

# EMRAH TIRAŞ

## DOÇ.DR.

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**Uluslararası Araştırmacı ID'leri**

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Publons / Web Of Science ResearcherID: ABG-2354-2020

ScopusID: 54973257900

Yoksis Araştırmacı ID: 329158

### Biyografi

I am an Asst. Prof. in the Physics Department at Erciyes University, and working on the neutrino experiments, ANNIE and NOvA at Fermi National Accelerator Laboratory (Fermilab). I am also holding an affiliated scientist position at the University of Iowa and affiliated with the CMS experiment on the LHC at CERN.

From January 2017 to October 2020, I worked on the neutrino experiments, ANNIE and NOvA at Fermilab as a postdoctoral research associate for Iowa State University. I worked as a Run Coordinator and Phase II Upgrade & Installation Manager for ANNIE and did neutron simulation studies and physics analysis for NOvA.

I completed my M.Sc. degree in August 2012 and Ph.D. in December 2016 at the University of Iowa on the CMS experiment on the LHC at CERN.

### Ongoing Research:

I have been doing neutron simulation studies and physics analysis for ANNIE and NOvA since January 2017. I am also working on detector R&D studies for the CMS experiment at CERN and other high-energy-particle detectors around the world. Our main focus is running an R&D program for particle detectors and calorimeters and investigating cheap, radiation-hard, and fast-timing scintillators.

My research interests are neutrino physics, particle physics, experimental nuclear physics, Monte Carlo simulations, detector R&D, calorimetric studies, data acquisition systems, and electronic instrumentation. My detector research efforts are aimed at developing novel particle detectors for neutrino experiments, collider experiments, and other projects where precise particle detectors are required.

My primary physics research interest is neutron studies and understanding their production and detection in neutrino experiments. I am also interested in Charged Current Quasi-Elastic (CCQE) neutrino interactions and better-understanding multi-nucleon physics processes such as 2p-2h.

## Öğrenim Bilgisi

|                              |                                                                                                                                               |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Post Doktora<br>2016 - 2020  | Fermi National Accelerator Laboratory (FERMILAB), Neutrino Physics Division, ANNIE and NOvA Neutrino Experiments, Amerika Birleşik Devletleri |
| Post Doktora<br>2016 - 2020  | Iowa State University of Science and Technology, Graduate College, Department of Physics and Astronomy, Amerika Birleşik Devletleri           |
| Doktora<br>2012 - 2017       | The University of Iowa, Graduate College, Department of Physics and Astronomy, Amerika Birleşik Devletleri                                    |
| Yüksek Lisans<br>2010 - 2012 | The University of Iowa, Graduate College, Department of Physics and Astronomy , Amerika Birleşik Devletleri                                   |
| Lisans<br>2004 - 2008        | Atatürk Üniversitesi, Fen Fakültesi, Fizik, Türkiye                                                                                           |

## Yabancı Diller

İngilizce, C1 İleri

## Sertifika, Kurs ve Eğitimler

Veri Analizi, Geant4 Simulation Certificate, SLAC National Accelerator Laboratory & Massachusetts Institute of Technology (MIT) , 2016

Eğitim Yönetimi ve Planlama, Graduate College Teaching Certificate in Physical and Mathematical Sciences, The University of Iowa, 2015

Yabancı Dil, High Advanced Level Certificate from English Language Institute, University of Delaware, 2009

Yabancı Dil, Certificate from School of Foreign Languages, Hacettepe Üniversitesi, 2009

## Yaptığı Tezler

Doktora, Search for heavy Majorana neutrinos in pp collisions at  $\sqrt{s} = 8$  TeV with the CMS detector & photodetector and calorimeter R&D for particle colliders, The University of Iowa, Graduate College, Department of Physics and Astronomy , 2017

Yüksek Lisans, Characterization of 900 four-anode photomultiplier tubes for use in 2013 hadronic forward calorimeter upgrade, The University of Iowa, Graduate College, Department of Physics and Astronomy, 2012

## Akademik Unvanlar / Görevler

|                                |                                            |
|--------------------------------|--------------------------------------------|
| Doç.Dr.<br>2023 - Devam Ediyor | Erciyes Üniversitesi, Fen Fakültesi, Fizik |
|--------------------------------|--------------------------------------------|

