

# Prof. YASEMİN KÜÇÜK

## Personal Information

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## International Researcher IDs

Publons / Web Of Science ResearcherID: A-9788-2018

Yoksis Researcher ID: 139588

## Education Information

Post Doctorate, Universita Degli Studi di Padova, Fizik Ve Astronomi Bölümü, Nükleer Fizik, Italy 2014 - 2016

Post Doctorate, University of Surrey, Fizik Ve Astronomi Bölümü, Nükleer Fizik, United Kingdom 2010 - 2011

Doctorate, Erciyes University, Fen Bilimleri Enstitüsü, Nükleer Fizik, Turkey 2005 - 2009

Postgraduate, Erciyes University, Fen Bilimleri Enstitüsü, Nükleer Fizik, Turkey 2002 - 2005

Undergraduate, Gaziantep University, Faculty Of Engineering, Fizik Bölümü, Turkey 1996 - 2001

## Dissertations

Doctorate, 6He Çekirdek Reaksiyonlarının Çiftlenmiş Kanallar Modeli ile İncelenmesi: Coulomb Parçalanma Çiftleniminin Rolü, Erciyes University, Fen Bilimleri Enstitüsü, Fizik, 2009

Postgraduate, 12C+12C Elastik Saçılma Reaksiyonunun Düşük Enerjilerde Optik Model Kullanılarak İncelenmesi, Erciyes University, Fen Bilimleri Enstitüsü, Fizik, 2005

## Research Areas

Physics, Nuclear physics, Nuclear Structure, Special nuclear reactions, Natural Sciences

## Academic Titles / Tasks

Professor, Akdeniz University, Faculty of Science, Department of Physics, 2020 - Continues

Associate Professor, Akdeniz University, Faculty of Science, Department of Physics, 2014 - 2019

Other, Universita Degli Studi di Padova, Fizik Ve Astronomi Bölümü, Nükleer Fizik, 2014 - 2016

Assistant Professor, Akdeniz University, Faculty of Science, Department of Physics, 2013 - 2014

Other, University of Surrey, Fizik Ve Astronomi Bölümü, Nükleer Fizik, 2010 - 2011

Other, Varsova Üniversitesi, Andrej Soltan Nuclear Physics Institute, Nükleer Fizik, 2008 - 2008

## Courses

Fizik 2, Undergraduate, 2018 - 2019

Kuantum Mekaniği 1, Postgraduate, 2018 - 2019

Nükleer Reaksiyonlar ve Reaksiyon Modelleri, Doctorate, 2018 - 2019

Nükleer Fizik 1, Undergraduate, 2018 - 2019  
Fizik 1, Undergraduate, 2018 - 2019  
Çekirdek Fiziği , Doctorate, 2013 - 2014  
Radyasyondan Korunma ve Radyasyon Güvenliği Teknikleri, Postgraduate, 2013 - 2014  
Genel Fizik, Undergraduate, 2013 - 2014  
İleri Nükleer Fizik 2, Postgraduate, 2012 - 2013, 2011 - 2012  
Modern Fizik II, Undergraduate, 2012 - 2013  
Nükleer Fizik II, Undergraduate, 2012 - 2013, 2011 - 2012, 2009 - 2010  
Fizik 1, Undergraduate, 2013 - 2014  
Bilgisayar Programlama-II, Undergraduate, 2012 - 2013  
Mesleki İngilizce-2, Undergraduate, 2012 - 2013  
Fizik II, Undergraduate, 2012 - 2013, 2011 - 2012  
Mesleki İngilizce-1, Undergraduate, 2012 - 2013  
Modern Fizik 2, Undergraduate, 2011 - 2012  
Nükleer Fizik I, Undergraduate, 2012 - 2013  
Fizik 1, Undergraduate, 2012 - 2013  
İleri Nükleer Fizik 1, Postgraduate, 2012 - 2013  
Modern Fizik 1, Undergraduate, 2012 - 2013  
Bilgisayar Programlama-I, Undergraduate, 2012 - 2013  
Fizik Laboratuvarı-2 , Undergraduate, 2009 - 2010  
Modern Fizik-II, Undergraduate, 2009 - 2010  
Fizik 2, Undergraduate, 2009 - 2010  
Mekanik (Yaz okulu), Undergraduate, 2009 - 2010

