



# YUSUF SUCU

## PROF.

Email : ysucu@akdeniz.edu.tr



### Learning Knowledge

Doctorate  
1997 - 2003

Akdeniz University, Institute of Science, Fizik Anabilim Dalı, Turkey

Postgraduate  
1994 - 1996

Akdeniz University, Institute of Science, Fizik Anabilim Dalı, Turkey

Undergraduate  
1984 - 1988

Dicle University, Faculty Of Arts And Sciences, Fizik Bölümü, Turkey

### Dissertations

Doctorate, Dirac Denklemine Newman-Penrose (NP) Formalizminde Öklidiyen Geometriye genellenmesi ve Gravitasyonel İntantonlar, Akdeniz University, Institute of Science, Fizik, 2003

Postgraduate, Fotonları Eğri Uzaydadı Dalga Fonsiyonlarının Türetilmesi, Akdeniz University, Institute of Science, Fizik, 1996

### Academic Titles / Tasks

Associate Professor  
2015 - Continues

Akdeniz University, Faculty of Science, Department of Physics

Assistant Professor  
2009 - 2015

Akdeniz University, Faculty of Science, Department of Physics

Assistant Professor  
2008 - 2009

Namık Kemal Üniversitesi, Fen-Edebiyat Fakültesi, Fizik Bölümü

Research Assistant PhD

2004 - 2008

Akdeniz University, Faculty of Science, Department of Physics

Research Assistant

1994 - 2004

Akdeniz University, Institute of Science, Fizik Anabilim Dalı

Research Assistant

2000 - 2000

Diğer (Kurumlar,hastaneler Vb.), Tübitak, Temel Bilimler Enstitüsü

Research Assistant

1999 - 1999

Diğer (Kurumlar,hastaneler Vb.), Tübitak, Temel Bilimler Enstitüsü

Research Assistant

1992 - 1994

Dicle University, Faculty Of Arts And Sciences, Fizik Bölümü

## Supported Projects

1. Sucu Y., TUBITAK Project, Relativistik Parçacıkların Kuantum Mekaniksel Tünellemesi ve Hawking Işması Üzerindeki Kuantum Kütleçekimsel Etkiler, 2017 - 2018
2. Sucu Y., Ünal N., TUBITAK Project, Morse potansiyeli için uyumlu durumların kurulması, genelleştirilmiş Morse potansiyeli için Path integral kuantizasyonu, Robertson-Walker metriginde Dirac denklemlerinin path integrasyonu, 2001 - 2003
3. Sucu Y., Ünal N., Project Supported by Higher Education Institutions, GENERALIZATION OF DIRAC EQUATION TO EUCLIDIAN GEOMETRY IN NEWMAN-PENROSE FORMALISM AND GRAVITATIONAL INSTANTON SOLUTIONS, 2001 - 2003

## Awards

1. Tekinçay C., Geçim G., Sucu Y., SEZER S., YAYIN TEŞVİK, Tübitak, April 2022
2. Güvendi A., Sucu Y., YAYIN TEŞVİK, Tübitak, February 2021
3. Geçim G., Sucu Y., YAYIN TEŞVİK, Tübitak, January 2020
4. Gürtaş Doğan S., Sucu Y., YAYIN TEŞVİK, Tübitak, December 2019
5. Gürtaş Doğan S., Geçim G., Sucu Y., YAYIN TEŞVİK, Tübitak, November 2019
6. Güvendi A., Şahin R., Sucu Y., Yayın Tesvik, Tübitak, October 2019
7. Tekinçay C., Sucu Y., YAYIN TEŞVİK, Tübitak, July 2019
8. Geçim G., Sucu Y., Yayın Tesvik, Tübitak, November 2018
9. Geçim G., Sucu Y., YAYIN TEŞVİK, Tübitak, September 2018
10. Geçim G., Sucu Y., YAYIN TEŞVİK, Tübitak, March 2018
11. Geçim G., Sucu Y., Yayın Tesvik, Tübitak, December 2017
12. Geçim G., Küçükakça Y., Sucu Y., YAYIN TEŞVİK, Tübitak, July 2015
13. Geçim G., Sucu Y., YAYIN TEŞVİK, Tübitak, June 2013
14. Sucu Y., Ünal N., YAYIN TEŞVİK, Tübitak, January 2012

