

## Rare decays at CMS

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## 1. Introduction

## 2. FCNC with top quarks

### 2.1 FCNC in $tZq \rightarrow 3\ell$

[1]

### 2.2 FCNC in $tH \rightarrow b\bar{b}$

[2]

## 3. Angular analyses with bottom quarks

### 3.1 Angular observables in $B^+ \rightarrow K^+ \mu \mu$

[3]

### 3.2 Angular observables in $B^0 \rightarrow K^{*0} \mu \mu$

[4]

## 4. Conclusions

## 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  $B^+ \rightarrow K^+ \mu^+ \mu^-$  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  $B^0 \rightarrow K^{*0} \mu^+ \mu^-$  at  $\sqrt{s} = 8$  TeV*, <https://cds.cern.ch/record/2287571>, CERN-EP-2017-240 [hep-ex/1710.02846].