

## Prof. AYSEL KAYIŞ TOPAKSU

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### International Researcher IDs

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### Education Information

Masters (Non-Thesis, Evening Education), Cukurova University, İktisadi Ve İdari Bilimler Fakültesi, Yönetim Ve Organizasyon, Turkey 2016 - 2017

Undergraduate, Anadolu University, Open Education Faculty, İşletme , Turkey 2013 - 2016

Doctorate, Cukurova University, Fen Bilimleri Enstitüsü, Fizik, Turkey 1995 - 1999

Postgraduate, Cukurova University, Fen Bilimleri, Fizik, Turkey 1992 - 1995

Undergraduate, Cukurova University, Fen-Edebiyat Fakültesi, Fizik, Turkey 1989 - 1992

### Foreign Languages

English, C1 Advanced

### Certificates, Courses and Trainings

Education Management and Planning, European Research Conference on Frontiers in Particle Astrophysics and Cosmology, Munich, 2001

Education Management and Planning, NATO ASI 2000 Recent Developments in Particle Physics and Cosmology, NATO-ASI, 2000

Education Management and Planning, 27. ITEP Winter School of Physics, ITEP (Institute for Theoretical and Experimental Physics), 1999

Education Management and Planning, Techniques and Concept of High Energy Physics, School -A.B.D Virgin Islands, 1998

Education Management and Planning, European School of High Energy Physics, CERN-JINR, 1996

Education Management and Planning, CERN Summer Student Programme, CERN PH Department, 1993

### Dissertations

Doctorate, A Study On Increasing the Sensitivity of the CHORUS Neutrino Detector, Cukurova University, Fen Bilimleri, Yüksek Enerji Ve Plazma, 1999

Postgraduate, CHORUS Nötrino Osilasyon Deneyinde Kullanılan Muon Spektrometresinin Simülasyonu, Cukurova University, Fen Bilimleri, Fizik, 1995

## Research Areas

Physics, Nuclear physics, Basic Particles and Areas, Natural Sciences

## Academic Titles / Tasks

Professor, Cukurova University, Fen-Edebiyat Fakültesi, Fizik, 2008 - Continues

Associate Professor, Cukurova University, Fen-Edebiyat Fakültesi, Fizik, 2003 - 2008

Research Assistant PhD, --Seçiniz--, İsviçre, Cern ( European Organization For Nuclear Research, Research Fellow), Ph Dep., 2003 - 2005

Assistant Professor, Cukurova University, Fen-Edebiyat Fakültesi, Fizik, 2000 - 2003

## Academic and Administrative Experience

Cukurova University, 2013 - Continues

## Courses

Parçacık Fiziği, Undergraduate, 2016 - 2017

Analiz, Undergraduate, 2013 - 2014

## Advising Theses

KAYIŞ TOPAKSU A., Classical jet shape measurements in proton-proton collisions at at CMS experiment / CMS deneyinde 7x7 TeV'lik proton-proton çarpışmasında jet şekillerinin araştırılması, Doctorate, K.Özdemir(Student), 2014

KAYIŞ TOPAKSU A., Momentum scale calibration of muon momentum tracks using the muon pairs from J/psi decays and installation and commissioning work in CMS at CERN, Doctorate, G.Gökbüllüt(Student), 2014

KAYIŞ TOPAKSU A., Search For Extra Dimensions with Mono-jet Final States in CMS Proton Collsions at 7 TeV, Doctorate, L.Nükhet(Student), 2011

KAYIŞ TOPAKSU A., Extra GAuge Bosons in E6 Models, Doctorate, H.Arslan(Student), 2008

## Jury Memberships

Associate Professor Exam, Doçentlik Sınav Jürisi, ÜAK, February, 2013

Associate Professor Exam, Doçentlik Sınav Jürisi, ÜAK, June, 2012

## Published journal articles indexed by SCI, SSCI, and AHCI

### I. Search for the lepton flavor violating $\tau \rightarrow 3\mu$ decay in proton-proton collisions at $s=13\text{TeV}$

Hayrapetyan A., Tumasyan A., Adam W., Andrejkovic J., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Hussain P., Jeitler M., et al.

- Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, vol.853, 2024 (SCI-Expanded)
- II. Search for an exotic decay of the Higgs boson into a Z boson and a pseudoscalar particle in proton-proton collisions at  $s=13\text{TeV}$**   
 Hayrapetyan A., Tumasyan A., Adam W., Andrejkovic J., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Escalante Del Valle A., Hussain P., et al.
- Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, vol.852, 2024 (SCI-Expanded)
- III. New Structures in the Formula Presented Mass Spectrum in Proton-Proton Collisions at Formula Presented**  
 Hayrapetyan A., Tumasyan A., Adam W., Andrejkovic J., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Escalante Del Valle A., Hussain P., et al.
- Physical Review Letters, vol.132, no.11, 2024 (SCI-Expanded)
- IV. Search for new Higgs bosons via same-sign top quark pair production in association with a jet in proton-proton collisions at  $s=13\text{TeV}$**   
 Hayrapetyan A., Tumasyan A., Adam W., Andrejkovic J., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Hussain P., Jeitler M., et al.
- Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, vol.850, 2024 (SCI-Expanded)
- V. Measurements of azimuthal anisotropy of nonprompt D0 mesons in PbPb collisions at  $s_{\text{NN}}=5.02\text{TeV}$**   
 Tumasyan A., Adam W., Andrejkovic J., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Escalante Del Valle A., Hussain P., Jeitler M., et al.
- Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, vol.850, 2024 (SCI-Expanded)
- VI. Study of azimuthal anisotropy of Y(1S) mesons in pPb collisions at  $s_{\text{NN}} = 8.16 \text{ TeV}$**   
 Tumasyan A., Adam W., Andrejkovic J., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Escalante Del Valle A., Hussain P., Jeitler M., et al.
- Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, vol.850, 2024 (SCI-Expanded)
- VII. Search for Scalar Leptoquarks Produced via  $\tau$ -Lepton-Quark Scattering in pp Collisions at  $\sqrt{s}=13 \text{ TeV}$**   
 Hayrapetyan A., Tumasyan A., Adam W., Andrejkovic J., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Escalante Del Valle A., Hussain P., et al.
- Physical review letters, vol.132, no.6, pp.61801, 2024 (SCI-Expanded)
- VIII. Two-particle Bose-Einstein correlations and their Lévy parameters in PbPb collisions at Formula Presented TeV**  
 Tumasyan A., Adam W., Andrejkovic J., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Escalante Del Valle A., Hussain P., Jeitler M., et al.
- Physical Review C, vol.109, no.2, 2024 (SCI-Expanded)
- IX. Muon identification using multivariate techniques in the CMS experiment in proton-proton collisions at  $\sqrt{s} = 13 \text{ TeV}$**   
 Hayrapetyan A., Tumasyan A., Adam W., Andrejkovic J., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Escalante Del Valle A., Hussain P., et al.
- Journal of Instrumentation, vol.19, no.2, 2024 (SCI-Expanded)
- X. Search for Inelastic Dark Matter in Events with Two Displaced Muons and Missing Transverse Momentum in Proton-Proton Collisions at  $\sqrt{s}=13 \text{ TeV}$**   
 Hayrapetyan A., Tumasyan A., Adam W., Andrejkovic J., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Del Valle A. E., Fröhlich R., et al.
- Physical Review Letters, vol.132, no.4, 2024 (SCI-Expanded)
- XI. Evidence for the Higgs Boson Decay to a Z Boson and a Photon at the LHC**  
 Aad G., Abbott B., Abeling K., Abicht N., Abidi S., Aboulhorma A., Abramowicz H., Abreu H., Abulaiti Y., Acharya B., et al.
- Physical review letters, vol.132, no.2, pp.21803, 2024 (SCI-Expanded)
- XII. Luminosity determination using Z boson production at the CMS experiment**  
 Hayrapetyan A., Tumasyan A., Adam W., Andrejkovic J., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Valle A. E. D., Hussain P., et al.

