# Asst. Prof. Bora Akgün

# **Personal Information**

Position: Assistant Professor
WoS ID: AAM-8311-2021
h-index:: 107, Publications: 1,190, Citations: 58,449

#### Education

2008 - 2012: Ph.D. in Physics at Carnegie Mellon University, Pittsburgh, PA, USA

2007 - 2008: M.Sc degree in Physics at Carnegie Mellon University, Pittsburgh, PA, USA

 $\mathbf{2005}$  -  $\mathbf{2006}\text{:}$  M.Sc degree in Physics at University of Pittsburgh, Pittsburgh, PA, USA

2001 - 2005: B.Sc degree in Physics at Bogazici University, Istanbul, Turkey.

## Employment

2020 - : Assistant Professor at Bogazici University Physics Department, Istanbul, Turkey
2020 - 2022: Faculty Member at Bogazici University Physics Department, Istanbul, Turkey
2017 - 2020: CERN Senior Fellow, Geneva, Switzerland
2012 August - 2107: Research Associate at Rice University Physics Department, USA
2012 March - August: Postdoctoral Researcher at Carnegie Mellon University Physics Department, USA
2007 - 2012: Research Assistant at Carnegie Mellon University Physics Department, USA
2005 - 2007: Teaching Assistant at University of Pittsburgh Physics Department, USA

### **Research Projects**

**2013-2017:** CMS Phase-1 Pixel Upgrade Pilot System - Prototype full readout chain installed and operated in CMS

2014-2018: Phase-1 Pixel Upgrade Data Acquisition (DAQ) System

2017-2018: CMS Phase-2 Tracker Upgrade Telescope (CHROMIE)

2018-2020: CMS Phase-2 Upgrade HGCAL Beam Tests

2018-2020: HGCROC ASIC characterization and radiation (TID and SEE) tests

**2019 - :** CMS Phase-2 Upgrade HGCAL DAQ development

### Selected Publications

1. "Response of a CMS HGCAL silicon-pad electromagnetic calorimeter prototype to 20-300 GeV positrons"

CMS Collaboration HGCAL Project - JINST 17 P05022 (2022)

2. "The DAQ system of the 12,000 Channel CMS High Granularity Calorimeter Prototype"

CMS Collaboration HGCAL Project - JINST 16 T04001 (2021)

- 3. "Construction and commissioning of CMS CE prototype silicon modules" CMS Collaboration HGCAL Project - JINST 16 T04002 (2021)
- 4. "The CMS Phase-1 Pixel Detector Upgrade" CMS Collaboration Tracker Project - JINST 16 P02027 (2021)
- 5. "The DAQ and Control System for the CMS Phase-1 Pixel Detector" CMS Collaboration Tracker Project - JINST 14 P10017 (2019)

