

# EMRAH TIRAŞ

## ASSOC. PROF.

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**Address** : Fen Fakültesi, Fizik Bölümü, No: B1-2K-02

### International Researcher IDs

ScholarID: VzmzTaUAAAAJ

ORCID: 0000-0002-5628-7464

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

ScopusID: 54973257900

Yoksis Researcher ID: 329158

## Biography

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.

## Learning Knowledge

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Post Doctorate  
2016 - 2020

Fermi National Accelerator Laboratory (FERMILAB), Neutrino Physics Division,  
ANNIE and NOvA Neutrino Experiments, United States Of America

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Post Doctorate  
2016 - 2020

Iowa State University of Science and Technology, Graduate College, Department of  
Physics and Astronomy, United States Of America

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Doctorate  
2012 - 2017

The University of Iowa, Graduate College, Department of Physics and Astronomy,  
United States Of America

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Postgraduate  
2010 - 2012

The University of Iowa, Graduate College, Department of Physics and Astronomy ,  
United States Of America

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Undergraduate  
2004 - 2008

Ataturk University, Fen Fakültesi, Fizik, Turkey

## Foreign Languages

English, C1 Advanced

## Certificates, Courses and Trainings

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

Education Management and Planning, Graduate College Teaching Certificate in Physical and Mathematical Sciences, The  
University of Iowa, 2015

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

Foreign Language, Certificate from School of Foreign Languages, Hacettepe University , 2009

## Dissertations

Doctorate, 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

Postgraduate, 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

## Academic Titles / Tasks

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Associate Professor  
2023 - Continues

Erciyes University, Fen Fakültesi, Fizik

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Researcher  
2017 - Continues

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

Researcher  
2010 - Continues

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

Researcher  
2010 - Continues

CERN: European Organization for Nuclear Research, CMS Collaboration

Assistant Professor  
2021 - 2023

Erciyes University, Fen Fakültesi, Fizik

Lecturer PhD  
2020 - 2021

Erciyes University, Fen Fakültesi, Fizik

Research Assistant PhD  
2016 - 2020

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

Research Assistant  
2010 - 2016

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

## Awards

1. Tıraş E., Turkish Academy of Sciences Outstanding Young Scientists Award, Tüba: Türkiye Bilimler Akademisi, December 2023
2. Tıraş E., YOK Excellence Awards: International Cooperation Award, Yüksek Öğretim Kurumu, October 2022
3. Tıraş E., Neutrino Physics Center (NPC) Award, Fermilab: Fermi National Accelerator Laboratory, December 2018

## Scholarships

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

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

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

## Jury Memberships

Doctoral Examination, Doctoral Examination, Erciyes Üniversitesi, November, 2022

PhD Thesis Monitoring Committee Member, PhD Thesis Monitoring Committee Member, Abdullah Gül Üniversitesi, September, 2021

PhD Thesis Monitoring Committee Member, PhD Thesis Monitoring Committee Member, Erciyes Üniversitesi, September, 2021

Doctoral Examination, Doctoral Examination, Erciyes Üniversitesi, May, 2021

Doctoral Examination, Doctoral Examination, Abdullah Gül Üniversitesi, May, 2021

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

- 1. Deployment of Water-based Liquid Scintillator in the Accelerator Neutrino Neutron Interaction Experiment**  
Ascencio-Sosa M., Bagdasarian Z., Beacom J. F., Bergevin M., Breisch M., Vera G. C., Dazeley S., Doran S., Drakopoulou E., Edayath S., et al.  
JOURNAL OF INSTRUMENTATION, vol.19, no.5, 2024 (SCI-Expanded)
- 2. 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, vol.1049, 2023 (SCI-Expanded)
- 3. 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, vol.18, no.2, 2023 (SCI-Expanded)
- 4. NuSD: A Geant4 based simulation framework for segmented anti-neutrino detectors**  
KANDEMİR M., TIRAŞ E., Fischer V.  
COMPUTER PHYSICS COMMUNICATIONS, vol.277, 2022 (SCI-Expanded)
- 5. 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, vol.106, no.3, 2022 (SCI-Expanded)
- 6. Low energy neutrino detection with a compact water-based liquid scintillator detector**  
Bat A., TIRAŞ E., Fischer V., Kamislioglu M.  
EUROPEAN PHYSICAL JOURNAL C, vol.82, no.8, 2022 (SCI-Expanded)
- 7. 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, vol.2022, no.4, 2022 (SCI-Expanded)
- 8. 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, vol.105, no.5, 2022 (SCI-Expanded)
- 9. 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, vol.17, no.3, 2022 (SCI-Expanded)
- 10. 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, vol.2022, no.3, 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, vol.2022, no.2, 2022 (SCI-Expanded)
- 12. 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, vol.2022, no.2, 2022 (SCI-Expanded)