## Advising Theses

KÜÇÜK Y., Investigation of inclusive cross sections of reactions initiated by stable hydrogen isotopes with materials of structural elements of nuclear power systems, Doctorate, M.Zhuldyz(Student), Continues  
KÜÇÜK Y., Energy Spectra of Particles with  $Z = 1$  and  $2$ , Generated by Bombing of Nuclei with Stable Hydrogen and Helium Isotopes, Doctorate, A.Zhumabayevna(Student), Continues  
KÜÇÜK Y.,  $^{58}\text{Ni}$ ,  $^{59}\text{Co}$  ve  $^{65}\text{Cu}$  hedefleri ile  $E=30$  MeV de  $(p, xp)$  ve  $(p, xa)$  reaksiyon tesir kesitlerinin İstatistiksel Modellerle analiz edilmesi, Postgraduate, K.Azhdarli(Student), 2019

## Jury Memberships

Appointment to Academic Staff-Assistant Professorship, Öğretim Görevlisi Atama Sınavı, Sağlık Hizmetleri Yüksek okulu, May, 2012

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

- I. **A new proton spectra for nat Cu(p,xp) reaction at E p= 7 and 30 MeV**  
Küçük Y., Zholdybayev T., Canbula B., Mukan Z., Sadykov B., Nassurlla M., Ismailov K., Yücel M. B., Boztosun İ.  
European Physical Journal A, vol.58, no.5, 2022 (SCI-Expanded)
- II. **A realistic numerical treatment of Coulomb potential in comparison with the analytical approximations**  
Đapo H., KÜÇÜK Y., BOZTOSUN İ.  
European Physical Journal A, vol.58, no.5, 2022 (SCI-Expanded)
- III. **Orientation Dependent Deformed Nuclear Potential for the  $\alpha$ -Decay**

- Yıldırım A., Boztosun I., Kaya D., Küçük Y.  
BRAZILIAN JOURNAL OF PHYSICS, vol.52, no.40, pp.1-11, 2022 (SCI-Expanded)
- IV. **Towards a systematic optical model potential for A=8 projectiles**  
KÜÇÜK Y., Guimaraes V., Carlson B. V.  
EUROPEAN PHYSICAL JOURNAL A, vol.57, no.3, 2021 (SCI-Expanded)
- V. **The macroscopic analysis of alpha-alpha scattering for the population of the monopole "breathing" mode**  
KÜÇÜK Y., KARAKOÇ M., VITTURI A.  
EUROPEAN PHYSICAL JOURNAL A, vol.57, no.1, 2021 (SCI-Expanded)
- VI. **Fission of Relativistic Nuclei with Fragment Excitation and Reorientation**  
Bertulani C. A., KÜÇÜK Y., Lozeva R.  
PHYSICAL REVIEW LETTERS, vol.124, no.13, 2020 (SCI-Expanded)
- VII. **Role of the dynamical polarization potential in explaining the  $\alpha + {}^{12}\text{C}$  system at low energies**  
KÜÇÜK Y.  
NUCLEAR PHYSICS A, vol.994, no.121665, pp.1-6, 2020 (SCI-Expanded)
- VIII. **Target-charge dependence of the breakup coupling effects in the elastic scattering of B-8**  
Kucuk Y., ACIKSOZ E.  
EUROPEAN PHYSICAL JOURNAL A, vol.52, no.4, 2016 (SCI-Expanded)
- IX. **Photonuclear reactions with zinc: A case for clinical linacs**  
Boztosun I., Dapo H., Karakoç M., Özmen S. F., Cecen Y., Çoban A. Y., Caner T., Bayram E., Saito T. R., Akdogan T., et al.  
EUROPEAN PHYSICAL JOURNAL PLUS, vol.130, no.9, 2015 (SCI-Expanded)
- X. **Folding model analysis of the He-6 elastic scattering using No-core Shell model: Indication of the breakup threshold anomaly**  
Kucuk Y.  
NUCLEAR PHYSICS A, vol.927, pp.195-208, 2014 (SCI-Expanded)
- XI. **Role of the surface potential in explaining the Li-11+Si-28 system**  
Un A., Kucuk Y., Caner T., Boztosun I.  
PHYSICAL REVIEW C, vol.89, no.5, 2014 (SCI-Expanded)
- XII. **Intermediate-energy four-body breakup calculations for C-22**  
Kucuk Y., Tostevin J. A.  
PHYSICAL REVIEW C, vol.89, no.3, 2014 (SCI-Expanded)
- XIII. **Exclusive breakup of F-17 on Ni-58 and Pb-208 within the continuum-discretized coupled-channels method**  
Kucuk Y., Moro A. M.  
PHYSICAL REVIEW C, vol.86, no.3, 2012 (SCI-Expanded)
- XIV. **Microscopic few-body and Gaussian-shaped density distributions for the analysis of the He-6 exotic nucleus with different target nuclei**  
Aygun M., Kucuk Y., BOZTOSUN İ., Ibraheem A. A.  
NUCLEAR PHYSICS A, vol.848, no.3-4, pp.245-259, 2010 (SCI-Expanded)
- XV. **Global optical potential for the elastic scattering of He-6 at low energies**  
Kucuk Y., BOZTOSUN İ., Topel T.  
PHYSICAL REVIEW C, vol.80, no.5, 2009 (SCI-Expanded)
- XVI. **Onset of nuclear structure effects in near-barrier elastic scattering of weakly bound nuclei: He-6 and Li-6 compared**  
Kucuk Y., Boztosun I., Keeley N.  
PHYSICAL REVIEW C, vol.79, no.6, 2009 (SCI-Expanded)
- XVII. **Global examination of the C-12+C-12 reaction data at low and intermediate energies**  
Kucuk Y., Boztosun I.  
NUCLEAR PHYSICS A, vol.764, pp.160-180, 2006 (SCI-Expanded)