- European Physical Journal C, vol.84, no.1, 2024 (SCI-Expanded)
- XIII. Measurement of the production cross section for a W boson in association with a charm quark in proton-proton collisions at  $\sqrt{s}=13\text{TeV}$**   
Tumasyan A., Adam W., Andrejkovic J., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Valle A. E. D., Hussain P., Jeitler M., et al.  
European Physical Journal C, vol.84, no.1, 2024 (SCI-Expanded)
- XIV. Measurement of the  $\tau$  lepton polarization in Z boson decays in proton-proton collisions at (Formula presented.)**  
Hayrapetyan A., Tumasyan A., Adam W., Andrejkovic J., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Escalante Del Valle A., Hussain P., et al.  
Journal of High Energy Physics, vol.2024, no.1, 2024 (SCI-Expanded)
- XV. Observation of triple J/psi meson production in proton-proton collisions**  
Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., et al.  
NATURE PHYSICS, 2023 (SCI-Expanded)
- XVI. Search for new particles in an extended Higgs sector with four b quarks in the final state at root  $s=13\text{ TeV}$**   
Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., et al.  
PHYSICS LETTERS B, vol.835, 2022 (SCI-Expanded)
- XVII. Nuclear modification of Y states in pPb collisions at root S-NN=5.02 TeV**  
Tumasyan A., Adam W., Ambrogi F., Bergauer T., Dragicevic M., Ero J., Del Valle A. E., Fruhwirth R., Jeitler M., Krammer N., et al.  
PHYSICS LETTERS B, vol.835, 2022 (SCI-Expanded)
- XVIII. The European Spallation Source neutrino super-beam conceptual design report**  
Alekou A., Baussan E., Bhattacharyya A. K., Kraljevic N. B., Blennow M., Bogomilov M., Bolling B., Bouquerel E., Buchan O., Burgman A., et al.  
EUROPEAN PHYSICAL JOURNAL-SPECIAL TOPICS, vol.231, no.21, pp.3779-3955, 2022 (SCI-Expanded)
- XIX. Evidence for WW/WZ vector boson scattering in the decay channel l nu qq produced in association with two jets in proton-proton collisions at root s=13TeV**  
Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., Krammer N., et al.  
PHYSICS LETTERS B, vol.834, 2022 (SCI-Expanded)
- XX. Measurement of the Higgs boson width and evidence of its off-shell contributions to ZZ production**  
Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., et al.  
NATURE PHYSICS, vol.18, no.11, 2022 (SCI-Expanded)
- XXI. Search for a W' boson decaying to a vector-like quark and a top or bottom quark in the all-jets final state at root s=13 TeV**  
Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., Krammer N., et al.  
JOURNAL OF HIGH ENERGY PHYSICS, no.9, 2022 (SCI-Expanded)
- XXII. Search for high-mass resonances decaying to a jet and a Lorentz-boosted resonance in proton-proton collisions at root s=13 TeV**  
Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., Krammer N., et al.  
PHYSICS LETTERS B, vol.832, 2022 (SCI-Expanded)
- XXIII. Search for Higgs Boson Pair Production in the Four b Quark Final State in Proton-Proton Collisions at root s=13 TeV**  
Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., et al.

- PHYSICAL REVIEW LETTERS, vol.129, no.8, 2022 (SCI-Expanded)
- XXIV. Search for long-lived heavy neutral leptons with displaced vertices in proton-proton collisions at root s=13 TeV**  
Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., et al.  
JOURNAL OF HIGH ENERGY PHYSICS, no.7, 2022 (SCI-Expanded)
- XXV. 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 root s=13 TeV**  
Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., Krammer N., et al.  
PHYSICAL REVIEW LETTERS, vol.129, no.3, 2022 (SCI-Expanded)
- XXVI. Search for new physics in the lepton plus missing transverse momentum final state in proton-proton collisions at root s=13 TeV**  
Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., Krammer N., et al.  
JOURNAL OF HIGH ENERGY PHYSICS, no.7, 2022 (SCI-Expanded)
- XXVII. Identification of hadronic tau lepton decays using a deep neural network**  
Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., Krammer N., et al.  
JOURNAL OF INSTRUMENTATION, vol.17, no.7, 2022 (SCI-Expanded)
- XXVIII. Observation of the B-c(+) Meson in Pb-Pb and pp Collisions at root s(NN)=5.02 TeV and Measurement of its Nuclear Modification Factor**  
Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., Krammer N., et al.  
PHYSICAL REVIEW LETTERS, vol.128, no.25, 2022 (SCI-Expanded)
- XXIX. Search for charged-lepton flavor violation in top quark production and decay in pp collisions at root s=13 TeV**  
Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruehwirth R., Jeitler M., Krammer N., et al.  
JOURNAL OF HIGH ENERGY PHYSICS, no.6, 2022 (SCI-Expanded)
- XXX. Inclusive nonresonant multilepton probes of new phenomena at root s=13 TeV**  
Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., et al.  
PHYSICAL REVIEW D, vol.105, no.11, 2022 (SCI-Expanded)
- XXXI. Observation of B-s(0) mesons and measurement of the B-s(0)/B+ yield ratio in PbPb collisions at root S-NN=5.02 TeV**  
Tumasyan A., Adam W., Ambrogi F., Bergauer T., Dragicevic M., Ero J., Del Valle A. E., Fruhwirth R., Jeitler M., Krammer N., et al.  
PHYSICS LETTERS B, vol.829, 2022 (SCI-Expanded)
- XXXII. Measurement of the production cross section for Z plus b jets in proton-proton collisions at root s=13 TeV**  
Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., et al.  
PHYSICAL REVIEW D, vol.105, no.9, 2022 (SCI-Expanded)
- XXXIII. Search for invisible decays of the Higgs boson produced via vector boson fusion in proton-proton collisions at root s=13 TeV**  
Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., et al.  
PHYSICAL REVIEW D, vol.105, no.9, 2022 (SCI-Expanded)
- XXXIV. 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 root s=13 TeV**

- Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., Krammer N., et al.  
 JOURNAL OF HIGH ENERGY PHYSICS, no.5, 2022 (SCI-Expanded)
- XXXV. Measurement of the inclusive and differential  $t(t)\bar{t}$  over-bar gamma cross sections in the dilepton channel and effective field theory interpretation in proton-proton collisions at root  $s=13$  TeV**  
 Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., et al.  
 JOURNAL OF HIGH ENERGY PHYSICS, no.5, 2022 (SCI-Expanded)
- XXXVI. Response of a CMS HGCAL silicon-pad electromagnetic calorimeter prototype to 20-300 GeV positrons**  
 Acar B., Adamov G., Adloff C., Afanasiev S., Akchurin N., Akgun B., Khan F. A., Alhusseini M., Alison J., Alpana A., et al.  
 JOURNAL OF INSTRUMENTATION, vol.17, no.5, 2022 (SCI-Expanded)
- XXXVII. Search for electroweak production of charginos and neutralinos in proton-proton collisions at root  $s=13$  TeV**  
 Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., Krammer N., et al.  
 JOURNAL OF HIGH ENERGY PHYSICS, no.4, 2022 (SCI-Expanded)
- XXXVIII. Precision measurement of the W boson decay branching fractions in proton-proton collisions at root  $s=13$  TeV**  
 Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., Krammer N., et al.  
 PHYSICAL REVIEW D, vol.105, no.7, 2022 (SCI-Expanded)
- XXXIX. Measurement of the inclusive  $t(t)\bar{t}$  over-bar production cross section in proton-proton collisions at root  $s=5.02$  TeV**  
 Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Krammer N., Lechner L., et al.  
 JOURNAL OF HIGH ENERGY PHYSICS, no.4, 2022 (SCI-Expanded)
- XL. Search for supersymmetry in final states with two or three soft leptons and missing transverse momentum in proton-proton collisions at root  $s=13$  TeV**  
 Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., Krammer N., et al.  
 JOURNAL OF HIGH ENERGY PHYSICS, no.4, 2022 (SCI-Expanded)
- XLI. Search for heavy resonances decaying to ZZ or ZW and axion-like particles mediating nonresonant ZZ or ZH production at root  $s=13$  TeV**  
 Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., et al.  
 JOURNAL OF HIGH ENERGY PHYSICS, no.4, 2022 (SCI-Expanded)
- XLII. Search for long-lived particles decaying into muon pairs in proton-proton collisions at root  $s=13$  TeV collected with a dedicated high-rate data stream**  
 Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., Krammer N., et al.  
 JOURNAL OF HIGH ENERGY PHYSICS, no.4, 2022 (SCI-Expanded)
- XLIII. Study of dijet events with large rapidity separation in proton-proton collisions at root  $s=2.76$  TeV**  
 Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., Krammer N., et al.  
 JOURNAL OF HIGH ENERGY PHYSICS, no.3, 2022 (SCI-Expanded)
- XLIV. Using Z Boson Events to Study Parton-Medium Interactions in Pb-Pb Collisions**  
 Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Bergauer T., Dragicevic M., Ero J., Del Valle A. E., Fruhwirth R., Jeitler M., et al.  
 PHYSICAL REVIEW LETTERS, vol.128, no.12, 2022 (SCI-Expanded)
- XLV. Search for long-lived particles produced in association with a Z boson in proton-proton collisions at**

- root s=13 TeV**
- Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., Krammer N., et al.
- JOURNAL OF HIGH ENERGY PHYSICS, no.3, 2022 (SCI-Expanded)
- XLVI. <p>Search for W? resonances in proton-proton collisions at vs=13 TeV using hadronic decays of Lorentz-boosted W bosons</p>**
- Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., Krammer N., et al.
- PHYSICS LETTERS B, vol.826, 2022 (SCI-Expanded)
- XLVII. A new calibration method for charm jet identification validated with proton-proton collision events at root s=13 TeV**
- Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., Krammer N., et al.
- JOURNAL OF INSTRUMENTATION, vol.17, no.3, 2022 (SCI-Expanded)
- XLVIII. Search for heavy resonances decaying to WW, WZ, or WH boson pairs in a final state consisting of a lepton and a large-radius jet in proton-proton collisions at root s=13 TeV**
- Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., Krammer N., et al.
- PHYSICAL REVIEW D, vol.105, no.3, 2022 (SCI-Expanded)
- XLIX. 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 root s=13 TeV**
- Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., Krammer N., et al.
- PHYSICAL REVIEW LETTERS, vol.128, no.8, 2022 (SCI-Expanded)
- L. Search for flavor-changing neutral current interactions of the top quark and the Higgs boson decaying to a bottom quark-antiquark pair at root s=13 TeV**
- Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Escalante Del Valle A., Fruhwirth R., Jeitler M., et al.
- JOURNAL OF HIGH ENERGY PHYSICS, no.2, 2022 (SCI-Expanded)
- LI. Measurement and QCD analysis of double-differential inclusive jet cross sections in proton-proton collisions at root s=13 TeV**
- Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Escalante Del Valle A., Fruhwirth R., Jeitler M., et al.
- JOURNAL OF HIGH ENERGY PHYSICS, no.2, 2022 (SCI-Expanded)
- LII. Inclusive and differential cross section measurements of single top quark production in association with a Z boson in proton-proton collisions at root s=13 TeV**
- Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Damanakis K., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., et al.
- JOURNAL OF HIGH ENERGY PHYSICS, no.2, 2022 (SCI-Expanded)
- LIII. Fragmentation of jets containing a prompt J/psi meson in PbPb and pp collisions at root s(NN)=5.02 TeV**
- Tumasyan A., Adam W., Bergauer T., Dragicevic M., Ero J., Del Valle A. E., Fruhwirth R., Jeitler M., Krammer N., Lechner L., et al.
- PHYSICS LETTERS B, vol.825, 2022 (SCI-Expanded)
- LIV. Study of quark and gluon jet substructure in Z plus jet and dijet events from pp collisions**
- Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., Krammer N., et al.
- JOURNAL OF HIGH ENERGY PHYSICS, no.1, 2022 (SCI-Expanded)
- LV. Measurement of double-parton scattering in inclusive production of four jets with low transverse momentum in proton-proton collisions at root s=13 TeV**
- Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R.,