## Scholarships

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

1. **Zitterbewegung particles tunneling from Reissner-Nordstrom AdS black hole surrounded by quintessence**  
TEKİNÇAY C., GEÇİM G., SUCU Y.  
EPL, vol.135, no.3, 2021 (SCI-Expanded)
2. **The lifetimes for each state of  $l=0$  levels of the para-positronium**  
GÜVENDİ A., SUCU Y.  
EUROPEAN PHYSICAL JOURNAL PLUS, vol.136, no.4, 2021 (SCI-Expanded)
3. **Exotic criticality of the BTZ black hole**  
TEKİNÇAY C., DERNEK M., SUCU Y.  
EUROPEAN PHYSICAL JOURNAL PLUS, vol.136, no.2, 2021 (SCI-Expanded)
4. **Binding energy and decaytime of exciton in dielectric medium**  
GÜVENDİ A., ŞAHİN R., SUCU Y.  
EUROPEAN PHYSICAL JOURNAL B, vol.94, no.1, 2021 (SCI-Expanded)
5. **An interacting fermion-antifermion pair in the spacetime background generated by static cosmic string**  
GÜVENDİ A., SUCU Y.  
PHYSICS LETTERS B, vol.811, 2020 (SCI-Expanded)
6. **Quantum Gravity Correction to Hawking Radiation of the 2+1-Dimensional Wormhole**  
GEÇİM G., SUCU Y.  
ADVANCES IN HIGH ENERGY PHYSICS, vol.2020, 2020 (SCI-Expanded)
7. **Quasinormal modes of Dirac field in 2+1 dimensional gravitational wave background**  
Dogan S. G., SUCU Y.  
PHYSICS LETTERS B, vol.797, 2019 (SCI-Expanded)
8. **Quantum gravity effect on the Hawking radiation of spinning dilaton black hole**  
GEÇİM G., SUCU Y.  
EUROPEAN PHYSICAL JOURNAL C, vol.79, no.10, 2019 (SCI-Expanded)
9. **Particle Production via Dirac Dipole Moments in the Magnetized and Nonmagnetized Exponentially Expanding Universe**  
DOGAN S. G., GEÇİM G., SUCU Y.  
ADVANCES IN HIGH ENERGY PHYSICS, vol.2019, 2019 (SCI-Expanded)
10. **Exact solution of an exciton energy for a monolayer medium**  
GÜVENDİ A., ŞAHİN R., SUCU Y.  
SCIENTIFIC REPORTS, vol.9, 2019 (SCI-Expanded)
11. **Cosmological Solutions in 2+1-Dimensional New Massive Gravity in the Presence of the Dirac Field**  
Gecim G., SUCU Y.  
GRAVITATION & COSMOLOGY, vol.25, no.2, pp.179-183, 2019 (SCI-Expanded)
12. **Photon in the Earth-ionosphere cavity: Schumann resonances**  
SUCU Y., TEKİNÇAY C.  
ASTROPHYSICS AND SPACE SCIENCE, vol.364, no.4, 2019 (SCI-Expanded)
13. **Quantum gravity effect on the Hawking radiation of charged rotating BTZ black hole**  
Gecim G., SUCU Y.  
GENERAL RELATIVITY AND GRAVITATION, vol.50, no.12, 2018 (SCI-Expanded)
14. **Quantum gravity effect on the tunneling particles from Warped-AdS(3) black hole**  
Gecim G., SUCU Y.  
MODERN PHYSICS LETTERS A, vol.33, no.28, 2018 (SCI-Expanded)
15. **Quantum Gravity Effect on the Tunneling Particles from 2+1-Dimensional New-Type Black Hole**