# Publication List - Asst. Prof. Bora Akgün

November 8, 2022

- 1. A. Tumasyan *et al.* [CMS], "Search for new particles in an extended Higgs sector with four b quarks in the final state at  $\sqrt{s} = 13$  TeV," [arXiv:2203.00480 [hep-ex]]. 7 citations counted in INSPIRE as of 28 Oct 2022
- 2. A. Tumasyan *et al.* [CMS], "Search for a W' boson decaying to a vector-like quark and a top or bottom quark in the all-jets final state at  $\sqrt{s} = 13$  TeV," JHEP **09**, 088 (2022) doi:10.1007/JHEP09(2022)088 [arXiv:2202.12988 [hep-ex]]. 3 citations counted in INSPIRE as of 04 Nov 2022
- A. Tumasyan *et al.* [CMS], "Measurement of the Drell-Yan forward-backward asymmetry at high dilepton masses in proton-proton collisions at √s = 13 TeV," JHEP 2022, no.08, 063 (2022) doi:10.1007/JHEP08(2022)063 [arXiv:2202.12327 [hep-ex]]. 6 citations counted in INSPIRE as of 04 Nov 2022
- 4. A. Tumasyan *et al.* [CMS], "Nuclear modification of  $\Upsilon$  states in pPb collisions at  $\sqrt{s_{\text{NN}}} = 5.02$  TeV," Phys. Lett. B **835**, 137397 (2022) doi:10.1016/j.physletb.2022.137397 [arXiv:2202.11807 [hep-ex]]. 2 citations counted in INSPIRE as of 01 Nov 2022
- 5. A. Tumasyan *et al.* [CMS], "Search for Higgs Boson Pair Production in the Four b Quark Final State in Proton-Proton Collisions at s=13 TeV," Phys. Rev. Lett. **129**, no.8, 081802 (2022) doi:10.1103/PhysRevLett.129.081802 [arXiv:2202.09617 [hep-ex]]. 22 citations counted in INSPIRE as of 04 Nov 2022
- 6. A. Tumasyan *et al.* [CMS], "Inclusive nonresonant multilepton probes of new phenomena at  $\sqrt{s}=13$  TeV," Phys. Rev. D **105**, no.11, 112007 (2022) doi:10.1103/PhysRevD.105.112007 [arXiv:2202.08676 [hep-ex]]. 15 citations counted in INSPIRE as of 07 Nov 2022
- A. Tumasyan *et al.* [CMS], "Measurement of the Higgs boson width and evidence of its off-shell contributions to ZZ production," doi:10.1038/s41567-022-01682-0 [arXiv:2202.06923 [hep-ex]]. 15 citations counted in INSPIRE as of 03 Nov 2022
- 8. A. Tumasyan *et al.* [CMS], "Search for new physics in the lepton plus missing transverse momentum final state in proton-proton collisions at  $\sqrt{s} = 13$  TeV," JHEP **07**, 067 (2022) doi:10.1007/JHEP07(2022)067 [arXiv:2202.06075 [hep-ex]]. 11 citations counted in INSPIRE as of 04 Nov 2022
- 9. A. Tumasyan et al. [CMS], "Search for invisible decays of the Higgs boson produced via vector boson fusion in proton-proton collisions at s=13 TeV," Phys. Rev. D 105, no.9, 092007 (2022) doi:10.1103/PhysRevD.105.092007 [arXiv:2201.11585 [hep-ex]]. 26 citations counted in INSPIRE as of 03 Nov 2022
- 10. A. Tumasyan *et al.* [CMS], "Observation of  $B^0 \rightarrow \psi(2S) K_S^0 \pi^+ \pi^-$  and  $B_S^0 \rightarrow \psi(2S) K_S^0$  decays," Eur. Phys. J. C 82, 499 (2022) doi:10.1140/epjc/s10052-022-10315-y [arXiv:2201.09131 [hep-ex]]. 1 citations counted in INSPIRE as of 31 Oct 2022
- 11. A. Tumasyan *et al.* [CMS], "Search for resonances decaying to three W bosons in proton-proton collisions at  $\sqrt{s} = 13$  TeV," Phys. Rev. Lett. **129**, no.2, 021802 (2022) doi:10.1103/PhysRevLett.129.021802 [arXiv:2201.08476 [hep-ex]]. 3 citations counted in INSPIRE as of 31 Oct 2022
- A. Tumasyan et al. [CMS], "Identification of hadronic tau lepton decays using a deep neural network," JINST 17, P07023 (2022) doi:10.1088/1748-0221/17/07/P07023 [arXiv:2201.08458 [hep-ex]]. 25 citations counted in INSPIRE as of 08 Nov 2022