13. **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., Fruhwirth R., Jeitler M., Krammer N., et al.  
PHYSICAL REVIEW LETTERS, vol.127, no.26, 2021 (SCI-Expanded)
14. **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, vol.127, no.20, 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, vol.104, no.6, 2021 (SCI-Expanded)
16. **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, vol.81, no.9, 2021 (SCI-Expanded)
17. **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, vol.819, 2021 (SCI-Expanded)
18. **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, vol.81, no.8, 2021 (SCI-Expanded)
19. **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, vol.104, no.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, vol.819, 2021 (SCI-Expanded)
21. **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, vol.819, 2021 (SCI-Expanded)
22. **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.,

- Fruhworth R., Jeitler M., et al.  
PHYSICAL REVIEW D, vol.104, no.3, 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, vol.2021, no.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., Ambrogi F., Asilar E., Bergauer T., Brandstetter J., Dragicevic M., Eroe J., Del Valle A. E., et al.  
JOURNAL OF HIGH ENERGY PHYSICS, vol.2021, no.7, 2021 (SCI-Expanded)
25. **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, vol.104, no.1, 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, vol.126, no.25, 2021 (SCI-Expanded)
27. **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, vol.126, no.25, 2021 (SCI-Expanded)
28. **Measurement of prompt D-0 and D-0 meson azimuthal anisotropy and search for strong electric fields in PbPb collisions at root  $S\text{-NN}=5.02$  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.  
PHYSICS LETTERS B, vol.816, 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., Alhousseini M., Alison J., Altopp G., Alyari M., et al.  
JOURNAL OF INSTRUMENTATION, vol.16, no.4, 2021 (SCI-Expanded)
30. **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., Alhousseini M., Alison J., Altopp G., Alyari M., et al.  
JOURNAL OF INSTRUMENTATION, vol.16, no.4, 2021 (SCI-Expanded)
31. **Development and validation of HERWIG 7 tunes from CMS underlying-event measurements**  
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.  
EUROPEAN PHYSICAL JOURNAL C, vol.81, no.4, 2021 (SCI-Expanded)
32. **The very forward CASTOR calorimeter of the CMS experiment**  
Khachatryan V., Sirunyan A. M., Tumasyan A., Adam W., Ambrogi F., Bergauer T., Dragicevic M., Eroe J., Del Valle A. E., Fruhwirth R., et al.  
JOURNAL OF INSTRUMENTATION, vol.16, no.2, 2021 (SCI-Expanded)
33. **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, vol.103, no.1, 2021 (SCI-Expanded)
34. **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, vol.80, no.12, 2020 (SCI-Expanded)
35. **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, vol.2020, no.10, 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, vol.102, no.1, 2020 (SCI-Expanded)
37. **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, vol.969, 2020 (SCI-Expanded)
38. **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, vol.101, no.11, 2020 (SCI-Expanded)
39. **Calibration of the CMS hadron calorimeters using proton-proton collision data at root 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, vol.15, no.5, 2020 (SCI-Expanded)
40. **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, vol.80, no.5, 2020 (SCI-Expanded)
41. **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, vol.15, no.3, 2020 (SCI-Expanded)
42. **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, vol.123, no.15, 2019 (SCI-Expanded)
43. **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, vol.99, no.12, 2019 (SCI-Expanded)
44. **Inclusive W boson QCD predictions and lepton charge asymmetry in proton-proton collisions at root s=14 TeV**  
Dilsiz K., Tiras E.  
CANADIAN JOURNAL OF PHYSICS, vol.96, no.9, pp.1029-1033, 2018 (SCI-Expanded)
45. **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, vol.98, no.3, 2018 (SCI-Expanded)
46. **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)
47. **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, vol.12, 2017 (SCI-Expanded)
48. **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, vol.395, pp.13-16, 2017 (SCI-Expanded)
49. **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, vol.11, 2016 (SCI-Expanded)
50. **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, vol.11, 2016 (SCI-Expanded)
51. **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, vol.11, 2016 (SCI-Expanded)
52. **Search for heavy Majorana neutrinos in  $e(+/-)e(+/-) + jets$  and  $e(+/-) \mu(+/-) + jets$  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, no.4, 2016 (SCI-Expanded)
53. **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, vol.2016, 2016 (SCI-Expanded)
54. **Search for heavy Majorana neutrinos in  $\mu(+/-)\mu(+/-) + jets$  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, vol.748, pp.144-166, 2015 (SCI-Expanded)