- GECİM G., SUCU Y.  
ADVANCES IN HIGH ENERGY PHYSICS, vol.2018, 2018 (SCI-Expanded)
16. **The GUP Effect on Tunneling of Massive Vector Bosons from The 2+1 Dimensional Black Hole**  
Gecim G., SUCU Y.  
ADVANCES IN HIGH ENERGY PHYSICS, vol.2018, 2018 (SCI-Expanded)
  17. **The GUP effect on Hawking radiation of the 2+1dimensional black hole**  
Gecim G., SUCU Y.  
PHYSICS LETTERS B, vol.773, pp.391-394, 2017 (SCI-Expanded)
  18. **Massive vector bosons tunnelled from the (2+1)-dimensional black holes**  
GEÇİM G., SUCU Y.  
EUROPEAN PHYSICAL JOURNAL PLUS, vol.132, no.3, pp.7-14, 2017 (SCI-Expanded)
  19. **Dirac Field as a Source of the Inflation in 2+1 Dimensional Teleparallel Gravity**  
GEÇİM G., SUCU Y.  
ADVANCES IN HIGH ENERGY PHYSICS, vol.2017, 2017 (SCI-Expanded)
  20. **Dirac and scalar particles tunnelling from topological massive warped-AdS(3) black hole**  
Gecim G., SUCU Y.  
ASTROPHYSICS AND SPACE SCIENCE, vol.357, no.2, 2015 (SCI-Expanded)
  21. **Noether Gauge Symmetry of Dirac Field in (2+1)-Dimensional Gravity**  
Gecim G., KÜÇÜKAKÇA Y., SUCU Y.  
ADVANCES IN HIGH ENERGY PHYSICS, vol.2015, 2015 (SCI-Expanded)
  22. **Tunnelling of relativistic particles from new type black hole in new massive gravity**  
Gecim G., SUCU Y.  
JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS, vol.2013, no.2, 2013 (SCI-Expanded)
  23. **Symmetry and Integrability in the Classical Model of Zitterbewegung**  
SUCU Y., Unal N.  
FOUNDATIONS OF PHYSICS, vol.42, no.8, pp.1067-1077, 2012 (SCI-Expanded)
  24. **Coherent States for Tremblay-Turbiner-Winternitz Potential**  
SUCU Y., Unal N.  
SYMMETRY INTEGRABILITY AND GEOMETRY-METHODS AND APPLICATIONS, vol.8, 2012 (SCI-Expanded)
  25. **Exact solution of Dirac equation in 2+1 dimensional gravity**  
Sucu Y., Unal N.  
JOURNAL OF MATHEMATICAL PHYSICS, vol.48, no.5, 2007 (SCI-Expanded)
  26. **Dirac constraint analysis and symplectic structure of anti-self-dual Yang-Mills equations**  
Camci U., Can Z., Nutku Y., Sucu Y., Yazici D.  
PRAMANA-JOURNAL OF PHYSICS, vol.67, no.6, pp.1043-1053, 2006 (SCI-Expanded)
  27. **Vector bosons in the expanding universe**  
Sucu Y., Unal N.  
EUROPEAN PHYSICAL JOURNAL C, vol.44, no.2, pp.287-291, 2005 (SCI-Expanded)
  28. **Dirac equation in Euclidean Newman-Penrose formalism with applications to instanton metrics**  
Sucu Y., Unal N.  
CLASSICAL AND QUANTUM GRAVITY, vol.21, no.6, pp.1443-1451, 2004 (SCI-Expanded)
  29. **Solution of massless spin one wave equation in Robertson-Walker space-time**  
Sucu Y., Unal N.  
INTERNATIONAL JOURNAL OF MODERN PHYSICS A, vol.17, no.8, pp.1137-1147, 2002 (SCI-Expanded)

#### Articles Published in Other Journals

1. **Relativistic quantum mechanical spin-1 wave equation in 2+1 dimensional spacetime**  
DERNEK M., GURTAS DOĞAN S., SUCU Y., UNAL N.  
TURKISH JOURNAL OF PHYSICS, vol.42, no.5, pp.509-526, 2018 (ESCI)

## 2. Photon in a cylindrical resonant cavity

TEKİNÇAY C., SUCU Y.