## Articles Published in Other Journals

- I. **A NEW DEFORMED POTENTIAL IN EXPLAINING THE  $\alpha$ -DECAY**  
YILDIRIM A., Alimov D., Bakirov M., KÜÇÜK Y., BOZTOSUN İ.  
Acta Physica Polonica B, Proceedings Supplement, vol.16, no.2, 2023 (Scopus)
- II. **FISSION OF RELATIVISTIC NUCLEI WITH ELECTROMAGNETIC EXCITATION**  
KÜÇÜK Y., Bertulani C. A.  
Acta Physica Polonica B, Proceedings Supplement, vol.16, no.2, 2023 (Scopus)
- III. **Surface effect in explaining the elastic scattering of the alpha+C-12 system at low energies**  
KÜÇÜK Y.  
TURKISH JOURNAL OF PHYSICS, vol.42, no.1, pp.33-40, 2018 (ESCI)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Probing the properties of the 0+2state of 4He via 4He + 4He elastic and exclusive inelastic scattering measurements**  
Soukeras V., Cappuzzello F., Agodi C., Becker H., Brischetto G., Calabrese S., Carbone D., Cavallaro M., Ciampi C., Cicerchia M., et al.  
7th International Workshop of the Hellenic Institute of Nuclear Physics on Nuclear Structure, Astrophysics and Reaction Dynamics, HINPw 2024, Ioannina, Greece, 31 May - 01 June 2024, vol.304
- II. **Revisiting the 4He(4He,4He)4He\* inelastic scattering at the MAGNEX facility**  
Soukeras V., Cappuzzello F., Agodi C., Becker H., Brischetto G., Calabrese S., Carbone D., Cavallaro M., Chamon L., Ciampi C., et al.  
28th International Nuclear Physics Conference, INPC 2022, Cape-Town, South Africa, 11 - 16 September 2022, vol.2586
- III. **New high intensity Heavy - Ion beams @ INFN-LNS: NUMEN project status and perspective**  
Agodi C., Cappuzzello F., Acosta L., Amador-Valenzuela P., Auerbach N., Avanzi L., Bellone J., Bijker R., BOZTOSUN İ., Brasolin S., et al.  
28th International Nuclear Physics Conference (INPC), Cape-Town, South Africa, 11 - 16 September 2022
- IV. **Continuous spectra of light charged particles from interaction of 30 MeV energy protons with cooper**  
Zholdybayev T., Mukan Z., Sadykov B., Duisebayev B., Nassurlla M., Ismailov K., KÜÇÜK Y.  
International Conference on Nuclear Data for Science and Technology (ND), Beijing, China, 19 - 24 May 2019, vol.239
- V. **Gündoğmuş İlçesinin Kırsal Turizm Potansiyelinin Belirlenmesi**  
DERMAN E., KÜÇÜK Y.  
2nd International Conference on Management and Social Sciences, Antalya, Turkey, 20 - 22 April 2019, pp.255-260
- VI. **Recent results on heavy-ion induced reactions of interest for neutrinoless double beta decay at INFN-LNS**  
Cavallaro M., Acosta L., Agodi C., Altana C., Amador-Valenzuela P., Auerbach N., Barea J., Bellone J. I., Bijker R., Bonanno D., et al.  
4th International Conference on Nuclear Structure and Dynamics (NSD), Venice, Italy, 13 - 17 May 2019, vol.223
- VII. **Analysis of Elastic Scattering of He-8+Pb-208 System at around the Coulomb Barrier Energies**  
Direkci M., KÜÇÜK Y., Boztosun İ.  
1st NUBA International Conference on Nuclear Physics and Astrophysics, Antalya, Turkey, 14 - 21 September 2014, vol.590
- VIII. **Photonuclear reactions induced by a clinical linac**  
BOZTOSUN İ., DAPO H., KARAKOÇ M., ÖZMEN S. F., CECEN Y., ÇOBAN A. Y., CESUR A., CANER T., BAYRAM E., Saito T. R., et al.  
1st NUBA International Conference on Nuclear Physics and Astrophysics, Antalya, Turkey, 14 - 21 September 2014,

