

Prof. Taylan YETKİN

Personal Information

Web: <https://avesis.yildiz.edu.tr/tyetkin>

International Researcher IDs

ORCID: 0000-0003-3277-5612

ScopusID: 6507660608

Yoksis Researcher ID: 46813

Biography

Prof. Dr. Taylan Yetkin is a renowned figure in the field of high energy physics, currently serving as a Professor at the Faculty of Electrical and Electronics / Biomedical Engineering, Yildiz Technical University, Turkey. With an illustrious academic background, Prof. Yetkin earned his PhD from Cukurova University, Turkey, in 2006, and a Master's degree from Mersin University, Turkey, in 2001, both in Physics.

His career trajectory is marked by a series of prestigious positions in the academic world. Prior to his current role, he was a Professor at the Faculty of Arts and Sciences / Department of Physics, Mimar Sinan Fine Arts University, Turkey (2018-2022) and at Yildiz Technical University, Turkey, where he progressed from Assistant Professor to Associate Professor and then to Professor in the Department of Physics.

Prof. Yetkin's international experience is extensive. He has served as a Research Scientist and Post-Doctoral Research Scientist at the University of Iowa, USA, and CERN CMS/PH, Geneva, Switzerland. His early career also includes a stint as a Guest Scientist at the Fermi National Accelerator Laboratory, USA.

In addition to his academic roles, Prof. Yetkin holds significant management positions. These include serving on the Board of Directors of the Turkish Accelerator and Radiation Laboratory, as Vice Director of SABIOTEK, and as a member of various advisory and technical committees in the field of nuclear technologies and biotechnology.

His research focuses on cutting-edge experiments and projects in high energy physics, with numerous funded projects under his leadership, reflecting his prowess in securing and managing substantial research grants. Prof. Yetkin's technical expertise encompasses a range of programming languages and simulation tools, underscoring his comprehensive approach to research and development in his field.

Prof. Yetkin's commitment to his discipline is further evidenced by her extensive list of publications in prestigious journals, contributing significantly to the field of high energy physics. His achievements have been recognized with awards such as the CMS 2011 Achievement Award and various fellowships, highlighting his leadership and contributions to the field.

Education Information

Doctorate, Cukurova University, Fen Bilimleri Enstitüsü, Fizik, Turkey 2001 - 2006

Postgraduate, Mersin University, Institute of Sciences, Physics, Turkey 1999 - 2001

Undergraduate, Mersin University, Faculty Of Arts And Sciences, Department Of Physics, Turkey 1994 - 1998

Research Areas

Physics, Nuclear physics, Experimental Methods of Particle and Nuclear Physics, Basic Particles and Areas, Special theories and interaction models, particle systematics, Natural Sciences

Academic Titles / Tasks

Professor, Yildiz Technical University, Faculty Of Electrical & Electronics, Biomedical Engineering, 2022 - Continues

Advising Theses

YETKİN T., Study and Improvement of Properties of Electrical Iron for Current Transformers, Postgraduate, A.Abdullah(Student), 2016

YETKİN T., Slikon Fotoçogalticilarda Kozmik Muonların Yaşam Süresi Ölçümü, Postgraduate, F.Ilgin(Student), 2016

YETKİN T., Örgü Kuantum Renk Dinamiğinde Mezon Kütlesi Hesapları, Postgraduate, H.Bahtiyar(Student), 2016

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Multichannel R -matrix analysis of C 12 compound nucleus reactions**
Alaçaylr O., Kam E., YETKİN T., Blylk R., Yalçln T.
Physical Review C, vol.109, no.1, 2024 (SCI-Expanded)
- II. **Measurement of LYSO crystal light output and energy resolution improvement with acid etching**
Kolcu O., Iren E., YETKİN T., Özok F., Erduran M.
Applied Radiation and Isotopes, vol.199, 2023 (SCI-Expanded)
- III. **Development of active shielding gamma probe: a simulation study**
Kolcu O., Yetkin T., Iren E.
European Physical Journal Plus, vol.138, no.2, 2023 (SCI-Expanded)
- IV. **Suppression of Excited gamma States Relative to the Ground State 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., Eroe J., Flechl M., et al.
PHYSICAL REVIEW LETTERS, vol.120, no.14, 2018 (SCI-Expanded)
- V. **Search for vectorlike light-flavor quark partners 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., Eroe J., Flechl M., et al.
PHYSICAL REVIEW D, vol.97, no.7, 2018 (SCI-Expanded)
- VI. **Simulation of secondary emission calorimeter for future colliders**
Yetkin E. A., YETKİN T., Ozok F., Iren E., Erduran M. N.
JOURNAL OF INSTRUMENTATION, vol.13, 2018 (SCI-Expanded)
- VII. **Search for natural supersymmetry in events with top quark pairs and photons in pp collisions at root s=8 TeV**
Sirunyan A. M., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroe J., Flechl M., et al.
JOURNAL OF HIGH ENERGY PHYSICS, vol.2018, no.3, 2018 (SCI-Expanded)
- VIII. **Study of dijet events with a large rapidity gap between the two leading jets in pp collisions at $\sqrt{s}=7\text{TeV}$**
Sirunyan A., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Erö J., Flechl M., et al.
European Physical Journal C, vol.78, no.3, 2018 (SCI-Expanded)
- IX. **Azimuthal anisotropy of charged particles with transverse momentum up to 100 GeV/c in PbPb**