TURKISH JOURNAL OF PHYSICS, vol.42, no.2, pp.175-182, 2018 (ESCI)

## Refereed Congress / Symposium Publications in Proceedings

### 1. DİRAC ALANINDA (2+1) BOYUTTA LİFŞİTZ KARADELİĞİ'NİN KUASI NORMAL MODLARI

Sucu Y., Gürtaş Doğan S.

ADIM FİZİK GÜNLERİ VI, Balıkesir, Turkey, 19 - 21 July 2017, pp.179

### 2. Vector boson in a cosmologically optical medium

Tekinçay C., Sucu Y.

Türk Fizik Derneği 34. Uluslararası Fizik Kongresi, Muğla, Turkey, 5 - 09 September 2018, pp.218

### 3. DIRAC QUASINORMAL MODES OF LIFSHITS BLACK HOLE IN (2+1) DIMENSIONAL

Sucu Y., Gürtaş Doğan S.

TURKISH PHYSICAL SOCIETY 33. INTERNATIONAL PHYSICS CONGRESS, Muğla, Turkey, 6 - 10 September 2017, pp.675

### 4. SİLİNDİRİK SİMETRİK UZAY-ZAMANDA KÜTLESİZ SPİN-1 DENKLEMİNİN ÇÖZÜMLERİ

TEKİNÇAY C., SUCU Y.

ADIM Fizik Günleri VI, Balıkesir, Turkey, 19 - 21 July 2017, pp.122

### 5. SOLUTION OF DIRAC EQUATION FOR ROBERTSON WALKER (RW) IN 2+1 DIMENSION

Sucu Y., Gürtaş S.

TURKISH PHYSICAL SOCIETY 31. INTERNATIONAL PHYSICS CONGRESS, Muğla, Turkey, 21 - 24 July 2014, pp.478

### 6. PARTICLE TUNNELING AND HAWKING RADIATION FROM 2+1 DIMENSIONAL MARTINEZ BLACK HOLE

Geçim G., Sucu Y.

Turkish Physical Society 31st International Physics Congress, Muğla, Turkey, 21 - 24 July 2014, pp.475

## Courses

QUANTUM ELECTRODYNAMICS, Doctorate, 2021 - 2022

GRADUATION THESIS II, Undergraduate, 2021 - 2022, 2019 - 2020

CLASSICAL MECHANICS II, Doctorate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019

COURSE OF EXPERTISE AREA , Doctorate, 2021 - 2022, 2020 - 2021

SUPERVISING, Doctorate, 2021 - 2022, 2020 - 2021, 2019 - 2020

ELECTROMAGNETIC THEORY II, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018

THEORETICAL MECHANICS I, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018

ELECTROMAGNETIC THEORY I, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018