- Jeitler M., Krammer N., et al.  
 JOURNAL OF HIGH ENERGY PHYSICS, no.1, 2022 (SCI-Expanded)
- LVI. **Evidence for X(3872) in Pb-Pb Collisions and Studies of its Prompt Production at root s(NN)=5.02 TeV**  
 Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Bergauer T., Dragicevic M., Ero J., Del Valle A. E., Flechl M., Fruhwirth R., et al.  
 PHYSICAL REVIEW LETTERS, vol.128, no.3, 2022 (SCI-Expanded)
- LVII. **Measurement of the inclusive and differential t(t)/over-bar gamma cross sections in the single-lepton channel and EFT interpretation at root s=13 TeV**  
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- CXXVIII. **Measurement of the cross section for t(t)over-bar production with additional jets and b jets in pp collisions at root s=13 TeV**  
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- CXXX. **Search for charged Higgs bosons decaying into a top and a bottom quark in the all-jet final state of pp collisions at root s=13 TeV**  
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- CXLVII. **Measurement of the t(t)over-bar(b)b over-bar production cross section in the all-jet final state in pp collisions at root s=13 TeV**
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- CLIV. Search for supersymmetry in pp collisions at root s=13 TeV with 137 fb(-1) in final states with a single lepton using the sum of masses of large-radius jets**  
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- CLVI. Search for a heavy pseudoscalar Higgs boson decaying into a 125 GeV Higgs boson and a Z boson in final states with two tau and two light leptons at root s=13 TeV**  
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- CLVII. Bose-Einstein correlations of charged hadrons in proton-proton collisions at <mml:msqrt>s</mml:msqrt>=13 TeV**  
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- CLVIII. Search for lepton flavour violating decays of a neutral heavy Higgs boson to mu tau and e tau in proton-proton collisions at root s=13 TeV**  
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- CLIX. Search for physics beyond the standard model in multilepton final states in proton-proton collisions at root s=13 TeV**  
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- CLX. Search for new neutral Higgs bosons through the H -> ZA -><mml:msup>l+</mml:msup><mml:msup>l-</mml:msup>bb<mml:mo stretchy="true"><overline></mml:overline></mml:mover> process in pp collisions at <mml:msqrt>s</mml:msqrt>=13 TeV**  
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- CLXII. Search for top squark pair production in a final state with two tau leptons in proton-proton collisions at root s=13 TeV**  
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- CLXIII. Combined search for supersymmetry with photons in proton-proton collisions at root s=13 TeV**  
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- CLXV. Search for production of four top quarks in final states with same-sign or multiple leptons in proton-proton collisions at root s=13 TeV**  
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- CLXVI. Search for Supersymmetry with a Compressed Mass Spectrum in Events with a Soft tau Lepton, a Highly Energetic Jet, and Large Missing Transverse Momentum in Proton-Proton Collisions at root s=13 TeV**  
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- CLXVII. Search for light pseudoscalar boson pairs produced from decays of the 125 GeV Higgs boson in final states with two muons and two nearby tracks in pp collisions at root s d=13TeV**  
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- CLXVIII. Observation of nuclear modifications in W+- boson production in pPb collisions at root s(NN)=8.16 TeV**  
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- CLXIX. Search for a charged Higgs boson decaying into top and bottom quarks in events with electrons or muons in proton-proton collisions at root s=13TeV**  
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- CLXXI. Measurement of the single top quark and antiquark production cross sections in the t channel and their ratio in proton-proton collisions at root s=13 TeV**  
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- CLXXII. Evidence for WW production from double-parton interactions in proton-proton collisions at root s=13 TeV**  
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- CLXXIII. Search for Physics beyond the Standard Model in Events with Overlapping Photons and Jets**  
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- CLXXV.** **Constraints on anomalous HVV couplings from the production of Higgs bosons decaying to tau lepton pairs**  
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- CLXXVII.** **Measurements of differential Z boson production cross sections in proton-proton collisions at root s=13 TeV**  
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- CLXXXIII.** **Search for new physics in top quark production in dilepton final states in proton-proton collisions at root s=13 TeV**  
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- CLXXXIV.** **Combination of CMS searches for heavy resonances decaying to pairs of bosons or leptons**  
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- CLXXXV.** **Search for the production of four top quarks in the single -lepton and opposite -sign dilepton final states in proton -proton collisions at=13 TeV**  
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- CLXXXVI. **Search for supersymmetry using Higgs boson to diphoton decays at root s=13 TeV**  
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- CLXXXVII. **Search for anomalous electroweak production of vector boson pairs in association with two jets in proton-proton collisions at 13 TeV**  
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- CXXXVIII. **Search for MSSM Higgs bosons decaying to mu(+)mu(-) in proton-proton collisions at root s=13 TeV**  
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- CLXXXIX. **Measurement of the top quark Yukawa coupling from t(t)over-bar kinematic distributions in the lepton plus jets final state in proton-proton collisions at root s=13 TeV**  
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- CXC. **Charged-particle angular correlations in XeXe collisions at root s(NN)=5.44 TeV**  
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- CXCI. **Search for supersymmetry in proton-proton collisions at 13 TeV in final states with jets and missing transverse momentum**  
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- CXCII. **Search for a Light Charged Higgs Boson Decaying to a W Boson and a CP-Odd Higgs Boson in Final States with e mu mu or mu mu mu in Proton-Proton Collisions at root s=13 TeV**  
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- CXCIII. **Measurement of B-s(0) meson production in pp and PbPb collisions at root S-NN=5.02 TeV**  
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- CCVI. **Measurement and interpretation of differential cross sections for Higgs boson production at root s=13 TeV**  
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- CCVII. **Measurement of the energy density as a function of pseudorapidity in proton-proton collisions at**

**root s=13 TeV**

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**CCVIII. Search for W Boson Decays to Three Charged Pions**

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**CCIX. Measurements of the pp WZ inclusive and differential production cross sections and constraints on charged anomalous triple gauge couplings at s=13 TeV**

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**CCX. Search for contact interactions and large extra dimensions in the dilepton mass spectra from proton-proton collisions at root s=13 TeV**

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**CCXI. Search for nonresonant Higgs boson pair production in the b(b)over-bar(b)over-bar final state at root s=13 TeV**

Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Dragicevic M., Eroe J., Del Valle A. E., et al.

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**CCXII. Measurements of properties of the Higgs boson decaying to a Wboson pair in pp collisions at root s=13 TeV**

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**CCXIII. Search for heavy neutrinos and third-generation leptoquarks in hadronic states of two leptons and two jets in proton-proton collisions at root s=13 TeV**

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**CCXIV. Search for t(t)over-barH production in the H -> b(b)over-bar decay channel with leptonic t(t)over-bar decays in proton-proton collisions at root s=13 TeV**

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**CCXV. Inclusive search for supersymmetry in pp collisions at root s=13 TeV using razor variables and boosted object identification in zero and one lepton final states**

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**CCXVI. Search for top quark partners with charge 5/3 in the same-sign dilepton and single-lepton final states in proton-proton collisions at root s=13 TeV**

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**CCXVII. Combination of Searches for Higgs Boson Pair Production in Proton-Proton Collisions at root s=13 TeV**

