

## Prof. İSMAİL TURAN

### Personal Information

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### International Researcher IDs

ScholarID: EfhIproAAAAJ

ORCID: 0000-0003-4622-4301

Publons / Web Of Science ResearcherID: AAC-3358-2020

ScopusID: 8880158300

Yoksis Researcher ID: 109165

### Education Information

Doctorate, Middle East Technical University, Faculty of Arts and Sciences, Department of Physics, Turkey 1999 - 2003

Postgraduate, Middle East Technical University, Faculty of Arts and Sciences, Department of Physics, Turkey 1997 - 1999

Undergraduate, Middle East Technical University, Faculty of Arts and Sciences, Department of Physics, Turkey 1993 - 1997

### Dissertations

Doctorate, Flavor changing neutral current processes in the framework of the two Higgs doublet model, Orta Doğu Teknik Üniversitesi, Faculty of Arts and Sciences, Department of Physics, 2003

Postgraduate, The Faddeev-Jackin quantization of the U(1) gauged SU(2) WZW model, Middle East Technical University, Faculty of Arts and Sciences, Department of Physics, 1999

### Research Areas

Properties of special particles, Special reactions and phenomenology

### Academic Titles / Tasks

Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Physics, 2017 - Continues

Associate Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Physics, 2012 - 2017

Assistant Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Physics, 2011 - 2012

Researcher, Carleton University, Science, Physics, 2009 - 2011

Researcher, Concordia University, Art and Sciences, Physics, 2004 - 2009

Medical Doctor, College of William and Mary, Fen-Edebiyat, Fizik, 2003 - 2009

Research Assistant, Middle East Technical University, Faculty of Arts and Sciences, Department of Physics, 1997 - 2003

## Academic and Administrative Experience

Chair of PhD Qualifying Committee, Middle East Technical University, Faculty of Arts and Sciences, Department of Physics, 2014 - Continues

Fakülte Kurulu Üyesi, Middle East Technical University, Faculty of Arts and Sciences, Department of Physics, 2012 - 2015

## Advising Theses

TURAN İ., Exploring new physics below and above the electroweak scale, Postgraduate, E.AKYUMUK(Student), 2022

TURAN İ., In search of hidden sector through the mono-photon channel, Postgraduate, E.SARTAŞ(Student), 2022

TURAN İ., Exploring the Casimir force at one-loop level, Postgraduate, N.NEVRA(Student), 2021

Turan İ., Yurduşen İ., Exploring extra dimensions through rare processes, Postgraduate, K.ŞİMŞEK(Student), 2019

Turan İ., Signs of unparticles at compact linear collider, Postgraduate, C.DİNÇ(Student), 2019

TURAN İ., Hidden sector through dark higgs: A nonminimal extension, Postgraduate, K.YİĞİT(Student), 2018

TURAN İ., Spontaneous symmetry breaking and Higgs mechanism, Postgraduate, I.KAHRAMAN(Student), 2017

TURAN İ., Associated Production of Higgs and Weak Bosons at the LHC (Large Hadron Collider), Doctorate, B.PULİÇE(Student), 2016

TURAN İ., A Lorentz violating theory: Its nonminimal extension in the photon sector, Postgraduate, S.ALBAYRAK(Student), 2016

TURAN İ., Probing physics beyond the standard model through neutrino-electron scatterings, Doctorate, S.BİLMİŞ(Student), 2016