collisions at sNN=5.02 TeV

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

Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, vol.776, pp.195-216, 2018 (SCI-Expanded)

X. 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)

XI. Radioactive source calibration test of the CMS Hadron Endcap Calorimeter test wedge with Phase I upgrade electronics

Chatrchyan S., Sirunyan A., 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.12, no.12, 2017 (SCI-Expanded)

XII. Measurement of charged pion, kaon, and proton production in proton-proton collisions at $\sqrt{s} = 13$ TeV

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

Physical Review D, vol.96, no.11, 2017 (SCI-Expanded)

XIII. Search for black holes and other new phenomena in high-multiplicity final states in proton-proton collisions at $\sqrt{s}=13$ TeV

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

Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, vol.774, pp.279-307, 2017 (SCI-Expanded)

XIV. Measurements of the associated production of a Z boson and b jets in pp collisions at $\sqrt{s}=8$ TeV

Khachatryan V., Sirunyan A., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Erö J., et al.

European Physical Journal C, vol.77, no.11, 2017 (SCI-Expanded)

XV. CMS Collaboration

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

Nuclear Physics A, vol.967, pp.965-982, 2017 (SCI-Expanded)

XVI. Measurement of the triple-differential dijet cross section in proton-proton collisions at $\sqrt{s}=8$ TeV and constraints on parton distribution functions

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

European Physical Journal C, vol.77, no.11, 2017 (SCI-Expanded)

XVII. Particle-flow reconstruction and global event description with the CMS detector

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

Journal of Instrumentation, vol.12, no.10, 2017 (SCI-Expanded)

XVIII. Search for Charged Higgs Bosons Produced via Vector Boson Fusion and Decaying into a Pair of W and Z Bosons Using pp Collisions at $s = 13$ TeV

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

Physical Review Letters, vol.119, no.14, 2017 (SCI-Expanded)

XIX. Measurement of the semileptonic $t\bar{t} + \gamma$ production cross section in pp collisions at $\sqrt{s}=8$ TeV

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

Journal of High Energy Physics, vol.2017, no.10, 2017 (SCI-Expanded)

