

Assoc. Prof. Özgür Akarsu

Personal Information

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Education Information

Post Doctorate, Koc University, Faculty Of Science, Department Of Physics, Turkey 2010 - 2015

Doctorate, Ege University, Faculty Of Science, Astronomy and Space Sciences, Turkey 2005 - 2010

Postgraduate, Ege University, Faculty Of Science, Astronomy and Space Sciences, Turkey 2003 - 2005

Undergraduate, Ege University, Faculty Of Science, Astronomy and Space Sciences, Turkey 1998 - 2003

Research Areas

Physics, Astronomy and Astrophysics

Academic Titles / Tasks

Associate Professor, Istanbul Technical University, Fen-Edebiyat, Fizik Mühendisliği, 2015 - Continues

Researcher, The Abdus Salam International Centre for Theoretical Physics, High Energy, Cosmology and Astroparticle Physics, 2019 - 2019

Researcher, The Abdus Salam International Centre for Theoretical Physics, High Energy, Cosmology and Astroparticle Physics, 2016 - 2016

Researcher, Koc University, Faculty Of Science, Department Of Physics, 2010 - 2015

Researcher, The Abdus Salam International Centre for Theoretical Physics, High Energy, Cosmology and Astroparticle Physics, 2014 - 2014

Researcher, The Abdus Salam International Centre for Theoretical Physics, High Energy, Cosmology and Astroparticle Physics, 2012 - 2012

Researcher, University of Cambridge, Centre For Mathematical Sciences, Department Of Applied Mathematics And Theoretical Physics, 2008 - 2009

Courses

Cosmology II, Doctorate, 2018 - 2019, 2020 - 2021, 2021 - 2022

Cosmology I, Doctorate, 2018 - 2019, 2020 - 2021, 2021 - 2022

Advising Theses

Akarsu Ö., Rastall's theory of gravity extension of the standard Lambda-CDM model, Postgraduate, B.ÖZTÜRK(Student), 2021

Turgut O. T. , Akarsu Ö., Some new cosmological applications of the energy-momentum squared gravity, Doctorate, N.MERVE(Student), 2021

- I. **Cosmology intertwined: A review of the particle physics, astrophysics, and cosmology associated with the cosmological tensions and anomalies**
Abdalla E., Abellán G. F., Aboubrahim A., Agnello A., Akarsu Ö., Akrami Y., Alestas G., Aloni D., Amendola L., Anchordoqui L. A., et al.
JOURNAL OF HIGH ENERGY ASTROPHYSICS, vol.34, pp.49-211, 2022 (Journal Indexed in SCI)
- II. **Relaxing cosmological tensions with a sign switching cosmological constant**
Akarsu Ö., Kumar S., Özüiker E., Alberto Vazquez J.
PHYSICAL REVIEW D, vol.104, no.12, 2021 (Journal Indexed in SCI)
- III. **Snowmass2021-Letter of interest cosmology intertwined I: Perspectives for the next decade**
Di Valentino E., Anchordoqui L. A., Akarsu Ö., Ali-Haimoud Y., Amendola L., Arendse N., Asgari M., Ballardini M., Basilakos S., Battistelli E., et al.
ASTROPARTICLE PHYSICS, vol.131, 2021 (Journal Indexed in SCI)
- IV. **Snowmass2021-Letter of interest cosmology intertwined II: The hubble constant tension**
Di Valentino E., Anchordoqui L. A., Akarsu Ö., Ali-Haimoud Y., Amendola L., Arendse N., Asgari M., Ballardini M., Basilakos S., Battistelli E., et al.
ASTROPARTICLE PHYSICS, vol.131, 2021 (Journal Indexed in SCI)
- V. **Cosmology intertwined III: $f\sigma_8$ and S_8**
Di Valentino E., Anchordoqui L. A., Akarsu Ö., Ali-Haimoud Y., Amendola L., Arendse N., Asgari M., Ballardini M., Basilakos S., Battistelli E., et al.
ASTROPARTICLE PHYSICS, vol.131, 2021 (Journal Indexed in SCI)
- VI. **Snowmass2021-Letter of interest cosmology intertwined IV: The age of the universe and its curvature**
Di Valentino E., Anchordoqui L. A., Akarsu Ö., Ali-Haimoud Y., Amendola L., Arendse N., Asgari M., Ballardini M., Basilakos S., Battistelli E., et al.
ASTROPARTICLE PHYSICS, vol.131, 2021 (Journal Indexed in SCI)
- VII. **Simple-graduated dark energy and spatial curvature**
Acquaviva G., Akarsu Ö., Katirci N., Vazquez J. A.
PHYSICAL REVIEW D, vol.104, no.2, 2021 (Journal Indexed in SCI)
- VIII. **Screening anisotropy via energy-momentum squared gravity: Λ CDM model with hidden anisotropy**
Akarsu Ö., Barrow J. D., Uzun N. M.
PHYSICAL REVIEW D, vol.102, no.12, 2020 (Journal Indexed in SCI)
- IX. **Rastall gravity extension of the standard Lambda CDM model: theoretical features and observational constraints**
Akarsu Ö., Katirci N., Kumar S., Nunes R. C., Öztürk B., Sharma S.
EUROPEAN PHYSICAL JOURNAL C, vol.80, no.11, 2020 (Journal Indexed in SCI)
- X. **Graduated dark energy: Observational hints of a spontaneous sign switch in the cosmological constant**
Akarsu Ö., Barrow J. D., Escamilla L. A., Alberto Vazquez J.
PHYSICAL REVIEW D, vol.101, no.6, 2020 (Journal Indexed in SCI)
- XI. **Weak field limit of higher dimensional massive Brans-Dicke gravity: Observational constraints**
Akarsu Ö., Chopovsky A., Shulga V., Yalçinkaya E., Zhuk A.
PHYSICAL REVIEW D, vol.101, no.2, 2020 (Journal Indexed in SCI)
- XII. **Anisotropic massive Brans-Dicke gravity extension of the standard Lambda CDM model**
Akarsu Ö., Katirci N., Özdemir N., Vazquez J. A.
EUROPEAN PHYSICAL JOURNAL C, vol.80, no.1, 2020 (Journal Indexed in SCI)
- XIII. **Screening Lambda in a new modified gravity model**
Akarsu Ö., Barrow J. D., Board C. V. R., Uzun N. M., Vazquez J. A.
EUROPEAN PHYSICAL JOURNAL C, vol.79, no.10, 2019 (Journal Indexed in SCI)
- XIV. **Constraints on a Bianchi type I spacetime extension of the standard Lambda CDM model**
Akarsu Ö., Kumar S., Sharma S., Tedesco L.
PHYSICAL REVIEW D, vol.100, no.2, 2019 (Journal Indexed in SCI)

