



实验物理中心研究生考核报告

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C O N T E N T



- Analysis Work
 - Search for Rare Higgs Boson Decay in Leptons + Photons Final State at 13 TeV
- Service Work
 - CSC Detector On Call Shifter
 - CSC Longevity Studies
- Summary



Search for Rare Higgs Boson Decay in Leptons + Photons Final State



- CADI: HIG-22-003
 - Contact person: Zebing Wang
- The unblinded results was reported on Dec 13 in Higgs Meeting
 - The unblinded talk was given by me
- The ARC review was processing now

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Search for Rare Higgs Boson Decay in Leptons + Photons Final State

- The main thing that changed since pre-approve talk was include the turn-on component in the background modeling by extending the fit range from 110 GeV to 95 GeV
- · All the unblinded impacts plots and data distribution was good
- The observed upper limits was given and we do not observe any significant excess in data
 - First results about Higgs decay to di-lepton + di-photon final state







CSC Detector On Call (DOC) Shifter



- I've been 1 week CSC DOC shifter:
 - Oct. 26 Nov. 2
- Fill 8315 (2400b): Delivered 863.7 /pb, recorded 758.6 /pb
- Fill 8316 (2400b): Delivered 296.9 /pb, recorded 270.4 /pb
- Fill 8317 (2400b): Delivered 749.0 /pb, recorded 707.4 /pb
- Fill 8319 (2400b): Delivered 223.4 /pb, recorded 183.4 /pb
- Fill 8320 (2400b): Delivered 397.5 /pb, recorded 374.0 /pb
- Fill 8321 (2400b): Delivered 798 /pb, recorded 754.0 /pb
- Fill 8322 (2400b): Delivered 440.4 /pb, recorded 398.4 /pb
- Fill 8324 (2450b): Delivered 128.467 /pb, recorded 121.465 /pb
- Fill 8327 (2450b): Delivered 359.931 /pb, recorded 308.177 /pb
- Fill 8330 (2450b): Delivered 194.809 /pb, recorded 183.262 /pb
- Fill 8331 (2450b): Delivered 632.596 /pb, recorded 599.939 /pb





CSC Longevity Study

ME1/1 normalized Anode Dark Rate Density





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Summary



- The unblinded results about analysis HIG-22-003 was given in the Higgs Meeting on Dec 13 and there is no excess was observed in data
- The ARC review was processing now
- Our target is Moriond 2023
- For the service work
 - 1 weeks CSC DOC shifter
 - CSC longevity study
 - 5 weeks measurement







Thanks!