)

Session Classification : Poster Session