PROCEEDINGS OF SCIENCE

Rare decays at CMS

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XIV International Conference on Heavy Quarks and Leptons (HQL2018)
May 27 - June 1, 2018
Yamagata Terrsa, Yamagata, Japan

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1. Introduction

To be filled.

2. FCNC in $tZq \rightarrow 3\ell$

The source is [1]. As can be seen in Figure 1. As can be seen in Figure 2.

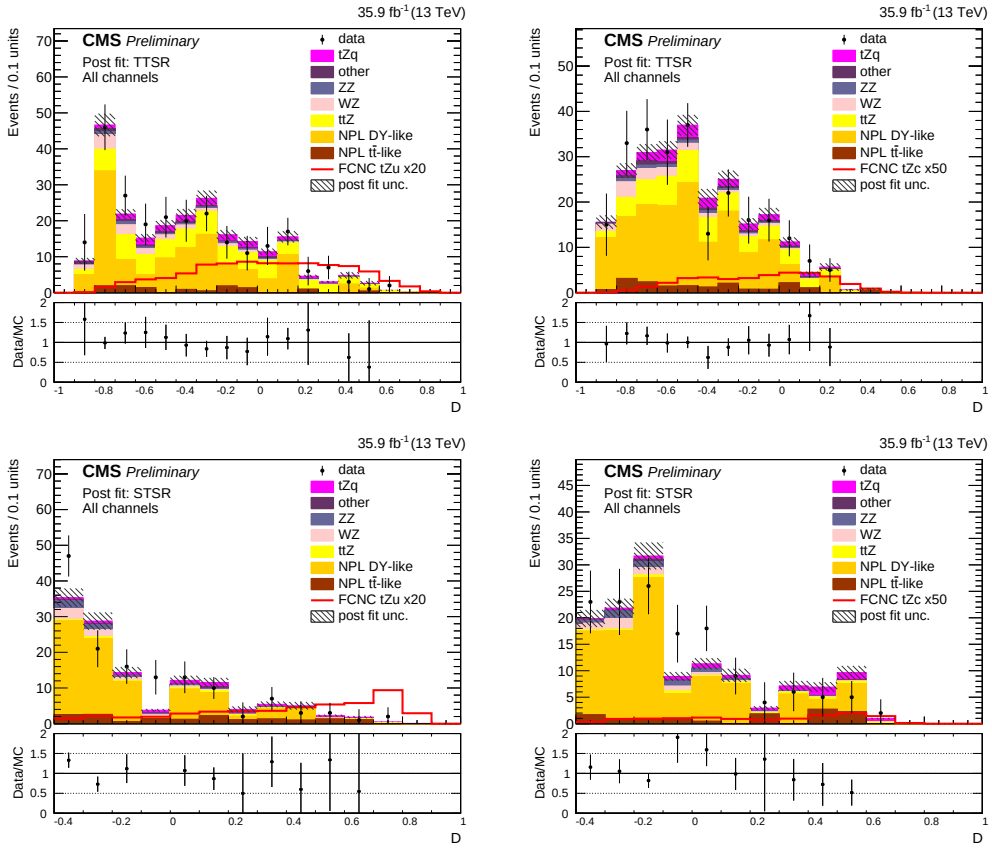

Figure 1: The discriminating variable distribution after the fit for all different leptonic channels. Upper left: top quark pair tZu; upper right: top quark pair tZc; lower left: single top quark tZu; lower right: single top quark tZc.

3. FCNC in $tH \rightarrow bb$

[2]

4. Angular observables in $B^+ \rightarrow K^+\mu\mu$

[3]

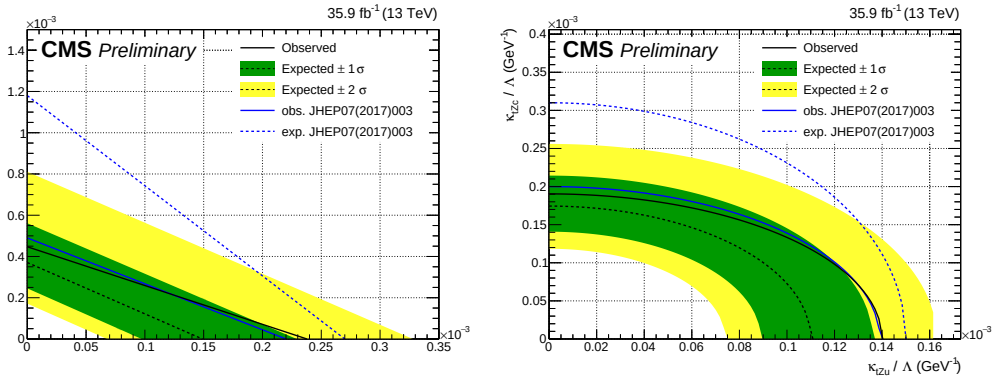

Figure 2: Exclusion regions at 95% CL on the FCNC branching fractions (left) and couplings (right) in the 2D plane of both the tZu and tZc variables. The CMS 8 TeV observed (expected) limit is given with a blue line (dashed line).

5. Angular observables in $B^0 \to K^{*0}\mu\mu$

[4]

6. Conclusions

To be filled.

References

[1] CMS Collaboration, *Search for flavour changing neutral currents in top quark production and decays with three-lepton final state using the data collected at* $\sqrt{s} = 13$ TeV, https://cds.cern.ch/record/2292045, CMS-PAS-TOP-17-017.

[2] CMS Collaboration, *Search for the flavor-changing neutral current interaction of the top quark and the Higgs boson which decays into a pair of b quarks at* $\sqrt{s} = 13$ TeV, *accepted for publication in JHEP* https://cds.cern.ch/record/2296416, CERN-EP-2017-309 [hep-ex/1712.02399].

[3] CMS Collaboration, *Angular analysis of the decay* $B^+ \to K^+\mu^+\mu^-$ *at* $\sqrt{s} = 8$ TeV, https://cds.cern.ch/record/2621370 CERN-EP-2018-125 [hep-ex/1806.00636].

[4] CMS Collaboration, *Measurement of angular parameters from the decay* $B^0 \to K^{*0}\mu^+\mu^-$ *at* $\sqrt{s} = 8$ TeV, https://cds.cern.ch/record/2287571, CERN-EP-2017-240 [hep-ex/1710.02846].