CLASSICAL MECHANICS I, Postgraduate, 2021 - 2022

CLASSICAL MECHANICS I, Postgraduate, 2020 - 2021

GRADUATION THESIS I, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019

COURSE OF EXPERTISE AREA , Doctorate, 2021 - 2022

RELATIVISTIC QUANTUM MECHANICS, Postgraduate, 2021 - 2022

THEORETICAL MECHANICS II, Undergraduate, 2021 - 2022, 2019 - 2020

SUPERVISING, Doctorate, 2021 - 2022, 2020 - 2021, 2019 - 2020

COURSE OF EXPERTISE AREA , Doctorate, 2019 - 2020, 2018 - 2019

THE THEORY OF RELATIVITY II, Undergraduate, 2019 - 2020

COURSE OF EXPERTISE AREA , Doctorate, 2020 - 2021, 2019 - 2020

THE THEORY OF GRAVITATION II, Doctorate, 2018 - 2019

PHYSICS I, Undergraduate, 2019 - 2020

SUPERVISING, Doctorate, 2018 - 2019, 2017 - 2018  
COURSE OF EXPERTISE AREA , Doctorate, 2018 - 2019, 2017 - 2018  
COURSE OF EXPERTISE AREA , Doctorate, 2017 - 2018  
QUANTUM THEORY OF GRAVITATION, Doctorate, 2017 - 2018  
SUPERVISING, Doctorate, 2018 - 2019, 2017 - 2018  
PHYSICS LABORATORY I, Undergraduate, 2017 - 2018  
PROBLEMS IN THE BASIS OF QUANTUM MECHANICS, Doctorate, 2017 - 2018  
CLASSICAL ELECTRODYNAMICS II, Doctorate, 2017 - 2018  
PHYSICS I (MECHANICS), Undergraduate, 2017 - 2018

### Advising Theses

SUCU Y., (2+1) boyutta gravitasyonel dalgalar, Doctorate, S.Gürtaş(Student), 2019  
SUCU Y., Silindirik ve küresel kaviterlerde foton denkleminin çözümleri, Postgraduate, C.Tekinçay(Student), 2017  
SUCU Y., İki Dirac parçacık sisteminin 2+1 uzay-zaman boyutunda kuantum elektrodinamiği, Postgraduate, A.GÜVENDİ(Student), 2016  
SUCU Y., Kütleli Gravitasyon Teorilerinde Spinli Relativistik Parçacıkların Kuantum Mekaniksel Davranışlarının İncelenmesi, Doctorate, G.GEÇİM(Student), 2015  
SUCU Y., Spin-1 ve Spin-1/2 relativistik parçacıklarının çeşitli potansiyeller için (2+1) boyutta kuantum mekaniksel davranışlarının incelenmesi, Postgraduate, S.Gürtaş(Student), 2013  
SUCU Y., Spin-1 ve Spin1/2 Relativistik parçacıkların çeşitli potansiyeller için (2+1) boyutta kuantum mekaniksel davranışlarının incelenmesi, Postgraduate, S.GÜRTAŞ(Student), 2012

### Scientific Refereeing

MEASUREMENT, SCI Journal, July 2022  
INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS, SCI Journal, June 2022  
TURKISH JOURNAL OF PHYSICS, Journal Indexed in ESCI, January 2021  
TURKISH JOURNAL OF PHYSICS, Journal Indexed in ESCI, September 2020  
CHINESE PHYSICS C, SCI Journal, March 2020  
TURKISH JOURNAL OF PHYSICS, Journal Indexed in ESCI, February 2020  
ASTROPHYSICS AND SPACE SCIENCE, SCI Journal, August 2019  
EUROPEAN PHYSICAL JOURNAL PLUS, SCI Journal, July 2019  
MODERN PHYSICS LETTERS A, SCI Journal, March 2019  
MODERN PHYSICS LETTERS A, National Scientific Refreed Journal, October 2018  
JOURNAL OF PHYSICS COMMUNICATIONS, SCI Journal, January 2018  
INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS, SCI Journal, August 2007

### Metrics

Publication: 37  
Citation (WoS): 353  
Citation (Scopus): 347  
H-Index (WoS): 13  
H-Index (Scopus): 13

### Congress and Symposium Activities

Turkish Physical Society 31. International Pyhsical Congress, Attendee, BODRUM, Turkey, 2014

13th Regional Conference on Mathematical Physics, Attendee, Antalya, Turkey, 2010

Workshop on " Quantization, duality and integrable systems-IV", Abant İzzet Baysal Üniversitesi, Attendee, Bolu, Turkey, 2005

Yüksek Enerji Fiziği Çalıştayı, Abant İzzet Baysal Üniversitesi, Attendee, Bolu, Turkey, 2004

Regional Conference on Mathematical Physics IX, "Eclipse Turkey" Feza Gürsey Enstitüsü, Attendee, İstanbul, Turkey, 1999

International Center for Physics and Applied Mathematics, Attendee, Edirne, Turkey, 1994

## Research Areas

Physics, General Physics, Relativity and Gravitation, Quantum Mechanics, Fields Theory and Relativity, Natural Sciences