- 13. A. Tumasyan *et al.* [CMS], "Search for charged-lepton flavor violation in top quark production and decay in pp collisions at  $\sqrt{s} = 13$  TeV," JHEP **06**, 082 (2022) doi:10.1007/JHEP06(2022)082 [arXiv:2201.07859 [hep-ex]]. 4 citations counted in INSPIRE as of 04 Nov 2022
- 14. A. Tumasyan *et al.* [CMS], "Precision measurement of the W boson decay branching fractions in proton-proton collisions at \sqrt{s} = 13 TeV," Phys. Rev. D 105, no.7, 072008 (2022) doi:10.1103/PhysRevD.105.072008 [arXiv:2201.07861 [hep-ex]]. 8 citations counted in INSPIRE as of 04 Nov 2022
- 15. A. Tumasyan *et al.* [CMS], "Measurement of the inclusive and differential  $t\bar{t}\gamma$  cross sections in the dilepton channel and effective field theory interpretation in proton-proton collisions at  $\sqrt{s} = 13$  TeV," JHEP **05**, 091 (2022) doi:10.1007/JHEP05(2022)091 [arXiv:2201.07301 [hep-ex]]. 6 citations counted in INSPIRE as of 31 Oct 2022
- 16. A. Tumasyan *et al.* [CMS], "Search for long-lived heavy neutral leptons with displaced vertices in proton-proton collisions at  $\sqrt{s} = 13$  TeV," JHEP **07**, 081 (2022) doi:10.1007/JHEP07(2022)081 [arXiv:2201.05578 [hep-ex]]. 26 citations counted in INSPIRE as of 03 Nov 2022
- 17. A. Tumasyan *et al.* [CMS], "Search for higgsinos decaying to two Higgs bosons and missing transverse momentum in proton-proton collisions at  $\sqrt{s} = 13$  TeV," JHEP **05**, 014 (2022) doi:10.1007/JHEP05(2022)014 [arXiv:2201.04206 [hep-ex]]. 3 citations counted in INSPIRE as of 03 Nov 2022
- 18. A. Tumasyan *et al.* [CMS], "Observation of the  $B_c^+$  Meson in Pb-Pb and pp Collisions at  $\sqrt{s_{NN}}$ =5.02 TeV and Measurement of its Nuclear Modification Factor," Phys. Rev. Lett. **128**, no.25, 252301 (2022) doi:10.1103/PhysRevLett.128.252301 [arXiv:2201.02659 [hep-ex]]. 7 citations counted in INSPIRE as of 07 Nov 2022
- 19. A. Tumasyan *et al.* [CMS], "Search for high-mass resonances decaying to a jet and a Lorentzboosted resonance in proton-proton collisions at s=13TeV," Phys. Lett. B 832, 137263 (2022) doi:10.1016/j.physletb.2022.137263 [arXiv:2201.02140 [hep-ex]]. 3 citations counted in INSPIRE as of 04 Nov 2022
- 20. A. Tumasyan *et al.* [CMS], "Search for single production of a vector-like T quark decaying to a top quark and a Z boson in the final state with jets and missing transverse momentum at  $\sqrt{s} = 13$  TeV," JHEP **05**, 093 (2022) doi:10.1007/JHEP05(2022)093 [arXiv:2201.02227 [hep-ex]]. 8 citations counted in INSPIRE as of 31 Oct 2022
- 21. A. Tumasyan *et al.* [CMS], "Search for long-lived particles decaying into muon pairs in proton-proton collisions at  $\sqrt{s} = 13$  TeV collected with a dedicated high-rate data stream," JHEP **04**, 062 (2022) doi:10.1007/JHEP04(2022)062 [arXiv:2112.13769 [hep-ex]]. 10 citations counted in INSPIRE as of 07 Nov 2022
- 22. A. Tumasyan *et al.* [CMS], "Search for resonances decaying to three W bosons in the hadronic final state in proton-proton collisions at  $\sqrt{s} = 13$  TeV," Phys. Rev. D **106**, no.1, 012002 (2022) doi:10.1103/PhysRevD.106.012002 [arXiv:2112.13090 [hep-ex]]. 3 citations counted in INSPIRE as of 28 Oct 2022
- 23. A. Tumasyan *et al.* [CMS and (CMS Collaboration)\*], "Probing Charm Quark Dynamics via Multiparticle Correlations in Pb-Pb Collisions at  $\sqrt{s_{\rm NN}} = 5.02$  TeV," Phys. Rev. Lett. **129**, no.2, 022001 (2022) doi:10.1103/PhysRevLett.129.022001 [arXiv:2112.12236 [hep-ex]]. 2 citations counted in INSPIRE as of 31 Oct 2022
- 24. A. Tumasyan et al. [CMS], "Search for resonant production of strongly coupled dark matter in protonproton collisions at 13 TeV," JHEP 06, 156 (2022) doi:10.1007/JHEP06(2022)156 [arXiv:2112.11125 [hep-ex]]. 10 citations counted in INSPIRE as of 28 Oct 2022
- 25. A. Tumasyan *et al.* [CMS], "Measurement of the production cross section for Z+b jets in proton-proton collisions at  $\sqrt{s} = 13$  TeV," Phys. Rev. D **105**, no.9, 092014 (2022) doi:10.1103/PhysRevD.105.092014 [arXiv:2112.09659 [hep-ex]]. 2 citations counted in INSPIRE as of 31 Oct 2022
- 26. A. Tumasyan *et al.* [CMS], "Search for flavor-changing neutral current interactions of the top quark and the Higgs boson decaying to a bottom quark-antiquark pair at  $\sqrt{s} = 13$  TeV," JHEP **02**, 169 (2022) doi:10.1007/JHEP02(2022)169 [arXiv:2112.09734 [hep-ex]]. 10 citations counted in INSPIRE as of 04 Nov 2022