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- CCXVIII. Search for a heavy resonance decaying to a top quark and a vector-like top quark in the lepton plus jets final state in pp collisions at root s=13 TeV**  
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- CCXIX. Search for Narrow H gamma Resonances in Proton-Proton Collisions at root s=13 TeV**  
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- CCXX. Measurement of nuclear modification factors of gamma(1S)), gamma(2S), and gamma(3S) mesons in PbPb collisions at root s(NN)=5.02 TeV**  
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- CCXXI. Search for a W boson decaying to a vector-like quark and a top or bottom quark in the all-jets final state**  
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- CCXXII. Search for supersymmetric partners of electrons and muons in proton-proton collisions at root s=13 TeV**  
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- CCXXIV. Search for pair production of second-generation leptoquarks at root s=13 TeV**  
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- CCXXV. Measurements of t(t)over-bar differential cross sections in proton-proton collisions at root s=13 TeV using events containing two leptons**  
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- CCXXVI. Search for new particles decaying to a jet and an emerging jet**  
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- CCXXX. **Measurement of differential cross sections for Z boson pair production in association with jets at root s=8 and 13 TeV**  
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- CCXXXVI. **Angular analysis of the decay  $B^+ \rightarrow K^+ \mu^+ \mu^-$  in proton-proton collisions at root s=8 TeV**  
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- CCXXXVIII. **Event shape variables measured using multijet final states in proton-proton collisions at root s=13 TeV**  
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- CXCLI.** **Search for supersymmetry in events with a tau lepton pair and missing transverse momentum in proton-proton collisions at root s=13TeV**  
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- CCXLII.** **Measurements of Higgs boson properties in the diphoton decay channel in proton-proton collisions at root s=13 TeV**  
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- CCXLIII.** **Measurement of jet substructure observables in t(t)over-bar events from proton-proton collisions at root s=13 TeV**  
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- CCXLIV.** **Search for a charged Higgs boson decaying to charm and bottom quarks in proton-proton collisions at root s=8TeV**  
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- CCXLVI.** **Search for the decay of a Higgs boson in the ll gamma channel in proton-proton collisions at root s=13 TeV**  
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- CCLII. **Precision measurement of the structure of the CMS inner tracking system using nuclear interactions**  
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- CCLIV. **Search for additional neutral MSSM Higgs bosons in the tau tau final state in proton-proton collisions at root s=13 TeV**  
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- CCLV. **Observation of Higgs Boson Decay to Bottom Quarks**  
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- CCLVI. **Search for a heavy resonance decaying into a Z boson and a Z or W boson in 2l2q final states at root s=13 TeV**  
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- CCLIX. **Observation of the chi(b1)(3P) and chi(b2)(3P) and Measurement of their Masses**  
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- CCLXII. **Search for disappearing tracks as a signature of new long-lived particles in proton-proton collisions at root s=13 TeV**  
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- CCLXIII. **Search for R-parity violating supersymmetry in pp collisions at root s=13 TeV using b jets in a final state with a single lepton, many jets, and high sum of large-radius jet masses**  
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- CCLXIV. **Elliptic Flow of Charm and Strange Hadrons in High-Multiplicity p plus Pb Collisions at root(NN)-N-s=8.16 TeV**  
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- CCLXV. **Search for vector-like T and B quark pairs in final states with leptons at root s=13 TeV**  
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- CCLXVI. **Search for narrow and broad dijet resonances in proton-proton collisions at root s=13 TeV and constraints on dark matter mediators and other new particles**  
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- CCLXVII. **Measurement of the underlying event activity in inclusive Z boson production in proton-proton collisions at root s=13 TeV**  
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- CCLXVIII. **Search for a singly produced third-generation scalar leptoquark decaying to a tau lepton and a bottom quark in proton-proton collisions at root s=13 TeV**  
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- CCLXXI. **Nuclear modification factor of D-0 mesons in PbPb collisions at root s(NN)=5.02 TeV**

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- CCLXXIII. Search for a massive resonance decaying to a pair of Higgs bosons in the four b quark final state in proton-proton collisions at root s=13 TeV**  
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- CCLXXIV. Measurement of differential cross sections for the production of top quark pairs and of additional jets in lepton plus jets events from pp collisions at root s=13 TeV**  
Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroe J., et al.  
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- CCLXXV. Search for single production of vector-like quarks decaying to a b quark and a Higgs boson**  
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- CCLXXVII. Measurements of differential cross sections of top quark pair production as a function of kinematic event variables in proton-proton collisions at root s=13 TeV**  
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- CCLXXVIII. Bose-Einstein correlations in pp, pPb, and PbPb collisions at root s(NN)=0.9-7 TeV**  
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- CCLXXIX. Search for t(t)over-barH production in the all-jet final state in proton-proton collisions root s=13 TeV**  
Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroe J., et al.  
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- CCLXXX. Search for Physics Beyond the Standard Model in Events with High-Momentum Higgs Bosons and Missing Transverse Momentum in Proton-Proton Collisions at 13 TeV**  
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- CCLXXXI. Search for the flavor-changing neutral current interactions of the top quark and the Higgs boson which decays into a pair of b quarks at root s=13 TeV**  
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- CCLXXXII. Search for dark matter in events with energetic, hadronically decaying top quarks and missing**

**transverse momentum at root s=13 TeV**

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**CCLXXXIII. Performance of the CMS muon detector and muon reconstruction with proton-proton collisions at root s=13 TeV**

Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroe J., et al.

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**CCLXXXIV. Search for high-mass resonances in dilepton final states in proton-proton collisions at root s=13 TeV**

Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroe J., et al.

JOURNAL OF HIGH ENERGY PHYSICS, no.6, 2018 (SCI-Expanded)

**CCLXXXV. Search for supersymmetry in events with one lepton and multiple jets exploiting the angular correlation between the lepton and the missing transverse momentum in proton-proton collisions at root s=13 TeV**

Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroe J., et al.

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**CCLXXXVI. Search for the X(5568) State Decaying into B-s(0)pi(+/-) in Proton-Proton Collisions at root s=8 TeV**

Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroe J., et al.

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**CLXXXVII. Measurement of Prompt D-0 Meson Azimuthal Anisotropy in Pb-Pb Collisions at root S-NN=5.02 TeV**

Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroe J., et al.

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**CCLXXXVIII. Evidence for the Higgs boson decay to a bottom quark-antiquark pair**

Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroe J., et al.

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**CCLXXXIX. Combination of inclusive and differential t(t)over-bar charge asymmetry measurements using ATLAS and CMS data at root S=7 and 8 TeV**

Aaboud M. y., Aad G., Abbott B., Abdinov O., Abeloos B., Abidi S. H., AbouZeid O. S., Abraham N. L., Abramowicz H., Abreu H., et al.

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**CCXC. Measurement of the associated production of a single top quark and a Z boson in pp collisions at, root s=13 TeV**

Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroe J., et al.

PHYSICS LETTERS B, vol.779, pp.358-384, 2018 (SCI-Expanded)

**CCXCI. Observation of the Higgs boson decay to a pair of tau leptons with the CMS detector**

Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroe J., et al.

PHYSICS LETTERS B, vol.779, pp.283-316, 2018 (SCI-Expanded)

**CCXCII. Constraints on the chiral magnetic effect using charge-dependent azimuthal correlations in pPb and PbPb collisions at the CERN Large Hadron Collider**

Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroe J., et al.

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- CCXCIII.** **Suppression of Excited gamma States Relative to the Ground State in Pb-Pb Collisions at root s(NN)=5.02 TeV**  
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- CCXCIV.** **Search for supersymmetry with Higgs boson to diphoton decays using the razor variables at root s=13 TeV**  
 Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Ero J., et al.  
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- CCXCV.** **Search for massive resonances decaying into WW, WZ, ZZ, qW, and qZ with dijet final states at root s=13 TeV**  
 Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Ero J., et al.  
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- CCXCVI.** **Comparing transverse momentum balance of b jet pairs in pp and PbPb collisions at root s(NN)=5.02 TeV**  
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- CCXCVII.** **Search for Higgs boson pair production in events with two bottom quarks and two tau leptons in proton-proton collisions at root s=13 TeV**  
 Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Ero J., et al.  
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- CCXCVIII.** **Search for new phenomena in final states with two opposite-charge, same-flavor leptons, jets, and missing transverse momentum in pp collisions at root s=13TeV**  
 Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Ero J., et al.  
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- CCXCIX.** **Measurement of the inclusive t(t)over-bar cross section in pp collisions root s=5.02 TeV using final states with at least one charged lepton**  
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- CCC.** **Inclusive Search for a Highly Boosted Higgs Boson Decaying to a Bottom Quark-Antiquark Pair**  
 Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Ero J., et al.  
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- CCCI.** **Search for supersymmetry in events with at least three electrons or muons, jets, and missing transverse momentum in proton-proton collisions at root s=13 TeV**  
 Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Ero J., et al.  
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- CCCII.** **Observation of Electroweak Production of Same-Sign W Boson Pairs in the Two Jet and Two Same-Sign Lepton Final State in Proton-Proton Collisions at root s=13 TeV**  
 Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Ero J., et al.  
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- CCCIII.** **Search for heavy resonances decaying to a top quark and a bottom quark in the lepton plus jets final**

**state in proton-proton collisions at 13 TeV**

Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroe J., et al.