- XX. **Search for new physics in the monophoton final state in proton-proton collisions at $\sqrt{s}=13$ TeV**
 Sirunyan A., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Erö J., Flechl M., et al.
 Journal of High Energy Physics, vol.2017, no.10, 2017 (SCI-Expanded)
- XXI. **Search for light bosons in decays of the 125 GeV Higgs boson in proton-proton collisions at $\sqrt{s}=8$ TeV**
 Khachatryan V., Sirunyan A., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Erö J., et al.
 Journal of High Energy Physics, vol.2017, no.10, 2017 (SCI-Expanded)
- XXII. **Search for leptophobic Z' bosons decaying into four-lepton final states 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., Eroë J., et al.
 PHYSICS LETTERS B, vol.773, pp.563-584, 2017 (SCI-Expanded)
- XXIII. **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., Eroë J., Flechl M., et al.
 PHYSICAL REVIEW D, vol.96, no.7, 2017 (SCI-Expanded)
- XXIV. **Measurements of the $p p \rightarrow W\gamma\gamma$ and $p p \rightarrow Z\gamma\gamma$ cross sections and limits on anomalous quartic gauge couplings at $\sqrt{s}=8$ TeV**
 Sirunyan A., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Erö J., Flechl M., et al.
 Journal of High Energy Physics, vol.2017, no.10, 2017 (SCI-Expanded)
- XXV. **Search for associated production of dark matter with a Higgs boson decaying to b b̄ or $\gamma\gamma$ at $\sqrt{s}=13$ TeV**
 Sirunyan A., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Erö J., Flechl M., et al.
 Journal of High Energy Physics, vol.2017, no.10, 2017 (SCI-Expanded)
- XXVI. **Measurements of jet charge with dijet events in pp collisions at $\sqrt{s}=8$ TeV**
 Sirunyan A., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Erö J., Flechl M., et al.
 Journal of High Energy Physics, vol.2017, no.10, 2017 (SCI-Expanded)
- XXVII. **Search for high-mass Z γ resonances in proton-proton collisions at s=8 and 13 TeV using jet substructure techniques**
 Sirunyan A., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Erö J., Flechl M., et al.
 Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, vol.772, pp.363-387, 2017 (SCI-Expanded)
- XXVIII. **Geant4 simulation of a conceptual calorimeter based on secondary electron emission**
 Ozok F., Yetkin T., Yetkin E. A., Iren E., Erduran M. N.
 JOURNAL OF INSTRUMENTATION, vol.12, 2017 (SCI-Expanded)
- XXIX. **Mechanical stability of the CMS strip tracker measured with a laser alignment system**
 Skovpen Y., Sirunyan A., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Erö J., et al.
 Journal of Instrumentation, vol.12, no.4, 2017 (SCI-Expanded)
- XXX. **Relative Modification of Prompt $\psi(2S)$ and J/ψ Yields from pp to PbPb Collisions at $s_{NN}=5.02$ TeV**
 Sirunyan A., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Erö J., Flechl M., et al.
 Physical Review Letters, vol.118, no.16, 2017 (SCI-Expanded)
- XXXI. **Search for top squark pair production in compressed-mass-spectrum scenarios in proton-proton**

- collisions at s=8 TeV using the αT variable**
 Khachatryan V., Sirunyan A., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Erö J., et al.
 Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, vol.767, pp.403-430, 2017 (SCI-Expanded)
- XXXII. Search for high-mass diphoton resonances in proton-proton collisions at 13 TeV and combination with 8 TeV search**
 Khachatryan V., Sirunyan A., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Erö J., et al.
 Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, vol.767, pp.147-170, 2017 (SCI-Expanded)
- XXXIII. Search for electroweak production of charginos in final states with two τ leptons in pp collisions at $\sqrt{s}=8$ TeV**
 Khachatryan V., Sirunyan A., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Erö J., et al.
 Journal of High Energy Physics, vol.2017, no.4, 2017 (SCI-Expanded)
- XXXIV. Charged-particle nuclear modification factors in PbPb and pPb collisions at $\sqrt{s_{NN}}=5.02$ TeV**
 Khachatryan V., Sirunyan A., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Erö J., et al.
 Journal of High Energy Physics, vol.2017, no.4, 2017 (SCI-Expanded)
- XXXV. Suppression and azimuthal anisotropy of prompt and nonprompt J / ψ production in PbPb collisions at $\sqrt{s_{NN}}=2.76$ TeV**
 Khachatryan V., Sirunyan A., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Erö J., et al.
 European Physical Journal C, vol.77, no.4, 2017 (SCI-Expanded)
- XXXVI. Search for electroweak production of a vector-like quark decaying to a top quark and a Higgs boson using boosted topologies in fully hadronic final states**
 Sirunyan A., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Erö J., Flechl M., et al.
 Journal of High Energy Physics, vol.2017, no.4, 2017 (SCI-Expanded)
- XXXVII. Measurement of prompt and nonprompt J / ψ production in p p and p Pb collisions at $\sqrt{s_{NN}}=5.02$ TeV**
 Sirunyan A., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Erö J., Flechl M., et al.
 European Physical Journal C, vol.77, no.4, 2017 (SCI-Expanded)
- XXXVIII. Combined Measurement of the Higgs Boson Mass in pp Collisions at s = 7 and 8 TeV with the ATLAS and CMS Experiments**
 Aad G., Abbott B., Abdallah J., Abdinov O., Aben R., Abolins M., Abouzeid O., Abramowicz H., Abreu H., Abreu R., et al.
 Physical Review Letters, vol.114, no.19, 2015 (SCI-Expanded)
- XXXIX. Measurement of higher-order harmonic azimuthal anisotropy in PbPb collisions at root s(NN)=2.76 TeV**
 Chatrchyan S., Khachatryan V., Sirunyan A. M., Tumasyan A., Adam W., Bergauer T., Dragicevic M., Eroë J., Fabjan C., Friedl M., et al.
 PHYSICAL REVIEW C, vol.89, no.4, 2014 (SCI-Expanded)
- XL. Observation of a new boson at a mass of 125 GeV with the CMS experiment at the LHC**
 Chatrchyan S., Khachatryan V., Sirunyan A., Tumasyan A., Adam W., Aguilo E., Bergauer T., Dragicevic M., Erö J., Fabjan C., et al.
 Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, vol.716, no.1, pp.30-61, 2012 (SCI-Expanded)
- XLI. Search for pair production of first- and second-generation scalar leptoquarks in pp collisions at ?s=7 TeV**