- 27. A. Tumasyan *et al.* [CMS], "Measurement of the inclusive t $\bar{t}$  production cross section in proton-proton collisions at  $\sqrt{s} = 5.02$  TeV," JHEP **04**, 144 (2022) doi:10.1007/JHEP04(2022)144 [arXiv:2112.09114 [hep-ex]]. 8 citations counted in INSPIRE as of 07 Nov 2022
- 28. A. Tumasyan *et al.* [CMS], "Evidence for WW/WZ vector boson scattering in the decay channel  $\ell\nu qq$  produced in association with two jets in proton-proton collisions at s=13 TeV," Phys. Lett. B **834**, 137438 (2022) doi:10.1016/j.physletb.2022.137438 [arXiv:2112.05259 [hep-ex]]. 4 citations counted in INSPIRE as of 27 Oct 2022
- 29. A. Tumasyan *et al.* [CMS], "Search for a right-handed W boson and a heavy neutrino in proton-proton collisions at  $\sqrt{s} = 13$  TeV," JHEP **04**, 047 (2022) doi:10.1007/JHEP04(2022)047 [arXiv:2112.03949 [hep-ex]]. 13 citations counted in INSPIRE as of 01 Nov 2022
- 30. A. Tumasyan *et al.* [CMS], "Search for heavy resonances decaying to a pair of Lorentz-boosted Higgs bosons in final states with leptons and a bottom quark pair at  $\sqrt{s}$ = 13 TeV," JHEP **05**, 005 (2022) doi:10.1007/JHEP05(2022)005 [arXiv:2112.03161 [hep-ex]]. 8 citations counted in INSPIRE as of 03 Nov 2022
- 31. A. Tumasyan *et al.* [CMS], "Measurements of the associated production of a W boson and a charm quark in proton-proton collisions at  $\sqrt{s} = 8$  TeV," [arXiv:2112.00895 [hep-ex]]. 6 citations counted in INSPIRE as of 26 Oct 2022
- 32. A. Tumasyan *et al.* [CMS], "Measurement of  $W^{\pm}\gamma$  differential cross sections in proton-proton collisions at  $\sqrt{s} = 13$  TeV and effective field theory constraints," Phys. Rev. D **105**, no.5, 052003 (2022) doi:10.1103/PhysRevD.105.052003 [arXiv:2111.13948 [hep-ex]]. 3 citations counted in INSPIRE as of 27 Oct 2022
- 33. A. Tumasyan *et al.* [CMS], "Search for heavy resonances decaying to ZZ or ZW and axion-like particles mediating nonresonant ZZ or ZH production at  $\sqrt{s} = 13$  TeV," JHEP **04**, 087 (2022) doi:10.1007/JHEP04(2022)087 [arXiv:2111.13669 [hep-ex]]. 10 citations counted in INSPIRE as of 03 Nov 2022
- 34. A. Tumasyan *et al.* [CMS], "Search for a heavy resonance decaying into a top quark and a W boson in the lepton+jets final state at  $\sqrt{s} = 13$  TeV," JHEP **04**, 048 (2022) doi:10.1007/JHEP04(2022)048 [arXiv:2111.10216 [hep-ex]]. 4 citations counted in INSPIRE as of 04 Nov 2022
- 35. A. Tumasyan *et al.* [CMS], "Measurement and QCD analysis of double-differential inclusive jet cross sections in proton-proton collisions at  $\sqrt{s} = 13$  TeV," JHEP **02**, 142 (2022) doi:10.1007/JHEP02(2022)142 [arXiv:2111.10431 [hep-ex]]. 21 citations counted in INSPIRE as of 04 Nov 2022
- 36. A. Tumasyan et al. [CMS], "Strategies and performance of the CMS silicon tracker alignment during LHC Run 2," Nucl. Instrum. Meth. A 1037, 166795 (2022) doi:10.1016/j.nima.2022.166795 [arXiv:2111.08757 [physics.ins-det]]. 1 citations counted in INSPIRE as of 26 Oct 2022
- 37. B. Acar et al. [CMS HGCAL], "Response of a CMS HGCAL silicon-pad electromagnetic calorimeter prototype to 20–300 GeV positrons," JINST 17, no.05, P05022 (2022) doi:10.1088/1748-0221/17/05/P05022 [arXiv:2111.06855 [physics.ins-det]]. 4 citations counted in INSPIRE as of 13 Oct 2022
- 38. A. Tumasyan *et al.* [CMS], "Search for supersymmetry in final states with two or three soft leptons and missing transverse momentum in proton-proton collisions at  $\sqrt{s} = 13$  TeV," JHEP **04**, 091 (2022) doi:10.1007/JHEP04(2022)091 [arXiv:2111.06296 [hep-ex]]. 12 citations counted in INSPIRE as of 03 Nov 2022
- 39. A. Tumasyan *et al.* [CMS], "Observation of triple  $J/\psi$  meson production in proton-proton collisions at  $\sqrt{s} = 13$  TeV," [arXiv:2111.05370 [hep-ex]]. 11 citations counted in INSPIRE as of 04 Nov 2022
- 40. A. Tumasyan *et al.* [CMS], "Study of dijet events with large rapidity separation in proton-proton collisions at  $\sqrt{s} = 2.76$  TeV," JHEP **03**, 189 (2022) doi:10.1007/JHEP03(2022)189 [arXiv:2111.04605 [hep-ex]]. 0 citations counted in INSPIRE as of 31 Oct 2022