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

- I. **Constraining nonminimal dark sector scenarios with the COHERENT neutrino scattering data**  
ELPE A., Akyumuk E., ALIYEV T., SELBUZ L., TURAN İ.  
Physical Review D, vol.107, no.7, 2023 (SCI-Expanded)
- II. **Heavy Z' bosons in the secluded U(1)' model at hadron colliders**  
Frank M., Selbuz L., TURAN İ.  
European Physical Journal C, vol.81, no.5, 2021 (SCI-Expanded)
- III. **Scalar unparticle signals at the LHC**  
ALIYEV T., BİLMİŞ S., Solmaz M., TURAN İ.  
PHYSICAL REVIEW D, vol.95, no.9, 2017 (SCI-Expanded)
- IV. **Constraints on dark photon from neutrino-electron scattering experiments**  
BİLMİŞ S., TURAN İ., Aliev T., Deniz M., Singh L., Wong H. T.  
PHYSICAL REVIEW D, vol.92, no.3, 2015 (SCI-Expanded)
- V. **CASIMIR FORCE IN WARPED HIGHER DIMENSIONAL MODELS SURVEY**  
ALIYEV T., Saad N., TURAN İ.  
APPLIED AND COMPUTATIONAL MATHEMATICS, vol.13, no.2, pp.147-174, 2014 (SCI-Expanded)
- VI. **Neutralino and chargino production in U(1)' at the LHC**  
Frank M., Selbuz L., TURAN İ.  
EUROPEAN PHYSICAL JOURNAL C, vol.73, no.12, 2013 (SCI-Expanded)
- VII. **Higgs bosons in supersymmetric U(1)' models with CP violation**  
Frank M., Selbuz L., SOLMAZ L., TURAN İ.  
PHYSICAL REVIEW D, vol.87, no.7, 2013 (SCI-Expanded)
- VIII. **Constraining extra neutral gauge bosons with atomic parity violation measurements**  
Diener R., Godfrey S., Turan İ.  
PHYSICAL REVIEW D, vol.86, no.11, 2012 (SCI-Expanded)
- IX. **Top quark pair production and asymmetry at the Tevatron and LHC in left-right models**

- Frank M., Hayreter A., Turan İ.  
PHYSICAL REVIEW D, vol.84, no.11, 2011 (SCI-Expanded)
- X. **Scalar neutrinos at the LHC**  
Demir D. A., Frank M., Selbuz L., Turan İ.  
PHYSICAL REVIEW D, vol.83, no.9, 2011 (SCI-Expanded)
- XI. **Production and decays of W-R bosons at the LHC**  
Frank M., Hayreter A., Turan İ.  
PHYSICAL REVIEW D, vol.83, no.3, 2011 (SCI-Expanded)
- XII. **B decays in an asymmetric left-right model**  
Frank M., Hayreter A., Turan İ.  
PHYSICAL REVIEW D, vol.82, no.3, 2010 (SCI-Expanded)
- XIII. **Sneutrino dark matter: Symmetry protection and cosmic ray anomalies**  
Demir D. A., Everett L. L., Frank M., Selbuz L., Turan İ.  
PHYSICAL REVIEW D, vol.81, no.3, 2010 (SCI-Expanded)
- XIV. **Collider effects of unparticle interactions in multiphoton signals**  
ALIYEV T., Frank M., Turan I.  
PHYSICAL REVIEW D, vol.80, no.11, 2009 (SCI-Expanded)
- XV. **Doubly charged Higgsinos at the Tevatron**  
Demir D. A., Frank M., Ghosh D. K., Huitu K., Rai S. K., Turan İ.  
PHYSICAL REVIEW D, vol.79, no.9, 2009 (SCI-Expanded)
- XVI. **Search for gauge extensions of the MSSM at the LHC**  
Ali A., Demir D. A., Frank M., Turan İ.  
PHYSICAL REVIEW D, vol.79, no.9, 2009 (SCI-Expanded)
- XVII. **Casimir force in Randall-Sundrum models with  $q+1$  dimensions**  
Frank M., Saad N., Turan İ.  
PHYSICAL REVIEW D, vol.78, no.5, 2008 (SCI-Expanded)
- XVIII. **Signals of doubly-charged higgsinos at the CERN Large Hadron Collider**  
Demir D. A., Frank M., Huitu K., Rai S. K., Turan İ.  
PHYSICAL REVIEW D, vol.78, no.3, 2008 (SCI-Expanded)
- XIX. **Production of single heavy charged leptons at a linear collider**  
De Pree E., Sher M., Turan İ.  
PHYSICAL REVIEW D, vol.77, no.9, 2008 (SCI-Expanded)
- XX. **The integrability of Pauli system in Lorentz violating background**  
Frank M., Turan İ., Yurdusen I.  
JOURNAL OF HIGH ENERGY PHYSICS, no.1, 2008 (SCI-Expanded)
- XXI. **CP asymmetry in charged Higgs decays to chargino-neutralino pairs**  
Frank M., Turan İ.  
PHYSICAL REVIEW D, vol.76, no.7, 2007 (SCI-Expanded)
- XXII. **CP asymmetry in charged Higgs decays in the MSSM**  
Frank M., Turan İ.  
PHYSICAL REVIEW D, vol.76, no.1, 2007 (SCI-Expanded)
- XXIII. **Casimir force in Randall-Sundrum models**  
Frank M., Turan İ., Ziegler L.  
PHYSICAL REVIEW D, vol.76, no.1, 2007 (SCI-Expanded)
- XXIV. **Supersymmetry-induced flavor-changing neutral-current top-quark processes at the CERN Large Hadron Collider**  
Cao J. J., Eilam G., Frank M., Hikasa K., Liu G. L., Turan İ., Yang J. M.  
PHYSICAL REVIEW D, vol.75, no.7, 2007 (SCI-Expanded)
- XXV. **Rare decay of the top quark  $t \rightarrow c\ell\bar{\nu}$  and single top quark production at the ILC**  
Frank M., Turan İ.  
PHYSICAL REVIEW D, vol.74, no.7, 2006 (SCI-Expanded)