Arařtırmacı  
2017 - Devam Ediyor

The University of Iowa, College of Liberal Arts and Sciences, Department of  
Physics and Astronomy

Arařtırmacı  
2010 - Devam Ediyor

CERN: European Organization for Nuclear Research, CMS Collaboration

Arařtırmacı  
2010 - Devam Ediyor

FERMILAB: Fermi National Accelerator Laboratory, Particle Physics Division &  
Neutrino Division

Dr.Öğr.Üyesi  
2021 - 2023

Erciyes Üniversitesi, Fen Fakültesi, Fizik

Öğretim Görevlisi Dr.  
2020 - 2021

Erciyes Üniversitesi, Fen Fakültesi, Fizik

Arařtırma Görevlisi Dr.  
2016 - 2020

Iowa State University of Science and Technology, Graduate College, Department of  
Physics and Astronomy

Arařtırma Görevlisi  
2010 - 2016

The University of Iowa, Graduate College, Department of Physics and Astronomy

## Ödüller

1. Tırař E., Üstün Başarılı Genç Bilim İnsanı Ödülü (GEBİP), Tüba: Türkiye Bilimler Akademisi, Aralık 2023
2. Tırař E., Üstün Başarı Ödülleri: Kurumsal Uluslararası İşbirlięi Ödülü, Yüksek Öğretim Kurumu, Ekim 2022
3. Tırař E., Neutrino Physics Center (NPC) Award, Fermilab: Fermi National Accelerator Laboratory, Aralık 2018

## Burslar

Summer Term Fellowship, The University of Iowa, Üniversite, 2016 - 2016

Teaching Assistantship, The University of Iowa, Üniversite, 2012 - 2016

Summer Term Fellowship, The University of Iowa, Üniversite, 2015 - 2015

## Jüri Üyelikleri

Doktora Yeterlik Sınavı, Doktora Yeterlik Sınavı, Erciyes Üniversitesi, Kasım, 2022

Doktora Tez İzleme Komitesi (TİK) Üyelięi, Doktora Tez İzleme Komitesi (TİK) Üyelięi, Abdullah Gül Üniversitesi, Eylül,  
2021

Doktora Tez İzleme Komitesi (TİK) Üyelięi, Doktora Tez İzleme Komitesi (TİK) Üyelięi, Erciyes Üniversitesi, Eylül, 2021

Doktora Yeterlik Sınavı, Doktora Yeterlik Sınavı, Erciyes Üniversitesi, Mayıs, 2021

Doktora Yeterlik Sınavı, Doktora Yeterlik Sınavı, Abdullah Gül Üniversitesi, Mayıs, 2021

## SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

1. **Beam test results of Secondary Emission Ionization Calorimetry modules at Fermilab**  
TIRAŞ E.  
Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, cilt.1049, 2023 (SCI-Expanded)
2. **Eos: conceptual design for a demonstrator of hybrid optical detector technology**  
Anderson T., Anderssen E., Askins M., Bacon A., Bagdasarian Z., Baldoni A., Barros N., Bartoszek L., Bergevin M., Bernstein A., et al.  
Journal of Instrumentation, cilt.18, sa.2, 2023 (SCI-Expanded)
3. **Low energy neutrino detection with a compact water-based liquid scintillator detector**  
Bat A., TIRAŞ E., Fischer V., Kamislioglu M.  
EUROPEAN PHYSICAL JOURNAL C, cilt.82, sa.8, 2022 (SCI-Expanded)
4. **Improved measurement of neutrino oscillation parameters by the NOvA experiment**  
Acero M. A., Adamson P., Aliaga L., Anfimov N., Antoshkin A., Arrieta-Diaz E., Asquith L., Aurisano A., Back A., Backhouse C., et al.  
PHYSICAL REVIEW D, cilt.106, sa.3, 2022 (SCI-Expanded)
5. **NuSD: A Geant4 based simulation framework for segmented anti-neutrino detectors**  
KANDEMİR M., TIRAŞ E., Fischer V.  
COMPUTER PHYSICS COMMUNICATIONS, cilt.277, 2022 (SCI-Expanded)
6. **Measurement of the inclusive  $t\bar{t}$  production cross section in proton-proton collisions at  $\sqrt{s} = 5.02$  TeV**  
Tumasyan A., Adam W., Andrejkovic J., Bergauer T., Chatterjee S., Dragicevic M., Escalante Del Valle A., Frühwirth R., Jeitler M., Krammer N., et al.  
Journal of High Energy Physics, cilt.2022, sa.4, 2022 (SCI-Expanded)
7. **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., Frühwirth R., Jeitler M., Krammer N., et al.  
JOURNAL OF HIGH ENERGY PHYSICS, cilt.2022, sa.3, 2022 (SCI-Expanded)
8. **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., Frühwirth R., Jeitler M., Krammer N., et al.  
JOURNAL OF INSTRUMENTATION, cilt.17, sa.3, 2022 (SCI-Expanded)
9. **Measurement of  $W^{+/-}$ -gamma differential cross sections in proton-proton collisions at root s=13 TeV and effective field theory constraints**  
Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Frühwirth R., Jeitler M., Krammer N., et al.  
PHYSICAL REVIEW D, cilt.105, sa.5, 2022 (SCI-Expanded)
10. **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., Frühwirth R., Jeitler M., et al.  
JOURNAL OF HIGH ENERGY PHYSICS, cilt.2022, sa.2, 2022 (SCI-Expanded)
11. **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., Frühwirth R., Jeitler M., et al.  
JOURNAL OF HIGH ENERGY PHYSICS, cilt.2022, sa.2, 2022 (SCI-Expanded)
12. **Search for Long-Lived Particles Decaying in the CMS End Cap Muon Detectors 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., Frühwirth R.,