- 41. A. Tumasyan *et al.* [CMS], "Inclusive and differential cross section measurements of single top quark production in association with a Z boson in proton-proton collisions at  $\sqrt{s} = 13$  TeV," JHEP **02**, 107 (2022) doi:10.1007/JHEP02(2022)107 [arXiv:2111.02860 [hep-ex]]. 14 citations counted in INSPIRE as of 27 Oct 2022
- 42. A. Tumasyan *et al.* [CMS], "A new calibration method for charm jet identification validated with proton-proton collision events at  $\sqrt{s} = 13$  TeV," JINST **17**, no.03, P03014 (2022) doi:10.1088/1748-0221/17/03/P03014 [arXiv:2111.03027 [hep-ex]]. 8 citations counted in INSPIRE as of 03 Nov 2022
- 43. A. Tumasyan *et al.* [CMS], "Search for Flavor-Changing Neutral Current Interactions of the Top Quark and Higgs Boson in Final States with Two Photons in Proton-Proton Collisions at  $\sqrt{s} = 13$  TeV," Phys. Rev. Lett. **129**, no.3, 032001 (2022) doi:10.1103/PhysRevLett.129.032001 [arXiv:2111.02219 [hep-ex]]. 16 citations counted in INSPIRE as of 08 Nov 2022
- 44. A. Tumasyan *et al.* [CMS], "Search for low-mass dilepton resonances in Higgs boson decays to fourlepton final states in proton–proton collisions at  $\sqrt{s} = 13$  TeV," Eur. Phys. J. C 82, no.4, 290 (2022) doi:10.1140/epjc/s10052-022-10127-0 [arXiv:2111.01299 [hep-ex]]. 16 citations counted in INSPIRE as of 03 Nov 2022
- 45. A. Tumasyan *et al.* [CMS], "Search for long-lived particles produced in association with a Z boson in proton-proton collisions at  $\sqrt{s} = 13$  TeV," JHEP **03**, 160 (2022) doi:10.1007/JHEP03(2022)160 [arXiv:2110.13218 [hep-ex]]. 3 citations counted in INSPIRE as of 03 Nov 2022
- 46. A. Tumasyan *et al.* [CMS], "Measurement of the inclusive and differential WZ production cross sections, polarization angles, and triple gauge couplings in pp collisions at  $\sqrt{s} = 13$  TeV," JHEP **07**, 032 (2022) doi:10.1007/JHEP07(2022)032 [arXiv:2110.11231 [hep-ex]]. 12 citations counted in INSPIRE as of 27 Oct 2022
- 47. A. Tumasyan *et al.* [(TOTEM Collaboration)‡, (CMS Collaboration)†, TOTEM and CMS], "First Search for Exclusive Diphoton Production at High Mass with Tagged Protons in Proton-Proton Collisions at √s = 13 TeV," Phys. Rev. Lett. **129**, no.1, 011801 (2022) doi:10.1103/PhysRevLett.129.011801 [arXiv:2110.05916 [hep-ex]]. 13 citations counted in INSPIRE as of 04 Nov 2022
- 48. A. Tumasyan *et al.* [CMS], "Analysis of the *CP* structure of the Yukawa coupling between the Higgs boson and  $\tau$  leptons in proton-proton collisions at  $\sqrt{s} = 13$  TeV," JHEP **06**, 012 (2022) doi:10.1007/JHEP06(2022)012 [arXiv:2110.04836 [hep-ex]]. 26 citations counted in INSPIRE as of 03 Nov 2022
- 49. A. Tumasyan *et al.* [CMS], "Search for long-lived particles decaying to leptons with large impact parameter in proton–proton collisions at  $\sqrt{s} = 13$  TeV," Eur. Phys. J. C **82**, no.2, 153 (2022) doi:10.1140/epjc/s10052-022-10027-3 [arXiv:2110.04809 [hep-ex]]. 17 citations counted in INSPIRE as of 04 Nov 2022
- 50. A. Tumasyan *et al.* [CMS], "Measurement of double-parton scattering in inclusive production of four jets with low transverse momentum in proton-proton collisions at  $\sqrt{s} = 13$  TeV," JHEP **01**, 177 (2022) doi:10.1007/JHEP01(2022)177 [arXiv:2109.13822 [hep-ex]]. 11 citations counted in INSPIRE as of 26 Oct 2022
- 51. A. Tumasyan *et al.* [CMS], "Search for heavy resonances decaying to  $Z(\nu\bar{\nu})V(q\bar{q}')$  in proton-proton collisions at  $\sqrt{s} = 13$  TeV," Phys. Rev. D **106**, no.1, 012004 (2022) doi:10.1103/PhysRevD.106.012004 [arXiv:2109.08268 [hep-ex]]. 5 citations counted in INSPIRE as of 27 Oct 2022
- 52. A. Tumasyan *et al.* [CMS], "Search for heavy resonances decaying to WW, WZ, or WH boson pairs in the lepton plus merged jet final state in proton-proton collisions at  $\sqrt{s} = 13$  TeV," Phys. Rev. D 105, no.3, 032008 (2022) doi:10.1103/PhysRevD.105.032008 [arXiv:2109.06055 [hep-ex]]. 22 citations counted in INSPIRE as of 28 Oct 2022
- 53. A. Tumasyan *et al.* [CMS], "Study of quark and gluon jet substructure in Z+jet and dijet events from pp collisions," JHEP **01**, 188 (2022) doi:10.1007/JHEP01(2022)188 [arXiv:2109.03340 [hep-ex]]. 14 citations counted in INSPIRE as of 27 Oct 2022

