



ID de Contribución: 27

Tipo: Investigador FPAUO

Search for long-lived particles decaying to final states with a pair of muons in proton-proton collisions at a CM energy of 13.6 TeV

lunes, 6 de mayo de 2024 16:35 (15 actas)

Presented here is an inclusive search for long-lived particles decaying to a pair of displaced muons. This search analyzes data collected in 2022 by the CMS experiment at the CERN LHC in proton-proton collisions at $\sqrt{s}=13.6$ TeV, adding up to an integrated luminosity of 36.7 fb^{-1} . The experimental signature is a pair of oppositely charged muons (displaced dimuons) originating from a common secondary vertex spatially separated from the pp interaction, considering distances that go from several hundred micrometers to several meters. The results of the analysis are interpreted in the frameworks of two simplified models: the hidden Abelian Higgs model, in which the Higgs boson decays to a pair of long-lived dark photons, and R-parity violating supersymmetry model, in which long-lived neutralinos decay to a pair of muons and a neutrino. The results here presented improve substantially the ones in the previous analysis performed using data taken at $\sqrt{s}=13$ TeV. The key of this improvements, particularly significant at low masses and long lifetimes, are the improved triggers for displaced muons and the offline analysis refinements.”

Autor: SOTO RODRIGUEZ, Alejandro (Universidad de Oviedo - ICTEA)

Presentador: SOTO RODRIGUEZ, Alejandro (Universidad de Oviedo - ICTEA)

Clasificación de la sesión: Sesión ICTEA