Jeitler M., Krammer N., et al.

PHYSICAL REVIEW LETTERS, cilt.127, sa.26, 2021 (SCI-Expanded)

13. **Search for Active-Sterile Antineutrino Mixing Using Neutral-Current Interactions with the NOvA Experiment**

Acero M. A., Adamson P., Aliaga L., Anfimov N., Antoshkin A., Arrieta-Diaz E., Asquith L., Aurisano A., Back A., Backhouse C., et al.

PHYSICAL REVIEW LETTERS, cilt.127, sa.20, 2021 (SCI-Expanded)

14. **Precision luminosity measurement in proton-proton collisions at root S=13 TeV in 2015 and 2016 at CMS**

Sirunyan A. M., Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., et al.

EUROPEAN PHYSICAL JOURNAL C, cilt.81, sa.9, 2021 (SCI-Expanded)

15. **Extended search for supernovalike neutrinos in NOvA coincident with LIGO/Virgo detections**

Acero M. A., Adamson P., Aliaga L., Anfimov N., Antoshkin A., Arrieta-Diaz E., Asquith L., Aurisano A., Back A., Backhouse C., et al.

PHYSICAL REVIEW D, cilt.104, sa.6, 2021 (SCI-Expanded)

16. **Search for singly and pair-produced leptoquarks coupling to third-generation fermions in proton-proton collisions at root s=13 TeV**

Sirunyan A. M., Tumasyan A., Adam W., Bergauer T., Dragicevic M., Ero J., Del Valle A. E., Fruhwirth R., Jeitler M., Krammer N., et al.

PHYSICS LETTERS B, cilt.819, 2021 (SCI-Expanded)

17. **Search for top squarks in final states with two top quarks and several light-flavor jets in proton-proton collisions at root s=13 TeV**

Sirunyan A. M., Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., et al.

PHYSICAL REVIEW D, cilt.104, sa.3, 2021 (SCI-Expanded)

18. **Search for the rare decay of the W boson into a pion and a photon in proton-proton collisions at root s=13 TeV**

Sirunyan A. M., Tumasyan A., Adam W., Bergauer T., Dragicevic M., Ero J., Del Valle A. E., Fruhwirth R., Jeitler M., Krammer N., et al.

PHYSICS LETTERS B, cilt.819, 2021 (SCI-Expanded)

19. **Search for lepton-flavor violating decays of the Higgs boson in the mu tau and e tau final states in proton-proton collisions at root s=13 TeV**

Sirunyan A. M., Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., et al.

PHYSICAL REVIEW D, cilt.104, sa.3, 2021 (SCI-Expanded)

20. **Measurement of the azimuthal anisotropy of Y(1S) and Y(2S) mesons in PbPb collisions at root s(NN)=5.02 TeV**

Sirunyan A. M., Tumasyan A., Adam W., Ambrogio F., Bergauer T., Dragicevic M., Ero J., Del Valle A. E., Flechl M., Fruhwirth R., et al.