- XV. **Cosmological implications of scale-independent energy-momentum squared gravity: Pseudo nonminimal interactions in dark matter and relativistic relics**
Akarsu Ö., Katirci N., KUMAR S., NUNES R. C. , SAMI M.
PHYSICAL REVIEW D, vol.98, no.6, 2018 (Journal Indexed in SCI)
- XVI. **Scalar perturbations in cosmological f (R) models: the cosmic screening approach**
Akarsu Ö., BRILENKOV R., Eingorn M., SHULGA V., Zhuk A.
EUROPEAN PHYSICAL JOURNAL C, vol.78, no.8, 2018 (Journal Indexed in SCI)
- XVII. **Constraint on energy-momentum squared gravity from neutron stars and its cosmological implications**
Akarsu Ö., Barrow J. D. , Çıkıntoğlu S., Ekşi K. Y. , Katirci N.
PHYSICAL REVIEW D, vol.97, no.12, 2018 (Journal Indexed in SCI)
- XVIII. **Black branes and black strings in the astrophysical and cosmological context**
Akarsu Ö., CHOPOVSKY A., Zhuk A.
PHYSICS LETTERS B, vol.778, pp.190-196, 2018 (Journal Indexed in SCI)
- XIX. **Brane world models with bulk perfect fluid and broken 4D Poincare invariance**
Akarsu Ö., CHOPOVSKY A., Eingorn M., FAKHR S. H. , Zhuk A.
PHYSICAL REVIEW D, vol.97, no.4, 2018 (Journal Indexed in SCI)
- XX. **Cosmic acceleration in a dust only universe via energy-momentum powered gravity**
Akarsu Ö., Katirci N., KUMAR S.
PHYSICAL REVIEW D, vol.97, no.2, 2018 (Journal Indexed in SCI)
- XXI. **Anisotropic inflation with a non-minimally coupled electromagnetic field to gravity**
Adak M., Akarsu Ö., Dereli T., Sert O.
JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS, no.11, 2017 (Journal Indexed in SCI)
- XXII. **Inflation and Late Time Acceleration Designed by Stueckelberg Massive Photon**
Akarsu Ö., Arik M., Katirci N.
FOUNDATIONS OF PHYSICS, vol.47, no.6, pp.769-796, 2017 (Journal Indexed in SCI)
- XXIII. **Broken scale invariance, alpha-attractors and vector impurity**
Akarsu Ö., BORAN S., Kahya E. O. , Özdemir N., Özkan M.
EUROPEAN PHYSICAL JOURNAL C, vol.77, no.5, 2017 (Journal Indexed in SCI)
- XXIV. **Accelerated expansion of the Universe in a higher dimensional modified gravity with Euler-Poincare terms**
Akarsu O., Dereli T., Oflaz N.
CLASSICAL AND QUANTUM GRAVITY, vol.32, no.21, 2015 (Journal Indexed in SCI)
- XXV. **Are dark energy models with variable EoS parameter w compatible with the late inhomogeneous Universe?**
Akarsu O., BOUHMADE-LOPEZ M., BRILENKOV M., BRILENKOV R., Eingorn M., ZHUK A.
JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS, no.7, 2015 (Journal Indexed in SCI)
- XXVI. **A divergence-free parametrization for dynamical dark energy**
Akarsu O., Dereli T., VAZQUEZ J. A.
JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS, no.6, 2015 (Journal Indexed in SCI)
- XXVII. **General solution of a cosmological model induced from higher dimensions using a kinematical constraint**
Akarsu O., Dereli T., Katirci N., Sheftel M. B.
GENERAL RELATIVITY AND GRAVITATION, vol.47, no.5, 2015 (Journal Indexed in SCI)
- XXVIII. **Accelerated expansion of the universe a la the Stueckelberg mechanism**
Akarsu O., Arik M., Katirci N., Kavuk M.
JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS, no.7, 2014 (Journal Indexed in SCI)
- XXIX. **Probing kinematics and fate of the Universe with linearly time-varying deceleration parameter**
Akarsu O., Dereli T., KUMAR S., XU L.
EUROPEAN PHYSICAL JOURNAL PLUS, vol.129, no.2, 2014 (Journal Indexed in SCI)
- XXX. **Accelerating anisotropic cosmologies in Brans-Dicke gravity coupled to a mass-varying vector field**