- XXVI. **Casimir force in a Lorentz violating theory**  
Frank M., Turan İ.  
PHYSICAL REVIEW D, vol.74, no.3, 2006 (SCI-Expanded)
- XXVII. **Single top production via gluon fusion at CERN LHC**  
Eilam G., Frank M., Turan İ.  
PHYSICAL REVIEW D, vol.74, no.3, 2006 (SCI-Expanded)
- XXVIII. **Neutralino dark matter in the left-right supersymmetric model**  
Demir D. A., Frank M., Turan İ.  
PHYSICAL REVIEW D, vol.73, no.11, 2006 (SCI-Expanded)
- XXIX. **Rare decay of the top  $t \rightarrow cgg$  in the standard model**  
Eilam G., Frank M., Turan İ.  
PHYSICAL REVIEW D, vol.73, no.5, 2006 (SCI-Expanded)
- XXX. **CP-odd phase effects in a left-right symmetric chargino sector**  
Frank M., Turan İ., de Ona A.  
PHYSICAL REVIEW D, vol.72, no.7, 2005 (SCI-Expanded)
- XXXI. **Width effects on near threshold decays of the top quark  $t \rightarrow cWW, cZZ$  and of neutral Higgs bosons**  
Bar-Shalom S., Eilam G., Frank M., Turan İ.  
PHYSICAL REVIEW D, vol.72, no.5, 2005 (SCI-Expanded)
- XXXII.  **$t \rightarrow cg, c\gamma, cZ$  in the left-right supersymmetric model**  
Frank M., Turan İ.  
PHYSICAL REVIEW D, vol.72, no.3, 2005 (SCI-Expanded)
- XXXIII. **Neutrino masses in the effective rank-5 subgroups of E-6. II. Supersymmetric case**  
Frank M., Sher M., Turan İ.  
PHYSICAL REVIEW D, vol.71, no.11, 2005 (SCI-Expanded)
- XXXIV. **Neutrino masses in effective rank-5 subgroups of E-6. I. Nonsupersymmetric case**  
Frank M., Sher M., Turan İ.  
PHYSICAL REVIEW D, vol.71, no.11, 2005 (SCI-Expanded)
- XXXV. **Lorentz and CPT violation in the Higgs sector**  
Anderson D., Sher M., Turan İ.  
PHYSICAL REVIEW D, vol.70, no.1, 2004 (SCI-Expanded)
- XXXVI. **Universal extra dimensions and Kaluza-Klein bound states**  
Carone C., Conroy J., Sher M., Turan İ.  
PHYSICAL REVIEW D, vol.69, no.7, 2004 (SCI-Expanded)
- XXXVII.  **$\mu + N \rightarrow \tau + N$  at a muon or neutrino factory**  
Sher M., Turan İ.  
PHYSICAL REVIEW D, vol.69, no.1, 2004 (SCI-Expanded)
- XXXVIII. **Flavor changing  $t \rightarrow cl(1)(-)\bar{l}(2)(+)$  decay in the general two Higgs doublet model**  
İltan E., Turan İ.  
PHYSICAL REVIEW D, vol.67, no.1, 2003 (SCI-Expanded)
- XXXIX.  **$B \rightarrow K^*\tau(+)\tau(-)$  decay in the general two Higgs doublet model including the neutral Higgs boson effects**  
İltan E., Turan G., Turan İ.  
JOURNAL OF PHYSICS G-NUCLEAR AND PARTICLE PHYSICS, vol.28, no.2, pp.307-320, 2002 (SCI-Expanded)
- XL. **Lepton flavor violating  $Z \rightarrow l(1)(+)l(2)(-)$  decay in the general two Higgs doublet model**  
İltan E., Turan İ.  
PHYSICAL REVIEW D, vol.65, no.1, 2002 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Higgs, chargino and neutralino mass spectra in RPV U(1)' model**