PHYSICS LETTERS B, cilt.819, 2021 (SCI-Expanded)

21. **Search for charged Higgs bosons produced in vector boson fusion processes and decaying into vector boson pairs in proton-proton collisions at root s=13 TeV**

Sirunyan A. M., Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., et al.

EUROPEAN PHYSICAL JOURNAL C, cilt.81, sa.8, 2021 (SCI-Expanded)

22. **Seasonal variation of multiple-muon cosmic ray air showers observed in the NOvA detector on the surface**

Acero M. A., Adamson P., Aliaga L., Anfimov N., Antoshkin A., Arrieta-Diaz E., Asquith L., Aurisano A., Back A., Backhouse C., et al.

PHYSICAL REVIEW D, cilt.104, sa.1, 2021 (SCI-Expanded)

23. **Search for resonant and nonresonant new phenomena in high-mass dilepton final states at root  $s=13$  TeV**  
 Sirunyan A. M., Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., et al.  
 JOURNAL OF HIGH ENERGY PHYSICS, cilt.2021, sa.7, 2021 (SCI-Expanded)
24. **Measurements of Higgs boson production cross sections and couplings in the diphoton decay channel at root  $s=13$  TeV**  
 Sirunyan A. M., Tumasyan A., Adam W., Ambrogio F., Asilar E., Bergauer T., Brandstetter J., Dragicevic M., Eroo J., Del Valle A. E., et al.  
 JOURNAL OF HIGH ENERGY PHYSICS, cilt.2021, sa.7, 2021 (SCI-Expanded)
25. **Observation of a New Excited Beauty Strange Baryon Decaying to  $\Xi(-)(b)\pi(+)\pi(-)$**   
 Sirunyan A. M., Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., et al.  
 PHYSICAL REVIEW LETTERS, cilt.126, sa.25, 2021 (SCI-Expanded)
26. **Measurement of the W gamma Production Cross Section in Proton-Proton Collisions at root  $s=13$  TeV and Constraints on Effective Field Theory Coefficients**  
 Sirunyan A. M., Tumasyan A., Adam W., Andrejkovic J. W., Bergauer T., Chatterjee S., Dragicevic M., Del Valle A. E., Fruhwirth R., Jeitler M., et al.  
 PHYSICAL REVIEW LETTERS, cilt.126, sa.25, 2021 (SCI-Expanded)
27. **Measurement of prompt D-0 and D-0 meson azimuthal anisotropy and search for strong electric fields in PbPb collisions at root  $S_{NN}=5.02$  TeV**  
 Sirunyan A. M., Tumasyan A., Adam W., Ambrogio F., Asilar E., Bergauer T., Brandstetter J., Dragicevic M., Eroo J., Del Valle A. E., et al.  
 PHYSICS LETTERS B, cilt.816, 2021 (SCI-Expanded)
28. **The DAQ system of the 12,000 channel CMS high granularity calorimeter prototype**  
 Acar B., Adamov G., Adloff C., Afanasiev S., Akchurin N., Akgun B., Alhusseini M., Alison J., Altopp G., Alyari M., et al.  
 JOURNAL OF INSTRUMENTATION, cilt.16, sa.4, 2021 (SCI-Expanded)
29. **Construction and commissioning of CMS CE prototype silicon modules**  
 Acar B., Adamov G., Adloff C., Afanasiev S., Akchurin N., Akgun B., Alhusseini M., Alison J., Altopp G., Alyari M., et al.  
 JOURNAL OF INSTRUMENTATION, cilt.16, sa.4, 2021 (SCI-Expanded)
30. **Development and validation of HERWIG 7 tunes from CMS underlying-event measurements**  
 Sirunyan A. M., Tumasyan A., Adam W., Ambrogio F., Bergauer T., Dragicevic M., Ero J., Del Valle A. E., Fruhwirth R., Jeitler M., et al.  
 EUROPEAN PHYSICAL JOURNAL C, cilt.81, sa.4, 2021 (SCI-Expanded)
31. **The very forward CASTOR calorimeter of the CMS experiment**  
 Khachatryan V., Sirunyan A. M., Tumasyan A., Adam W., Ambrogio F., Bergauer T., Dragicevic M., Eroo J., Del Valle A. E., Fruhwirth R., et al.  
 JOURNAL OF INSTRUMENTATION, cilt.16, sa.2, 2021 (SCI-Expanded)
32. **Search for slow magnetic monopoles with the NOvA detector on the surface**  
 Acero M. A., Adamson P., Aliaga L., Alion T., Allakhverdian V., Anfimov N., Antoshkin A., Arrieta-Diaz E., Asquith L., Aurisano A., et al.  
 PHYSICAL REVIEW D, cilt.103, sa.1, 2021 (SCI-Expanded)
33. **Adjusting neutrino interaction models and evaluating uncertainties using NOvA near detector data**  
 Acero M. A., Adamson P., Agam G., Aliaga L., Alion T., Allakhverdian V., Anfimov N., Antoshkin A., Asquith L., Aurisano A., et al.  
 EUROPEAN PHYSICAL JOURNAL C, cilt.80, sa.12, 2020 (SCI-Expanded)
34. **Supernova neutrino detection in NOvA**  
 Acero M., Adamson P., Agam G., Aliaga L., Alion T., Allakhverdian V., Anfimov N., Antoshkin A., Arrieta-Diaz E., Asquith L., et al.  
 JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS, cilt.2020, sa.10, 2020 (SCI-Expanded)
35. **Water-based Liquid Scintillator detector as a new technology testbed for neutrino studies in Turkey**