## Articles Published in Other Journals

- 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, vol.44, no.5, pp.437-441, 2020 (ESCI)
- Cross section predictions of the Z boson in association with jets at 14 TeV center-of-mass energy in proton-proton collisions**  
 Dilsiz K., Tiras E.  
 TURKISH JOURNAL OF PHYSICS, vol.42, no.5, pp.495-500, 2018 (ESCI)



## Refereed Congress / Symposium Publications in Proceedings

- 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 May 2021, vol.2374
- 2. Radiation Damage and Recovery Mechanisms in Scintillating Fibers**  
Wetzel J., Onel Y., 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 May 2021, vol.2374
- 3. Large Area Picosecond Photo-Detectors for ANNIE and Future Neutrino Experiments**  
Tıraş E.  
CPAD Instrumentation Frontier Workshop, New York, United States Of America, 18 - 21 March 2021, pp.1

## Academic and Administrative Experience

2023 - Continues	<b>Vice Dean</b>	Erciyes University, Rektörlük
2023 - Continues		Erciyes University
2022 - Continues	<b>BAP Scientific Commissioner</b>	Erciyes University, Rektörlük
2022 - Continues		Erciyes University
2021 - Continues		Erciyes University
2021 - Continues		Erciyes University

## Courses

Particle Physics, Postgraduate, 2021 - 2022, 2020 - 2021  
Physics II: Electricity and Magnetism , Undergraduate, 2021 - 2022  
Physics II, Undergraduate, 2021 - 2022  
Particle Physics, Doctorate, 2021 - 2022  
Physics I, Undergraduate, 2021 - 2022  
Physics II, Undergraduate, 2020 - 2021  
Physics I, Undergraduate, 2021 - 2022  
English for Physics Majors, Undergraduate, 2020 - 2021  
Seminar, Doctorate, 2021 - 2022

## Memberships / Tasks in Scientific Organizations

Institute of Electrical and Electronics Engineers (IEEE) , Member, 2016 - Continues, United States Of America  
Iowa Academy of Science (IAS), Member, 2015 - Continues, United States Of America  
American Nuclear Society (ANS), Member, 2013 - Continues, United States Of America  
European Physical Society (EPS), Member, 2013 - Continues, France  
The American Association of Physicists in Medicine (AAPM), Member, 2013 - Continues, United States Of America

Turkish American Scientists and Scholars Association (TASSA), Member, 2012 - Continues, United States Of America  
American Physical Society (APS), Member, 2012 - Continues, United States Of America

## Scientific Refereeing

TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, TÜBİTAK, Turkey, November 2023

NUCLEAR ENGINEERING AND TECHNOLOGY, Journal Indexed in SCI-E, August 2023

TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, TÜBİTAK, Turkey, May 2023

TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, TÜBİTAK, Turkey, May 2023

Türk Doğa ve Fen Dergisi, National Scientific Refreed Journal, November 2022

CANADIAN JOURNAL OF PHYSICS, Journal Indexed in SCI-E, June 2022

NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT, Journal Indexed in SCI-E, October 2021