- YETKİN T.
Phys. Rev. D 86 (2012) 052013, vol.86, no.5, 2012 (SCI-Expanded)
- XLII. **Measurement of the underlying event activity in pp collisions at $\sqrt{s} = 0.9$ and 7 TeV with the novel jet-area/median approach**
YETKİN T.
J. High Energy Phys. 08 (2012) 130, vol.8, no.130, pp.1-33, 2012 (SCI-Expanded)

Refereed Congress / Symposium Publications in Proceedings

- I. **Simulation results for novel gamma probe based on silicon photomultipliers**
YETKİN T., İren E., Özok F., Erduran M. N.
Theoretical and Experimental Studies in Nuclear Applications and Technology, Adana, Turkey, 10 May 2017,
pp.216
- II. **Simulation of secondary emission calorimeter for future colliders**
YETKİN T., Yetkin E. A., İren E., Özok F., Erduran M. N.
Theoretical and Experimental Studies in Nuclear Applications and Technology, Adana, Turkey, 10 May 2017,
pp.215
- III. **SiPM readout tests for decay spectroscopy detectors**
YETKİN T., İren E., Özok F., Erduran M. N., Yetkin E. A.
Theoretical and Experimental Studies in Nuclear Applications and Technology, Adana, Turkey, 10 May 2017,
pp.217
- IV. **Nedir Bu Ekstra Boyutlar ve Nasıl Gözlemleriz?**
YETKİN T.
İzmir Yüksek Enerji Fiziği ve Uygulamaları Çalıştayı, 01 July 2012

Supported Projects

- Sunar Çerçi D., İşıldak B., Çerçi S., Yetkin T., Project Supported by Other Official Institutions, CERN'deki CMS Deneyi'nde Jet Fiziği Analizleri ve HCAL- HGCAL Dedektör Ar-Ge Çalışmaları, 2023 - 2026
- Sunar Çerçi D., Çerçi S., Sert H., İşıldak B., Zorbilmez Ç., Hoş İ., Aydilek O., Yetkin T., Özkorucuklu S., Project Supported by Other Official Institutions, CMS Dedektöründe Çok İleri Bölge Fizik Analizleri, İnklusif pp Etkileşmeleri, PPS (Hassas Proton Spektrometresi) Hassas Zaman Ölçüm Detektörü ve HCAL (Hadronik Kalorimetre) Faz 2. Güncelleme Çalışmaları, 2020 - 2023
- Yetkin T., TUBITAK Project, 511 keV Enerjili Gamaların İnorganik Kristal İçindeki Etkileşim Derinliğinin Fiber ve Silikon Foto-Çoğaltıcılar Kullanılarak Belirlenmesi, 2019 - 2023
- Yetkin T., Bozkurt K., Durusoy A., Akçalı Ö., Erduran M. N., Özok F., Zengin A. T., Akbeniz Ş., TUBITAK Project, Gama Kamerası Modernizasyonu İçin Yöntem Geliştirilmesi ve Deneysel Uygulaması, 2017 - 2019
- YETKİN T., ÖZOK F., ERDURAN M. N., ERDURAN M. N., Project Supported by Higher Education Institutions, Silikon Foto-çoğaltıcı Kazancının Mikro Kontrol Edicilerle Dengede Tutulması, 2015 - 2018
- Yetkin T., Özok F., TUBITAK Project, İkincil Emisyon Elektronlarına Dayalı Kompakt Kalorimetre Tasarımı Yapımı Ve İşletimi, 2014 - 2017

Metrics

- Publication: 46
Citation (WoS): 154
Citation (Scopus): 1771
H-Index (WoS): 5

H-Index (Scopus): 21

Non Academic Experience

University of Iowa

University of Iowa, A.B.D.

Fermi Ulusal Hızlandırıcı Laboratuvarı