Fischer V., Tiras E.

NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS  
DETECTORS AND ASSOCIATED EQUIPMENT, cilt.969, 2020 (SCI-Expanded)

36. **Measurement of neutrino-induced neutral-current coherent  $\pi(0)$  production in the NOvA near detector**

Acero M. A., Adamson P., Aliaga L., Alion T., Allakhverdian V., Anfimov N., Antoshkin A., Arrieta-Diaz E., Aurisano A., Back A., et al.

PHYSICAL REVIEW D, cilt.102, sa.1, 2020 (SCI-Expanded)

37. **Search for multimessenger signals in NOvA coincident with LIGO/Virgo detections**

Acero M. A., Adamson P., Aliaga L., Alion T., Allakhverdian V., Anfimov N., Antoshkin A., Asquith L., Aurisano A., Back A., et al.

PHYSICAL REVIEW D, cilt.101, sa.11, 2020 (SCI-Expanded)

38. **Calibration of the CMS hadron calorimeters using proton-proton collision data at  $\sqrt{s}=13$  TeV**

Sirunyan A. M., Tumasyan A., Adam W., Ambrogio F., Bergauer T., Brandstetter J., Dragicevic M., Eroo J., Del Valle A. E., Flechl M., et al.

JOURNAL OF INSTRUMENTATION, cilt.15, sa.5, 2020 (SCI-Expanded)

39. **Theia: an advanced optical neutrino detector**

Askins M., Bagdasarian Z., Barros N., Beier E. W., Blucher E., Bonventre R., Bourret E., Callaghan E. J., Caravaca J., Diwan M., et al.

EUROPEAN PHYSICAL JOURNAL C, cilt.80, sa.5, 2020 (SCI-Expanded)

40. **Measurement of beam-correlated background neutrons from the Fermilab Booster Neutrino Beam in ANNIE Phase-I**

Back A. R., Beacom J. F., Boschi T., Carber D., Catano-Mur E., Chen M., Drakopoulou E., Di Lodovico F., Elagin A., Eisch J., et al.

JOURNAL OF INSTRUMENTATION, cilt.15, sa.3, 2020 (SCI-Expanded)

41. **First measurement of neutrino oscillation parameters using neutrinos and antineutrinos by NOvA**

Acero M. A., Adamson P., Aliaga L., Alion T., Allakhverdian V., Altakarli S., Anfimov N., Antoshkin A., Aurisano A., Back A., et al.

PHYSICAL REVIEW LETTERS, cilt.123, sa.15, 2019 (SCI-Expanded)

42. **Observation of seasonal variation of atmospheric multiple-muon events in the NOvA Near Detector**

Acero M. A., Adamson P., Aliaga L., Alion T., Allakhverdian V., Altakarli S., Anfimov N., Antoshkin A., Aurisano A., Back A., et al.

PHYSICAL REVIEW D, cilt.99, sa.12, 2019 (SCI-Expanded)

43. **Inclusive W boson QCD predictions and lepton charge asymmetry in proton-proton collisions at  $\sqrt{s}=14$  TeV**

Dilsiz K., Tiras E.