vol.590

**IX. Three-body-model calculations for C-22**

Kucuk Y., Tostevin J. A.

Rutherford Centennial Conference on Nuclear Physics, Manchester, United Kingdom, 8 - 12 August 2011, vol.381

**X. Uyarılmış Kanalların Reel Potansiyel Üzerindeki Etkisi**

KÜÇÜK Y., BOZTOSUN İ.

Türk Fizik Derneği 23. Uluslararası Fizik Kongresi, Muğla, Turkey, 13 - 16 September 2005, pp.343

**XI. 12C+12C Reaksiyonunun Düşük Enerjilerde Optik Model ve Çiftlenmiş Kanallar Formalizmi ile İncelenmesi**

KÜÇÜK Y., BOZTOSUN İ.

Türk Fizik Derneği 22. Fizik Kongresi, Muğla, Turkey, 14 - 17 September 2004, pp.286

**XII. 12C-12C Reaksiyonunun 32-74 MeV Aralığında Optik Model Kullanılarak İncelenmesi**

KÜÇÜK Y., BOZTOSUN İ.

VIII. Ulusal Nükleer Bilimler ve Teknolojileri Kongresi, Kayseri, Turkey, 15 - 17 September 2003, pp.45

## Other Publications

**I. Global Optical Potential for He-6 Interactions at Low Energies**

BOZTOSUN İ., KÜÇÜK Y.

Other, pp.343-346, 2009

**II. Comparative Study of (6)He+(12)C System by using Different Types of Nucleon Density Distributions**

BOZTOSUN İ., KÜÇÜK Y.

Other, pp.237-240, 2008

**III. The Simultaneous Investigation of the (6)He+(12)C Reaction Observables Using Folding Potential**

BOZTOSUN İ., KARAKOÇ M., KÜÇÜK Y.

Other, pp.281-284, 2008

**IV. Examination of the alpha+C-12 reaction at E-LAB=13 MeV by using a modified optical potential**

BOZTOSUN İ., KÜÇÜK Y.