PHYSICS LETTERS B, vol.777, pp.39-63, 2018 (SCI-Expanded)

- CCCIV. **Search for resonant and nonresonant Higgs boson pair production in the  $b\bar{b}$  over-bar final state in proton-proton collisions at root s=13 TeV**

Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroe J., et al.

JOURNAL OF HIGH ENERGY PHYSICS, no.1, 2018 (SCI-Expanded)

- CCCV. **Search for low mass vector resonances decaying into quark-antiquark pairs in proton-proton collisions at root s=13 TeV**

Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroe J., et al.

JOURNAL OF HIGH ENERGY PHYSICS, no.1, 2018 (SCI-Expanded)

- CCCVI. **Brightness and uniformity measurements of plastic scintillator tiles at the CERN H2 test beam**  
Chatrchyan S., Sirunyan A. M., Tumasyan A., Litomin A., Mossolov V., Shumeiko N., Van de Klundert M., Van Haevermaet H., Van Mechelen P., Van Spilbeeck A., et al.  
JOURNAL OF INSTRUMENTATION, vol.13, 2018 (SCI-Expanded)

- CCCVII. **Constraints on anomalous Higgs boson couplings using production and decay information in the four-lepton final state**

Sirunyan A. M., Collaboration C. M. S., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., et al.

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- CCCVIII. **Radioactive source calibration test of the CMS Hadron Endcap Calorimeter test wedge with Phase I upgrade electronics**  
Chatrchyan S., Sirunyan A. M., Tumasyan A., Litomin A., Mossolov V., Shumeiko N., De Klundert M. V., Van Haevermaet H., Van Mechelen P., Van Spilbeeck A., et al.  
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- CCCIX. **Search for a heavy composite Majorana neutrino in the final state with two leptons and two quarks at root s=13 TeV**

Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroe J., et al.

PHYSICS LETTERS B, vol.775, pp.315-337, 2017 (SCI-Expanded)

- CCCX. **Search for dark matter produced in association with heavy-flavor quark pairs in proton-proton collisions at root s=13 TeV**

Sirunyan A. M., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroe J., Flechl M., et al.

EUROPEAN PHYSICAL JOURNAL C, vol.77, no.12, 2017 (SCI-Expanded)

- CCCXI. **Search for Evidence of the Type-III Seesaw Mechanism in Multilepton Final States in Proton-Proton Collisions at root s=13 TeV**

Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroe J., et al.

PHYSICAL REVIEW LETTERS, vol.119, no.22, 2017 (SCI-Expanded)

- CCCXII. **Measurement of charged pion, kaon, and proton production in proton-proton collisions at root s=13 TeV**

Sirunyan A. M., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroe J., Flechl M., et al.

PHYSICAL REVIEW D, vol.96, no.11, 2017 (SCI-Expanded)

- CCCXIII. **Measurements of the associated production of a Z boson and b jets in pp collisions at root s=8 TeV**  
Khachatryan V., Sirunyan A. M., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroe J., et al.

- EUROPEAN PHYSICAL JOURNAL C, vol.77, no.11, 2017 (SCI-Expanded)
- CCCXIV. Search for black holes and other new phenomena in high-multiplicity final states in proton-proton collisions at root s=13 TeV**
- Sirunyan A. M., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Ero J., Flechl M., et al.
- PHYSICS LETTERS B, vol.774, pp.279-307, 2017 (SCI-Expanded)
- CCCXV. Measurement of the triple-differential dijet cross section in proton-proton collisions at root s=8 TeV and constraints on parton distribution functions**
- Sirunyan A. M., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Ero J., Flechl M., et al.
- EUROPEAN PHYSICAL JOURNAL C, vol.77, no.11, 2017 (SCI-Expanded)
- CCCXVI. Search for associated production of dark matter with a Higgs boson decaying to b(b)over-bar or gamma gamma at root s=13 TeV**
- Sirunyan A. M., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Ero J., Flechl M., et al.
- JOURNAL OF HIGH ENERGY PHYSICS, no.10, 2017 (SCI-Expanded)
- CCCXVII. Search for Higgs boson pair production in the bb tau state in proton-proton collisions at root(s)=8 TeV**
- Sirunyan A. M., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Ero J., Flechl M., et al.
- PHYSICAL REVIEW D, vol.96, no.7, 2017 (SCI-Expanded)
- CCCXVIII. Search for light bosons in decays of the 125 GeV Higgs boson in proton-proton collisions at root s=8 TeV**
- Khachatryan V., Sirunyan A. M., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Ero J., et al.
- JOURNAL OF HIGH ENERGY PHYSICS, no.10, 2017 (SCI-Expanded)
- CCCXIX. Measurement of the B-+/- Meson Nuclear Modification Factor in Pb-Pb Collisions at root s(NN)=5.02 TeV**
- Sirunyan A. M., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Ero J., Flechl M., et al.
- PHYSICAL REVIEW LETTERS, vol.119, no.15, 2017 (SCI-Expanded)
- CCCXX. Search for Supersymmetry in pp Collisions at root s=13 TeV in the Single-Lepton Final State Using the Sum of Masses of Large-Radius Jets**
- Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Ero J., et al.
- PHYSICAL REVIEW LETTERS, vol.119, no.15, 2017 (SCI-Expanded)
- CCCXXI. Search for Charged Higgs Bosons Produced via Vector Boson Fusion and Decaying into a Pair of W and Z Bosons Using pp Collisions at root s=13 TeV**
- Sirunyan A. M., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Ero J., Flechl M., et al.
- PHYSICAL REVIEW LETTERS, vol.119, no.14, 2017 (SCI-Expanded)
- CCCXXII. Search for new phenomena with the M-T2 variable in the all-hadronic final state produced in proton-proton collisions at root s=13TeV**
- Sirunyan A. M., Tumasyan A., Johnson A., Adam W., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., et al.
- EUROPEAN PHYSICAL JOURNAL C, vol.77, no.10, 2017 (SCI-Expanded)
- CCCXXIII. Search for new phenomena with multiple charged leptons in proton-proton collisions at root s=13TeV**
- Khachatryan V., Sirunyan A. M., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Ero J., et al.
- EUROPEAN PHYSICAL JOURNAL C, vol.77, no.9, 2017 (SCI-Expanded)