CANADIAN JOURNAL OF PHYSICS, cilt.96, sa.9, ss.1029-1033, 2018 (SCI-Expanded)

44. **New constraints on oscillation parameters from  $\nu(e)$  appearance and  $\nu(\mu)$  disappearance in the NOvA experiment**

Acero M. A., Adamson P., Aliaga L., Alion T., Allakhverdian V., Anfimov N., Antoshkin A., Arrieta-Diaz E., Aurisano A., Back A., et al.

PHYSICAL REVIEW D, cilt.98, sa.3, 2018 (SCI-Expanded)

45. **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, cilt.13, 2018 (SCI-Expanded)

46. **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.

JOURNAL OF INSTRUMENTATION, cilt.12, 2017 (SCI-Expanded)

47. **Using LEDs to stimulate the recovery of radiation damage to plastic scintillators**  
Wetzel J., Tiras E., Bilki B., Onel Y., Winn D.  
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH MATERIALS AND ATOMS, cilt.395, ss.13-16, 2017 (SCI-Expanded)
48. **Liquid scintillator tiles for calorimetry**  
Amouzegar M., Belloni A., Bilki B., Calderon J., De Barbaro P., Eno S. C., Hatakeyama K., Hirschauer J., Jeng G. Y., Pastika N. J., et al.  
JOURNAL OF INSTRUMENTATION, cilt.11, 2016 (SCI-Expanded)
49. **Characterization of photomultiplier tubes in a novel operation mode for Secondary Emission Ionization Calorimetry**  
Tiras E., Dilsiz K., Ogul H., Southwick D., Bilki B., Wetzel J., Nachtman J., Onel Y., Winn D.  
JOURNAL OF INSTRUMENTATION, cilt.11, 2016 (SCI-Expanded)
50. **Radiation damage and recovery properties of common plastics PEN (Polyethylene Naphthalate) and PET (Polyethylene Terephthalate) using a Cs-137 gamma ray source up to 1.4 Mrad and 14 Mrad**  
Wetzel J., Tiras E., Bilki B., Onel Y., Winn D.  
JOURNAL OF INSTRUMENTATION, cilt.11, 2016 (SCI-Expanded)
51. **Search for heavy Majorana neutrinos in  $e(+/-)e(+/-) + \text{jets}$  and  $e(+/-)\mu(+/-) + \text{jets}$  events in proton-proton collisions at  $\sqrt{s}=8\text{TeV}$**   
Khachatryan V., Sirunyan A. M., Tumasyan A., Adam W., Asilar E., Bergauer T., Brandstetter J., Brondolin E., Dragicevic M., Eroo J., et al.  
JOURNAL OF HIGH ENERGY PHYSICS, sa.4, 2016 (SCI-Expanded)
52. **High Order QCD Predictions for Inclusive Production of W Bosons in pp Collisions at  $\sqrt{s}=13\text{TeV}$**   
Ogul H., Dilsiz K., Tiras E., Tan P., Onel Y., Nachtman J.  
ADVANCES IN HIGH ENERGY PHYSICS, cilt.2016, 2016 (SCI-Expanded)
53. **Search for heavy Majorana neutrinos in  $\mu(+/-)\mu(+/-) + \text{jets}$  events in proton-proton collisions at  $\sqrt{s}=8\text{TeV}$**   
Khachatryan V., Sirunyan A. M., Tumasyan A., Adam W., Bergauer T., Dragicevic M., Eroo J., Friedl M., Fruehwirth R., Ghete V. M., et al.  
PHYSICS LETTERS B, cilt.748, ss.144-166, 2015 (SCI-Expanded)

## **Diğer Dergilerde Yayınlanan Makaleler**

1. **Scintillation timing characteristics of common plastics for radiation detection excited with 120 GeV protons**  
Wetzel J., Tiras E., Bilki B., Bostan N., Koseyan O. K.  
TURKISH JOURNAL OF PHYSICS, cilt.44, sa.5, ss.437-441, 2020 (ESCI)
2. **Cross section predictions of the Z boson in association with jets at 14 TeV center-of-mass energy in proton-proton collisions**  
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## **Hakemli Kongre / Sempozyum Bildiri Kitaplarında Yer Alan Yayınlar**

1. **Measurement of Light Yield, Timing and Radiation Damage and Recovery of Common Plastic Scintillators**  
Onel Y., Wetzel J., Bilki B., Bostan N., Koseyan O., TIRAŞ E., Winn D.  
2021 International Conference on Technology and Instrumentation in Particle Physics, TIPP 2021, Virtual, Online, 23 - 28 Mayıs 2021, cilt.2374
2. **Radiation Damage and Recovery Mechanisms in Scintillating Fibers**



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3. **Large Area Picosecond Photo-Detectors for ANNIE and Future Neutrino Experiments**

Tıraş E.