RADIATION PHYSICS AND CHEMISTRY, Journal Indexed in SCI-E, July 2021

Türk Doğa ve Fen Dergisi, National Scientific Refreed Journal, February 2021

NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT, Journal Indexed in SCI-E, January 2021

NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT, Journal Indexed in SCI-E, June 2020

Turkish Journal of Physics, Journal Indexed in ESCI, August 2019

ADVANCES IN HIGH ENERGY PHYSICS, Journal Indexed in SCI-E, June 2019

ADVANCES IN HIGH ENERGY PHYSICS, Journal Indexed in SCI-E, February 2019

MODERN PHYSICS LETTERS A, Journal Indexed in SCI-E, June 2018

MATERIALS & DESIGN, Journal Indexed in SCI-E, June 2018

ASTROPARTICLE PHYSICS, Journal Indexed in SCI-E, March 2018

RADIATION MEASUREMENTS, Journal Indexed in SCI-E, June 2016

RADIATION MEASUREMENTS, Journal Indexed in SCI-E, March 2016

## Scientific Research / Working Group Memberships

Dune: Deep Underground Neutrino Experiment, Fermi National Accelerator Laboratory (Fermilab), Amerika Birleşik Devletleri, <https://www.dunescience.org/>, 2021 - Continues

Nova: Numi Off-Axis Electron Neutrino Appearance Experiment, Fermi National Accelerator Laboratory (Fermilab), Amerika Birleşik Devletleri, <https://novaexperiment.fnal.gov/>, 2017 - Continues

Theia Collaboration (An Advanced Optical Neutrino Detector), University of California, Berkeley, Amerika Birleşik Devletleri, [https://theia.berkeley.edu/index.php/Main\\_Page](https://theia.berkeley.edu/index.php/Main_Page), 2017 - Continues

Annie: Accelerator Neutrino Neutron Interaction Experiment, Fermi National Accelerator Laboratory (Fermilab), Amerika Birleşik Devletleri, <https://annie.fnal.gov/>, 2017 - Continues

T1041 Cms Forward Calorimetry R&D, Fermi National Accelerator Laboratory (Fermilab), Amerika Birleşik Devletleri, <https://ftbf.fnal.gov/t1041/>, 2013 - Continues

Cern, Cms Collaboration, European Organization for Nuclear Research (CERN), İsviçre, <https://cms.cern/>, 2010 - Continues

## Metrics

Publication: 61

Citation (WoS): 48659

Citation (Scopus): 60738

H-Index (WoS): 100

H-Index (Scopus): 108

## Congress and Symposium Activities

Parçacık Hızlandırıcıları ve Algıçları Yerel Altyapı ve Ar-Ge Çalıştayı, Panelists, İstanbul, Turkey, 2021

The 37th Turkish Physical Society International Physics Congress, Panelists, Muğla, Turkey, 2021

CPAD Instrumentation Frontier Workshop , Panelists, New York, United States Of America, 2021

American Physical Society (APS) April Meeting , Panelists, Washington, United States Of America, 2020

## Invited Talks

Innovative Photodetector Instrumentation & Neutrino Experiments at Fermilab, Workshop, IAU/I-HOW Radio Astronomy 2023, Turkey, September 2023

Technical and Non-Technical Skills in Academia, Seminar, Erciyes Üniversitesi, Turkey, June 2023

Technical and Non-Technical Skills in Academia, Seminar, Bingöl Üniversitesi, Turkey, June 2023

## Research Areas

Physics, High Energy Physics, Physics, Neutrino Physics, Physics, Interdisciplinary Physics and Related Science and Technology Areas, Nuclear physics, Nuclear Engineering and Nuclear Energy Studies, Experimental Methods of Particle and Nuclear Physics, Basic Particles and Areas, General Theory of Particles and Fields, Properties of special particles, Special reactions and phenomenology, Special theories and interaction models, particle systematics, Natural Sciences

## Non Academic Experience

Fermi National Accelerator Laboratory (FERMILAB)

University of Iowa