- Akarsu O., Dereli T., Oflaz N.
CLASSICAL AND QUANTUM GRAVITY, vol.31, no.4, 2014 (Journal Indexed in SCI)
- XXXI. **Cosmology with hybrid expansion law: scalar field reconstruction of cosmic history and observational constraints**
Akarsu O., KUMAR S., MYRZAKULOV R., SAMI M., XU L.
JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS, no.1, 2014 (Journal Indexed in SCI)
- XXXII. **A four-dimensional lambda CDM-type cosmological model induced from higher dimensions using a kinematical constraint**
Akarsu O., Dereli T.
GENERAL RELATIVITY AND GRAVITATION, vol.45, no.6, pp.1211-1226, 2013 (Journal Indexed in SCI)
- XXXIII. **The dynamical evolution of 3-space in a higher dimensional steady state universe**
Akarsu O., Dereli T.
GENERAL RELATIVITY AND GRAVITATION, vol.45, no.5, pp.959-986, 2013 (Journal Indexed in SCI)
- XXXIV. **Late time acceleration of the 3-space in a higher dimensional steady state universe in dilaton gravity**
Akarsu O., Dereli T.
JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS, no.2, 2013 (Journal Indexed in SCI)
- XXXV. **A Comparison of the LVDP and Lambda CDM Cosmological Models**
Akarsu O., Dereli T.
INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS, vol.51, no.10, pp.2995-3000, 2012 (Journal Indexed in SCI)
- XXXVI. **Bianchi type-II models in the presence of perfect fluid and anisotropic dark energy**
KUMAR S., Akarsu O.
EUROPEAN PHYSICAL JOURNAL PLUS, vol.127, no.6, 2012 (Journal Indexed in SCI)
- XXXVII. **Cosmological Models with Linearly Varying Deceleration Parameter**
Akarsu O., Dereli T.
INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS, vol.51, no.2, pp.612-621, 2012 (Journal Indexed in SCI)
- XXXVIII. **Some Anisotropic Universes in the Presence of Imperfect Fluid Coupling with Spatial Curvature**
Akarsu O., Kilinc C. B.
INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS, vol.50, no.6, pp.1962-1977, 2011 (Journal Indexed in SCI)
- XXXIX. **de Sitter expansion with anisotropic fluid in Bianchi type-I space-time**
Akarsu O., Kilinc C. B.
ASTROPHYSICS AND SPACE SCIENCE, vol.326, no.2, pp.315-322, 2010 (Journal Indexed in SCI)
- XL. **Bianchi type III models with anisotropic dark energy**
Akarsu O., Kilinc C. B.
GENERAL RELATIVITY AND GRAVITATION, vol.42, no.4, pp.763-775, 2010 (Journal Indexed in SCI)
- XLI. **LRS Bianchi type I models with anisotropic dark energy and constant deceleration parameter**
Akarsu O., Kilinc C. B.
GENERAL RELATIVITY AND GRAVITATION, vol.42, no.1, pp.119-140, 2010 (Journal Indexed in SCI)

Refereed Congress / Symposium Publications in Proceedings

- I. **ΛCDM cosmology with a quiescent anisotropy in a higher dimensional steady state universe**
Akarsu Ö., Dereli T., Katırcı N.
A Life in Mathematical Physics: Conference in Honour of Tekin Dereli, DERELI-FS 2021, Virtual, Online, 26 - 28 November 2021, vol.2191

Citations

Total Citations (WOS):1111

h-index (WOS):17

Awards

Akarsu ., stn Bařarılı Gen Bilim nsanı (GEBİP) dl, Trkiye Bilimler Akademisi (Tba), December 2018

Akarsu ., Bilim Akademisi Gen Bilim nsanları (BAGEP) dl, Bilim Akademisi, April 2016