CPAD Instrumentation Frontier Workshop, New York, Amerika Birleşik Devletleri, 18 - 21 Mart 2021, ss.1

## Akademik İdari Deneyim

|                     |                                    |                                 |
|---------------------|------------------------------------|---------------------------------|
| 2023 - Devam Ediyor | <b>Dekan Yardımcısı</b>            | Erciyes Üniversitesi, Rektörlük |
| 2023 - Devam Ediyor |                                    | Erciyes Üniversitesi            |
| 2022 - Devam Ediyor | <b>BAP Bilimsel Komisyon Üyesi</b> | Erciyes Üniversitesi, Rektörlük |
| 2022 - Devam Ediyor |                                    | Erciyes Üniversitesi            |
| 2021 - Devam Ediyor |                                    | Erciyes Üniversitesi            |
| 2021 - Devam Ediyor |                                    | Erciyes Üniversitesi            |

## Verdiği Dersler

Particle Physics, Yüksek Lisans, 2021 - 2022, 2020 - 2021

Fizik II, Lisans, 2021 - 2022

Physics II, Lisans, 2021 - 2022

Parçacık Fiziği, Doktora, 2021 - 2022

Fizik I, Lisans, 2021 - 2022

Fizik II, Lisans, 2020 - 2021

Physics I, Lisans, 2021 - 2022

Mesleki İngilizce, Lisans, 2020 - 2021

Seminer, Doktora, 2021 - 2022

## Bilimsel Kuruluşlardaki Üyelikler / Görevler

Institute of Electrical and Electronics Engineers (IEEE) , Üye, 2016 - Devam Ediyor , Amerika Birleşik Devletleri

Iowa Academy of Science (IAS), Üye, 2015 - Devam Ediyor , Amerika Birleşik Devletleri

European Physical Society (EPS), Üye, 2013 - Devam Ediyor , Fransa

The American Association of Physicists in Medicine (AAPM), Üye, 2013 - Devam Ediyor , Amerika Birleşik Devletleri

American Nuclear Society (ANS), Üye, 2013 - Devam Ediyor , Amerika Birleşik Devletleri

American Physical Society (APS), Üye, 2012 - Devam Ediyor , Amerika Birleşik Devletleri

Turkish American Scientists and Scholars Association (TASSA), Üye, 2012 - Devam Ediyor , Amerika Birleşik Devletleri

## Bilimsel Hakemlikler

TÜBİTAK Projesi, 1001 - Bilimsel ve Teknolojik Araştırma Projelerini Destekleme Programı, TÜBİTAK, Türkiye, Kasım 2023

NUCLEAR ENGINEERING AND TECHNOLOGY, SCI-E Kapsamındaki Dergi, Ağustos 2023

TÜBİTAK Projesi, 1001 - Bilimsel ve Teknolojik Araştırma Projelerini Destekleme Programı, TÜBİTAK, Türkiye, Mayıs 2023  
TÜBİTAK Projesi, 1001 - Bilimsel ve Teknolojik Araştırma Projelerini Destekleme Programı, TÜBİTAK, Türkiye, Mayıs 2023  
Türk Doğa ve Fen Dergisi, Hakemli Bilimsel Dergi, Kasım 2022  
CANADIAN JOURNAL OF PHYSICS, SCI-E Kapsamındaki Dergi, Haziran 2022  
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT, SCI-E Kapsamındaki Dergi, Ekim 2021  
RADIATION PHYSICS AND CHEMISTRY, SCI-E Kapsamındaki Dergi, Temmuz 2021  
Türk Doğa ve Fen Dergisi, Hakemli Bilimsel Dergi, Şubat 2021  
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT, SCI-E Kapsamındaki Dergi, Ocak 2021  
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Turkish Journal of Physics, ESCI Kapsamındaki Dergi, Ağustos 2019  
ADVANCES IN HIGH ENERGY PHYSICS, SCI-E Kapsamındaki Dergi, Haziran 2019  
ADVANCES IN HIGH ENERGY PHYSICS, SCI-E Kapsamındaki Dergi, Şubat 2019  
MODERN PHYSICS LETTERS A, SCI-E Kapsamındaki Dergi, Haziran 2018  
MATERIALS & DESIGN, SCI-E Kapsamındaki Dergi, Haziran 2018  
ASTROPARTICLE PHYSICS, SCI-E Kapsamındaki Dergi, Mart 2018  
RADIATION MEASUREMENTS, SCI-E Kapsamındaki Dergi, Haziran 2016  
RADIATION MEASUREMENTS, SCI-E Kapsamındaki Dergi, Mart 2016

