



Πανεπιστήμιο Κύπρου  
Τμήμα Φυσικής

Το Τμήμα Φυσικής του Πανεπιστημίου Κύπρου  
σας προσκαλεί την

**Τετάρτη, 17 Μαΐου 2023, ώρα 12:00**  
στην αίθουσα B228, στο κτίριο 13 στην Πανεπιστημιούπολη

*στην παρουσίαση της Διδακτορικής Διατριβής της Σωτηρούλλας Κωνσταντίνου*

***“Search for charged Higgs bosons with hadronic decays of top and bottom quarks at the CMS experiment using the LHC Run II pp collision data”***

A search for charged Higgs bosons with a mass larger than that of the top quark that decay to a top and bottom quark-antiquark pair, in the all-jet final state is presented. The search uses proton-proton collision data recorded by the CMS detector during 2016-2018 at a center-of-mass energy of 13 TeV that corresponds to an integrated luminosity of  $138 \text{ fb}^{-1}$ . Two analyses are performed, each targeting different regions of the signal parameter space. The resolved analysis is optimized for charged Higgs bosons with low masses that decay to top quarks with moderate transverse momentum. The semi-boosted analysis targets charged Higgs bosons with masses larger than 1 TeV, and uses collimated hadronically decaying top quarks of large transverse momentum. The analyses utilize multivariate analysis techniques for particle identification and signal-to-background discrimination. No excess is observed above the expected background, and upper exclusion limits are reported on the product of the charged Higgs boson production cross-section and the branching ratio of its decay to a top and a bottom quark at a 95% confidence level.

Η παρουσίαση θα είναι ανοικτή στο κοινό μέσω τηλεδιάσκεψης:

<https://cern.zoom.us/j/66718591240?pwd=MWh0d2ZEZWs3bVdiS2NlFhTVmxJQT09>

Για περισσότερες πληροφορίες παρακαλώ επικοινωνείτε: Τμήμα Φυσικής, τηλέφωνο: 22892820