- CCCXXIV. **Search for heavy resonances that decay into a vector boson and a Higgs boson in hadronic final states at  $\sqrt{s}=13\text{TeV}$**   
 Sirunyan A. M., Tumasyan A., Adam W., Ambrogi E., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroe J., et al.  
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- CCCXXV. **Study of Jet Quenching with Z plus jet Correlations in Pb-Pb and pp Collisions at  $\sqrt{s(\text{NN})}=5.02\text{ TeV}$**   
 Sirunyan A. M., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroe J., Flechl M., et al.  
*PHYSICAL REVIEW LETTERS*, vol.119, no.8, 2017 (SCI-Expanded)
- CCCXXVI. **Measurement of the top quark mass in the dileptonic  $t(t)\overline{t}$  decay channel using the mass observables M-bl, M-T2, and M-blv in pp collisions at  $\sqrt{s}=8\text{ TeV}$**   
 Sirunyan A. M., Sirunyan A. M., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroe J., et al.  
*PHYSICAL REVIEW D*, vol.96, no.3, 2017 (SCI-Expanded)
- CCCXXVII. **Measurement of the mass difference between top quark and antiquark in pp collisions at  $\sqrt{s}=8\text{ TeV}$**   
 Chatrchyan S., Khachatryan V., Sirunyan A. M., Tumasyan A., Adam W., Bergauer T., Dragicevic M., Eroe J., Fabjan C., Friedl M., et al.  
*PHYSICS LETTERS B*, vol.770, pp.50-71, 2017 (SCI-Expanded)
- CCCXXVIII. **Search for heavy gauge W' bosons in events with an energetic lepton and large missing transverse momentum at  $\sqrt{s}=13\text{TeV}$**   
 Khachatryan V., Sirunyan A. M., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroe J., et al.  
*PHYSICS LETTERS B*, vol.770, pp.278-301, 2017 (SCI-Expanded)
- CCCXXIX. **Search for heavy resonances decaying into a vector boson and a Higgs boson in final states with charged leptons, neutrinos, and b quarks**  
 Khachatryan V., Sirunyan A. M., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroe J., et al.  
*PHYSICS LETTERS B*, vol.768, pp.137-162, 2017 (SCI-Expanded)
- CCCXXX. **Multiplicity and rapidity dependence of strange hadron production in pp, pPb, and PbPb collisions at the LHC**  
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- CCCXLIII. **Search for two Higgs bosons in final states containing two photons and two bottom quarks in proton-proton collisions at 8 TeV**  
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- CCLXXXIII. **Search for the standard model Higgs boson produced in association with a W or a Z boson and decaying to bottom quarks**  
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- CCCXIV.** **The performance of the CMS muon detector in proton-proton collisions at root s=7 TeV at the LHC**  
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- CCXCVIII.** **Measurement of the W+W- cross section in pp collisions at and limits on anomalous WW gamma and WWZ couplings**  
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- CCXCIX.** **Measurement of the ratio of the inclusive 3-jet cross section to the inclusive 2-jet cross section in pp collisions at root s=7 TeV and first determination of the strong coupling constant in the TeV range**  
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- CD.** **Measurement of the B-s(0) ->mu(+)mu(-) Branching Fraction and Search for B-0 -> mu(+)mu(-) with the CMS Experiment**  
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- CDI.** **Interpretation of searches for supersymmetry with simplified models**

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- CDLIV. Search for heavy Majorana neutrinos in mu(+/-)mu(+/-) + jets and e(+/-)e(+/-) + jets events in pp collisions at root s=7 TeV**  
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- CDLXV. Search for physics beyond the standard model in events with a Z boson, jets, and missing transverse energy in pp collisions at  $\sqrt{s}=7$  TeV**  
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## **Collider**

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- XLII. Measurements of properties of the Higgs boson decaying into the four-lepton final state in pp collisions at root s=13 TeV**  
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## Books & Book Chapters

### I. Düzlemde Hareket

KAYIŞ TOPAKSU A.

in: Fizik İlkeler ve Pratik, Verçin Abdullah, Yilmazer Ali Ulvi, Editor, Pearson - Nobel, pp.226-254, 2015

## **Refereed Congress / Symposium Publications in Proceedings**

### **I. First CMS Results at 13 TeV**

Ronchese P., ÖZDEMİR K., HOŞ İ., ADIGÜZEL A., GÖKBULUT G., DUMANOĞLU İ., EŞKUT E., POLATÖZ A., KAYIŞ TOPAKSU A., CMS C.

MESON 2016, 2 - 07 June 2016, vol.130, pp.1029

### **II. Z W jets production at 8 13 TeV in CMS**

ÖCALAN K., ÖZDEMİR K., HOŞ İ., ADIGÜZEL A., KANGAL E. E., DUMANOĞLU İ., EŞKUT E., GÖKBULUT G., KAYIŞ TOPAKSU A., POLATÖZ A., et al.

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### **III. Exocita searches at 13 TeV by CMS**

KİRSANOV M., Khachatryan V., ÖZDEMİR K., ÖNENGÜT G., HOŞ İ., POLATÖZ A., ÇERÇİ S., KAYIŞ TOPAKSU A., CMS C.

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### **IV. Recent Results from CMS**

DORDEVİC M., KHACHATRYAN V., ÖZDEMİR K., HOŞ İ., ÖNENGÜT G., EŞKUT E., POLATÖZ A., KAYIŞ TOPAKSU A., GÖKBULUT G., CMS C.

19 th International Seminar on High Energy Physics(Quarks-2016), 29 May - 04 June 2016, vol.125, pp.1001

### **V. Recent forward physics and diffraction results from CMS**

Veres G., ÖZDEMİR K., HOŞ İ., ADIGÜZEL A., GÖKBULUT G., DUMANOĞLU İ., EŞKUT E., POLATÖZ A., KAYIŞ TOPAKSU A., CMS C.

ISMD 2015, 4 - 09 October 2015, vol.120, pp.2003

### **VI. Higss to tau tau Anaysis in the CMS experiment**

Olszewski M., ÖZDEMİR K., HOŞ İ., ADIGÜZEL A., KANGAL E. E., DUMANOĞLU İ., EŞKUT E., GÖKBULUT G., POLATÖZ A., KAYIŞ TOPAKSU A., et al.

Epiphany 2016 Conference, 7 - 09 January 2016, vol.47, pp.1697-1703

### **VII. Standard Model Results of CMS at 13 TeV**

Ahmad M., HOŞ İ., ADIGÜZEL A., ÖZDEMİR K., KANGAL E. E., EŞKUT E., DUMANOĞLU İ., KAYIŞ TOPAKSU A., Collaboration C.

Epiphany 2016 Conference, 7 - 09 January 2016, vol.47, pp.1365-1377

### **VIII. The CMS Experiment at the CERN LHC**

KAYIŞ TOPAKSU A.

TESNAT 2016 International Conference on Theoretical and Experimental Studies in Nuclear Applications and Technology, 28 - 30 April 2016

### **IX. Heavy Ion Results of the CMS experiment**

Boimska B., ÖZDEMİR K., HOŞ İ., ADIGÜZEL A., KANGAL E. E., DUMANOĞLU İ., EŞKUT E., POLATÖZ A., GÖKBULUT G., KAYIŞ TOPAKSU A., et al.

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### **X. MPI and UE corrections to jet measuremnets and influence on PDF determination and alfas**

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### **XI. Low pt Jet Cross Section Measurement in pp Collisions at root s 0 8 TeV**

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37th International Conference on high Enerhy Physics (ICHEP), 2 - 09 July 2014, vol.273, pp.2740-2742

### **XII. Recent charm production and neutrino oscillation results from the CHORUS experiment**

Kayis-Topaksu A.