Other, pp.115-116, 2006

## Supported Projects

KÜÇÜK Y., TUBITAK Project, (p,xp) and (p,xa) reaksiyonlarının İstatistiksel Modellerle İncelenmesi, 2018 - 2020

KÜÇÜK Y., Other International Funding Programs, Structure and Dynamics of Halo Nuclei, 2014 - 2016

KÜÇÜK Y., TUBITAK Project, " Egzotik Çekirdek Reaksiyonlarının Continuum Discretized Coupled Channels (CDCC) Modeli kullanılarak İncelenmesi, 2010 - 2012

KÜÇÜK Y., TUBITAK Project, Egzotik Çekirdek Reaksiyonları ve Mikroskobik Modeller ile Teorik Olarak İncelenmesi, 2008 - 2010

KÜÇÜK Y., TUBITAK Project, Quasi elastik saçılma ve nükleer reaksiyon gözlenebilirlerini açıklamadaki önemi, 2006 - 2008

## Scientific Refereeing

Turkish Journal of Physics, Other journals, January 2017

Turkish Journal of Physics, Other journals, January 2016

European Physical Journal A, SCI Journal, April 2015

## Scientific Consultations

Eurasian National University, Project Consultancy, Akdeniz University, Faculty Of Science, Department of Physics, Turkey, 2018 - Continues

XI. INTERNATIONAL CONFERENCE ON NUCLEAR STRUCTURE PROPERTIES, Scientific Consultancy, Akdeniz University, Faculty Of Science, Department of Physics, Turkey, 2017 - 2018

## Scientific Research / Working Group Memberships

Nükleer Fizik ve Astrofizik Grubu, Texas A&M University, United States Of America, -, 2017 - Continues

Nükleer Fizik Enstitüsü Nükleer Fizik Grubu, Al-Farabi Devlet Üniversitesi, Kazakistan, --, 2016 - Continues

MAGNEX Nükleer Fizik Grubu, Università Degli Studi di Catania, Italy, -, 2015 - Continues

Nükleer Fizik Grubu, Università Degli Studi di Padova, Italy, --, 2014 - Continues

## Metrics

Publication: 36

Citation (WoS): 188

Citation (Scopus): 228

H-Index (WoS): 8

H-Index (Scopus): 8

## Congress and Symposium Activities

12th International Conference 'Nuclear and Radiation physics', Invited Speaker, Almati, Kazakhstan, 2019

TUBITAK Nükleer Fizik Proje Değerlendirme Paneli, Panelists, Ankara, Turkey, 2018

TUBITAK Yüksek Enerji Fiziği Proje Değerlendirme Paneli, Panelists, Ankara, Turkey, 2017

Selected Topics in Nuclear and Atomic Physics 2017, Invited Speaker, Ferrara, Italy, 2017

11. International Scientific Forum Nuclear Science and Technologies, Invited Speaker, Almati, Kazakhstan, 2017

1. International Underground Sources and Energy Conference, Invited Speaker, Yozgat, Turkey, 2016

IX. INTERNATIONAL WORKSHOP ON NUCLEAR STRUCTURE PROPERTIES, Session Moderator, Sivas, Turkey, 2016

IX. INTERNATIONAL WORKSHOP ON NUCLEAR STRUCTURE PROPERTIES, Invited Speaker, Sivas, Turkey, 2016

Interplay of Structure and Dynamics in Heavy Ion Collisions, Attendee, Trento, Italy, 2015

NUBA Nuclear Physics and Nuclear Astrophysics Conference, Attendee, Antalya, Turkey, 2014

Rutherford Centennial Conference, Attendee, United Kingdom, 2011

7th International Balkan School on Nuclear Physics, Attendee, Turkey, 2010

CNS-EFES9 : The 9th Summer School Center for Nuclear Study, Attendee, Japan, 2010

Nuclear Structure and Dynamics NSD09, Attendee, Croatia, 2009

Nuclear Physics and Astrophysics: From Stable Beams to Exotic Nuclei, Attendee, Turkey, 2008

European Nuclear Physics Conference, Attendee, Germany, 2008

6th International Balkan Physics Union Physics Conference, Attendee, Turkey, 2006

Turkish Physical Society 23th International Conference, Attendee, Turkey, 2005

Turkish Physical Society 22th International Conference, Attendee, Turkey, 2004

Ulusal Nükleer Bilimler ve Teknolojileri Kongresi, Attendee, Turkey, 2003

## Scholarships

Doktora Sonrası Yurtdışı Araştırma Bursu, TUBITAK, 2010 - Continues