- 54. A. Tumasyan et al. [CMS], "Observation of Bs0 mesons and measurement of the Bs0/B+ yield ratio in PbPb collisions at Image 1 TeV," Phys. Lett. B 829, 137062 (2022) doi:10.1016/j.physletb.2022.137062 [arXiv:2109.01908 [hep-ex]]. 7 citations counted in INSPIRE as of 31 Oct 2022
- 55. A. Tumasyan *et al.* [CMS], "Observation of tW production in the single-lepton channel in pp collisions at  $\sqrt{s} = 13$  TeV," JHEP **11**, 111 (2021) doi:10.1007/JHEP11(2021)111 [arXiv:2109.01706 [hep-ex]]. 8 citations counted in INSPIRE as of 03 Nov 2022
- 56. A. Tumasyan *et al.* [CMS], "Measurement of the top quark mass using events with a single reconstructed top quark in pp collisions at  $\sqrt{s} = 13$  TeV," JHEP **12**, 161 (2021) doi:10.1007/JHEP12(2021)161 [arXiv:2108.10407 [hep-ex]]. 9 citations counted in INSPIRE as of 31 Oct 2022
- 57. A. Tumasyan *et al.* [CMS], "Measurement of differential  $t\bar{t}$  production cross sections in the full kinematic range using lepton+jets events from proton-proton collisions at  $\sqrt{s} = 13$  TeV," Phys. Rev. D **104**, no.9, 092013 (2021) doi:10.1103/PhysRevD.104.092013 [arXiv:2108.02803 [hep-ex]]. 25 citations counted in INSPIRE as of 04 Nov 2022
- 58. K. Lee *et al.* [CMS], "Probing effective field theory operators in the associated production of top quarks with a Z boson in multilepton final states at  $\sqrt{s} = 13$  TeV," JHEP **12**, 083 (2021) doi:10.1007/JHEP12(2021)083 [arXiv:2107.13896 [hep-ex]]. 24 citations counted in INSPIRE as of 07 Nov 2022
- 59. A. Tumasyan *et al.* [CMS], "Search for new particles in events with energetic jets and large missing transverse momentum in proton-proton collisions at  $\sqrt{s} = 13$  TeV," JHEP **11**, 153 (2021) doi:10.1007/JHEP11(2021)153 [arXiv:2107.13021 [hep-ex]]. 51 citations counted in INSPIRE as of 31 Oct 2022
- 60. A. Tumasyan *et al.* [CMS], "Search for chargino-neutralino production in events with Higgs and W bosons using 137 fb<sup>1</sup> of proton-proton collisions at  $\sqrt{s} = 13$  TeV," JHEP **10**, 045 (2021) doi:10.1007/JHEP10(2021)045 [arXiv:2107.12553 [hep-ex]]. 13 citations counted in INSPIRE as of 27 Oct 2022
- 61. A. Tumasyan *et al.* [CMS], "Measurement of the inclusive and differential Higgs boson production cross sections in the decay mode to a pair of  $\tau$  leptons in pp collisions at  $\sqrt{s} = 13$  TeV," Phys. Rev. Lett. **128**, no.8, 081805 (2022) doi:10.1103/PhysRevLett.128.081805 [arXiv:2107.11486 [hep-ex]]. 16 citations counted in INSPIRE as of 31 Oct 2022