17th International Conference on Particles and Nuclei, Santa Fe, Argentina, 23 - 30 October 2005, vol.842, pp.855-857

## **Supported Projects**

KAYIŞ TOPAKSU A., Uslan Zorbakır E., Project Supported by Higher Education Institutions, CMS deneyinde 2017 ve 2018 yıllarında 13 TeV'de alınan çarpışma verisi ile dijet kütle tesir kesiti ölçümleri, 2022 - Continues

KAYIŞ TOPAKSU A., Tok U. G., Project Supported by Higher Education Institutions, 13 TeVde Razor değişkenleri kullanılarak ittilirilmiş top kuark etiketleme yöntemi ile yeni fizik araştırmaları: İstatistiksel Analiz, 2019 - Continues

KAYIŞ TOPAKSU A., EU Framework Program Project, Feasibility Study for employing the uniquely powerful ESS linear accelerator to generate an intense neutrino beam for leptonic CP violation discovery and measurement, 2017 - Continues

KAYIŞ TOPAKSU A., CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi, CMS Deneyinde HKAL'in Yenilenme/İyileştirme Çalışmaları ve fizik Analizleri, 2014 - Continues

KAYIŞ TOPAKSU A., GÖKBULUT G., oğlakçı M., Project Supported by Higher Education Institutions, Nötrino Fiziği Araştırmaları ve Fizik Bölümündeki CMS Merkezinin Yenilenmesi, 2021 - 2023

KAYIŞ TOPAKSU A., Boran F., Project Supported by Higher Education Institutions, 13 TeV'de Razor değişkenleri kullanılarak ittilirilmiş top kuark etiketleme yöntemi ile yeni fizik araştırmaları: Ardalan hesaplama, 2018 - 2023

KAYIŞ TOPAKSU A., Zorbakır İ. S., Project Supported by Higher Education Institutions, 13 TeV'de dijet kütle tesir kesitinin ölçülmesi, 2017 - 2023

KAYIŞ TOPAKSU A., Kiminsu U., Project Supported by Higher Education Institutions, Measurement of Double-differentia Dijet Mass Cross Sections with the CMS Detector at 13 TeV., 2017 - 2022

KAYIŞ TOPAKSU A., Project Supported by Higher Education Institutions, CMS Deneyinde yeni fizik araştırmaları (4 adet yayın ile başvuru), 2017 - 2021

KAYIŞ TOPAKSU A., DOĞAN T., TOPAKSU M., Project Supported by Higher Education Institutions, Erbiyum (Er) Katkılanmış Al2O3 Dozimetrenin Termoluminesans Yöntemi Kullanılarak Doz Cevap Eğrilerinin Analizi, 2017 - 2020

KAYIŞ TOPAKSU A., Bilican F., Project Supported by Higher Education Institutions, CMS Hadron Kalorimetresinin performans analizleri, 2018 - 2019

KAYIŞ TOPAKSU A., Uslan E., Project Supported by Higher Education Institutions, CMS deneyinde PF jet tanımlama algoritma performansı ve farklı jet tetikleyiciler için yüklü hadron oranının belirlenmesi, 2018 - 2019

TOPAKSU M., KAYIŞ TOPAKSU A., PORTAKAL Z. G., AKÇA S., BALCI YEGEN S., YÜKSEL M., DOĞAN T., Project Supported by Higher Education Institutions, International Conference on Theoretical and Experimental Studies in Nuclear Applications and Technology (TESNAT2017), 2017 - 2017

KAYIŞ TOPAKSU A., Project Supported by Higher Education Institutions, CERN'de yapılmakta olan CMS deneyinde yeni fizik araştırmaları (Yayın teşvik), 2016 - 2017

KAYIŞ TOPAKSU A., Project Supported by Higher Education Institutions, Yayın teşvik (2 yayın), 2015 - 2016

KAYIŞ TOPAKSU A., Boran F., Project Supported by Higher Education Institutions, CMS Hadronik Kalorimetre Lazer Sisteminin Test Çalışmaları, 2015 - 2015

KAYIŞ TOPAKSU A., Zorbakır İ. S., Project Supported by Higher Education Institutions, CMS Kalorimetre jetleri için Kule Eşik Değerlerinin Saptanması, 2014 - 2015

KAYIŞ TOPAKSU A., Kiminsu U., Project Supported by Higher Education Institutions, CMS'de Yenilenen PMT'lerin kazançlarının zamana göre değişimini incelenmesi, 2014 - 2015

KAYIŞ TOPAKSU A., Project Supported by Higher Education Institutions, 1) Measurement Of The Cross Section And Angular Correlations For Associated Production Of A Z Boson With B Hadrons In Pp Collisions At S= 7 Tev 2) Jet And Underlying Event Properties As A Function Of Charged-Particle Multiplicity In Proton-Proton Collisions At Root S=7 Tev 3) Measurement Of The W+W- Cross Section In Pp Collisions At And Limits On Anomalous Ww Gamma And Wwz Couplings" 4) Search For Narrow Resonances Using The Dijet Mass Spectrum In Pp Collisions At Root S=8 Tev", 2014 - 2015

KAYIŞ TOPAKSU A., Oğlakçı M., Project Supported by Higher Education Institutions, CMS Kalorimetre jetleri kullanılarak HPD ve SiPM'lerin kalibrasyon faktörlerinin belirlenmesi, 2014 - 2014

KAYIŞ TOPAKSU A., Project Supported by Higher Education Institutions, LHC'de CMS Deneyinde 7 - 14 TeV Kütle Merkezi Enerjisinde J/? Parçacığı İçeren Dar Rezonansların Araştırılması, 2011 - 2014

KAYIŞ TOPAKSU A., Project Supported by Higher Education Institutions, CERN'deki CMS Deneyinde Monte Carlo Verileri ile Kalibrasyon Çalışmaları, 2012 - 2013

KAYIŞ TOPAKSU A., GÖKBULUT G., CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi, CMS Deneyinde Dedektör Kurulumu, Yenilenmesi ve Fizik Çalışmaları, 2010 - 2013

KAYIŞ TOPAKSU A., CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi, CERN'deki CMS deneyinde ağır iyon çalışmaları, 2004 - 2009

KAYIŞ TOPAKSU A., CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi, CERN'deki CMS Deneyi için Kullanılacak Optik ve Ölçüm Labaratuvarının Kurulması, 2003 - 2004

KAYIŞ TOPAKSU A., TUBITAK Project, CERN'deki CMS Deneyi için En İleri Kalorimetre II, 1999 - 2000

KAYIŞ TOPAKSU A., TUBITAK Project, Yüksek Enerji Fiziği CERN Nötrino Deneyleri Araştırmaları, 1992 - 1996

## Metrics

Publication: 700

Citation (WoS): 32358

Citation (Scopus): 34817

H-Index (WoS): 74

H-Index (Scopus): 87

## Scholarships

Junior Associate(2006-2011), ICTP, İtalya, Other International Organizations, 2006 - 2011

Research Fellow (2003-2005), CERN, Cenevre, İsviçre, Other International Organizations, 2003 - 2005

Bütünleştirilmiş Doktora Burs Programı(1996-1999), TUBITAK, 1996 - 1999

## Awards

KAYIŞ TOPAKSU A., Fen-Edebiyat Fakülte Birinciliği, Çukurova Üniversitesi, June 1992

KAYIŞ TOPAKSU A., Fizik Bölüm Birincisi, Çukurova Üniversitesi, June 1992

## Non Academic Experience

CERN (Avrupa Nükleer Araştırma Merkezi)