SELBUZ L., Frank M., TURAN İ.

NUOVO CIMENTO C-COLLOQUIA AND COMMUNICATIONS IN PHYSICS, vol.40, no.6, 2017 (ESCI)

## Refereed Congress / Symposium Publications in Proceedings

- I. **New neutral gauge bosons in supersymmetric U(1)<sub>0</sub> models at hadron colliders**  
Frank M., SELBUZ L., TURAN İ.  
2021 European Physical Society Conference on High Energy Physics, EPS-HEP 2021, Virtual, Online, 26 - 30 July 2021, vol.398
- II. **Higgs and Chargino/Neutralino Mass Spectra in U(1)'<sub>xx</sub> Model with R-Parity Violation**  
Frank M., SELBUZ L., TURAN İ.  
PIC2017: 37. International Symposium on Physics in Collision, 4 - 08 September 2017
- III. **Constraining Dark Photon via Neutrino Electron Scattering Experiments**  
BİLMİŞ S., TURAN İ., ALİYEV T., DENİZ M., Singh L., Wong H. T.  
Institute for Research in Fundamental Sciences (IPM), Tehran, Iran, 22 - 27 January 2016
- IV. **Unparticle Signals at LHC**  
ALİYEV T., BİLMİŞ S., solmaz M., TURAN İ.  
ICTP-ECAR, Turkey, 29 September - 03 October 2015

## Supported Projects

ALİYEV T., ŞİMŞEK K., SAVCI M., TURAN İ., BİLMİŞ S., Project Supported by Higher Education Institutions, İki Ağır Kuarktan Oluşan Baryon Sisteminin Özelliklerinin LHC Deneyinde Araştırılması, 2018 - 2019

ALİYEV T., TURAN İ., BİLMİŞ S., Project Supported by Higher Education Institutions, Fermiyonik Aparçacıklarının Özelliklerinin İncelenmesi ve Deneysel İzleri, 2017 - 2017

TURAN İ., BİLMİŞ S., Project Supported by Higher Education Institutions, Standart Model Ötesi Fiziğin Büyük Hadron Çarpıştırıcısı'nda Araştırılması, 2013 - 2015

## Scientific Refereeing

PHYSICAL REVIEW D - PARTICLES, FIELDS, GRAVITATION AND COSMOLOGY, SCI Journal, March 2021

## Metrics

Publication: 45

Citation (WoS): 939

Citation (Scopus): 808

H-Index (WoS): 19

H-Index (Scopus): 15

## Awards

Turan İ., Üstün Başarılı Genç Bilim İnsanı Ödülleri Programı, Tüba, June 2014

Turan İ., The Science Academy Young Scientist Award (BAGEP), Bilimler Akademisi, February 2014

Turan İ., FABED Eser Tümen Üstün Başarı Ödülü, Feyzi Akkaya Bilimsel Etkinlikleri Destekleme Fonu (Fabed), July 2013

Turan İ., Araştırma Teşvik Ödülü, Mustafa Parlar Vakfı, December 2012

Turan İ., Prof. Baki Komsuoğlu Fen Bilimleri Teşvik Ödülü, Kocaeli Üniversitesi, April 2012