- 62. A. Tumasyan *et al.* [CMS], "Combined searches for the production of supersymmetric top quark partners in proton–proton collisions at  $\sqrt{s} = 13 \text{ TeV}$ ," Eur. Phys. J. C **81**, no.11, 970 (2021) doi:10.1140/epjc/s10052-021-09721-5 [arXiv:2107.10892 [hep-ex]]. 25 citations counted in INSPIRE as of 04 Nov 2022
- 63. A. Tumasyan *et al.* [CMS], "Search for Long-Lived Particles Decaying in the CMS End Cap Muon Detectors in Proton-Proton Collisions at  $\sqrt{s} = 13$  TeV," Phys. Rev. Lett. **127**, no.26, 261804 (2021) doi:10.1103/PhysRevLett.127.261804 [arXiv:2107.04838 [hep-ex]]. 20 citations counted in INSPIRE as of 08 Nov 2022
- 64. A. Tumasyan *et al.* [CMS], "Measurement of prompt open-charm production cross sections in protonproton collisions at  $\sqrt{s} = 13$  TeV," JHEP **11**, 225 (2021) doi:10.1007/JHEP11(2021)225 [arXiv:2107.01476 [hep-ex]]. 2 citations counted in INSPIRE as of 31 Oct 2022
- 65. A. Tumasyan *et al.* [CMS], "Measurement of the inclusive and differential  $t\bar{t}\gamma$  cross sections in the single-lepton channel and EFT interpretation at  $\sqrt{s} = 13$  TeV," JHEP **12**, 180 (2021) doi:10.1007/JHEP12(2021)180 [arXiv:2107.01508 [hep-ex]]. 19 citations counted in INSPIRE as of 31 Oct 2022
- 66. A. Tumasyan *et al.* [CMS], "Measurements of the electroweak diboson production cross sections in proton-proton collisions at  $\sqrt{s} = 5.02$  TeV using leptonic decays," Phys. Rev. Lett. **127**, no.19, 191801 (2021) doi:10.1103/PhysRevLett.127.191801 [arXiv:2107.01137 [hep-ex]]. 7 citations counted in INSPIRE as of 31 Oct 2022
- 67. A. Tumasyan *et al.* [CMS], "Search for electroweak production of charginos and neutralinos in protonproton collisions at  $\sqrt{s} = 13$  TeV," JHEP **04**, 147 (2022) doi:10.1007/JHEP04(2022)147 [arXiv:2106.14246 [hep-ex]]. 30 citations counted in INSPIRE as of 27 Oct 2022

- 68. A. Tumasyan *et al.* [CMS], "Fragmentation of jets containing a prompt  $J/\psi$  meson in PbPb and pp collisions at  $\sqrt{s_{\rm NN}} = 5.02$  TeV," Phys. Lett. B **825**, 136842 (2022) doi:10.1016/j.physletb.2021.136842 [arXiv:2106.13235 [hep-ex]]. 10 citations counted in INSPIRE as of 26 Oct 2022
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