## Bilimsel Araştırma / Çalışma Grubu Üyelikleri

Dune: Deep Underground Neutrino Experiment, Fermi National Accelerator Laboratory (Fermilab), United States Of America, <https://www.dunescience.org/>, 2021 - Devam Ediyor  
Nova: Numi Off-Axis Electron Neutrino Appearance Experiment , Fermi National Accelerator Laboratory (Fermilab), United States Of America, <https://novaexperiment.fnal.gov/>, 2017 - Devam Ediyor  
Theia Collaboration (An Advanced Optical Neutrino Detector), University of California, Berkeley, United States Of America, [https://theia.berkeley.edu/index.php/Main\\_Page](https://theia.berkeley.edu/index.php/Main_Page), 2017 - Devam Ediyor  
Annie: Accelerator Neutrino Neutron Interaction Experiment, Fermi National Accelerator Laboratory (Fermilab), United States Of America, <https://annie.fnal.gov/>, 2017 - Devam Ediyor  
T1041 Cms Forward Calorimetry R&D, Fermi National Accelerator Laboratory (Fermilab), United States Of America, <https://ftbf.fnal.gov/t1041/>, 2013 - Devam Ediyor  
Cern, Cms Collaboration, European Organization for Nuclear Research (CERN), Switzerland, <https://cms.cern/>, 2010 - Devam Ediyor

## Metrikler

Yayın: 58  
Atıf (WoS): 48659  
Atıf (Scopus): 60738  
H-İndeks (WoS): 100  
H-İndeks (Scopus): 108

## Kongre ve Sempozyum Katılımı Faaliyetleri

Parçacık Hızlandırıcıları ve Algıçları Yerel Altyapı ve Ar-Ge Çalıştayı, Panelist, İstanbul, Türkiye, 2021  
The 37th Turkish Physical Society International Physics Congress, Panelist, Muğla, Türkiye, 2021  
CPAD Instrumentation Frontier Workshop , Panelist, New York, Amerika Birleşik Devletleri, 2021  
American Physical Society (APS) April Meeting , Panelist, Washington, Amerika Birleşik Devletleri, 2020

## Davetli Konuşmalar

Innovative Photodetector Instrumentation & Neutrino Experiments at Fermilab, Çalıştay, IAU/I-HOW Radio Astronomy 2023, Türkiye, Eylül 2023  
Akademide Teknik ve Teknik Olmayan Beceriler, Seminer, Bingöl Üniversitesi, Türkiye, Haziran 2023  
Akademide Teknik ve Teknik Olmayan Beceriler, Seminer, Erciyes Üniversitesi, Türkiye, Haziran 2023

## Araştırma Alanları

Fizik, Yüksek Enerji Fiziği, Fizik, Nötrino Fiziği, Fizik, Disiplinlerarası Fizik ve İlgili Bilim ve Teknoloji Alanları, Nükleer Fizik, Nükleer mühendislik ve nükleer enerji çalışmaları, Parçacık fiziği ve nükleer fizikte deneysel yöntemler ve enstrümantasyon, Temel Parçacıklar ve Alanlar , Genel alan ve parçacık teorisi, Özel parçacıkların özellikleri, Özel reaksiyonlar ve fenomenoloji, Özel teoriler ve etkileşme modelleri, parçacık sistematığı, Temel Bilimler

## Akademi Dışı Deneyim

Fermi National Accelerator Laboratory (FERMILAB)  
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