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Education Information

Doctorate, Suleyman Demirel University, Fen Bilimleri Enstitüsü, Matematik (Dr), Turkey 1995 - 1999

Postgraduate, Eskisehir Osmangazi University, FEN BİLİMLERİ ENSTİTÜSÜ, Matematik-Bilgisayar Bilimleri (YI) (Tezli), Turkey 1991 - 1993

Dissertations

Doctorate, R3_1 Minkowski Uzayında elastik çizgiler üzerine, Suleyman Demirel University, Fen Bilimleri Enstitüsü, Matematik (Dr), 1999

Postgraduate, Sonlu projektif Düzlemlerin Afin Alt Düzlemleri ve Bazı komplement Geometrik Yapıların Projektif Düzlemlere Gömülmesi Üzerine, Eskisehir Osmangazi University, FEN BİLİMLERİ ENSTİTÜSÜ, Matematik-Bilgisayar Bilimleri (YI) (Tezli), 1993

Research Areas

Mathematics

Academic Titles / Tasks

Professor, Eskisehir Osmangazi University, FEN FAKÜLTESİ, MATEMATİK VE BİLGİSAYAR BİLİMLERİ BÖLÜMÜ, 2014 - Continues

Associate Professor, Eskisehir Osmangazi University, FEN FAKÜLTESİ, MATEMATİK VE BİLGİSAYAR BİLİMLERİ BÖLÜMÜ, 2008 - 2014

Assistant Professor, Eskisehir Osmangazi University, FEN FAKÜLTESİ, MATEMATİK VE BİLGİSAYAR BİLİMLERİ BÖLÜMÜ, 1999 - 2008

Courses

Doctorate

Global diferantial geometry of spacelike hypersurfaces II, Doctorate, 2014 - 2015

Null curves and Hypersurfaces in semi-Riemannian manifolds, Doctorate, 2013 - 2014

Null curves and Surfaces, Doctorate, 2012 - 2013

Semi Riemann Geometride Varyasyonlar analizi, Doctorate, 2011 - 2012

Lorentzian and Lightlike Geometry, Doctorate, 2010 - 2011

Postgraduate

Differential geometry of curves and surfaces II, Postgraduate, 2020 - 2021

Differential Geometry of Spacelike hypersurfaces I, Postgraduate, 2020 - 2021

Undergraduate

Mathematics, Nature and Art II, Undergraduate, 2020 - 2021

Genel Matematik II, Undergraduate, 2019 - 2020

Mathematics II, Undergraduate, 2019 - 2020

Mathematics I, Undergraduate, 2019 - 2020

Business Mathematics I, Undergraduate, 2019 - 2020

Tensör Algebra, Undergraduate, 2007 - 2008

Global Differential Geometry II, Undergraduate, 2001 - 2002

Diferansiyel Hesap, Undergraduate, 2001 - 2002

Global Differential Geometry I I, Undergraduate, 2001 - 2002

Supervised Theses

Gürbüz Ş. N., Focal surfaces according to positional adapted frames, Postgraduate, E.Şahin(Student), 2023

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Vortex filament flows for curves in a 3-dimensional pseudo-Riemannian manifold**
Yüzbaşı Z. K., GÜRBÜZ Ş. N., Lee H. C., Yoon D. W.
Aequationes Mathematicae, vol.98, no.1, pp.261-274, 2024 (SCI-Expanded)
- II. **The evolution of an electric field, Hasimoto surfaces and three differential formulas with the new frame in $R^{1,3}$**
Gürbüz Ş. N.
Optik, vol.272, 2023 (SCI-Expanded)
- III. **Hasimoto Maps for Nonlinear Schrodinger Equations in Minkowski Space**
GÜRBÜZ Ş. N., YÜZBAŞI Z. K., Yoon D. W.
JOURNAL OF NONLINEAR MATHEMATICAL PHYSICS, vol.29, no.4, pp.761-775, 2022 (SCI-Expanded)
- IV. **The change of electric field and relaxed elastic line via anholonomic coordinates with Darboux frame in $R^{1,3}$**
Gürbüz N. E.
Optik, vol.270, 2022 (SCI-Expanded)
- V. **The evolution of electric field in pseudo-Galilean 3-space $G^{1,3}$**
Gürbüz N. E.
Optik, vol.269, 2022 (SCI-Expanded)
- VI. **Geometric phases for three cases of the electric field with new type Bishop frame in $R^{1,3}$**
Yoon D. W., Gürbüz N. E.
International Journal of Geometric Methods in Modern Physics, vol.19, 2022 (SCI-Expanded)
- VII. **Three anholonomy densities for three formulations with anholonomic coordinates with hybrid frame in $R^{1,3}$**
Gürbüz N. E., Myrzakulov R., Myrzakulova Z.
Optik, vol.261, 2022 (SCI-Expanded)
- VIII. **The null geometric phase along optical fiber for anholonomic coordinates**

- Gürbüz N. E.
Optik, vol.258, 2022 (SCI-Expanded)
- IX. **Visco-Da Rios Equation in 3-Dimensional Riemannian Manifold**
Gürbüz N. E., Yoon D. W.
Frontiers in Physics, vol.9, 2022 (SCI-Expanded)
- X. **The evolution of an electric field with respect to the type-1 PAF and the PAFORS frames in**
Gürbüz N. E.
OPTIK, vol.250, 2022 (SCI-Expanded)
- XI. **The visco modified Heisenberg ferromagnet equation and physical applications**
Gürbüz N. E., Yoon D. W.
Optik, vol.248, 2021 (SCI-Expanded)
- XII. **The pseudo-null geometric phase along optical fiber**
Gürbüz N. E.
International Journal of Geometric Methods in Modern Physics, vol.18, 2021 (SCI-Expanded)
- XIII. **Three geometric phases with the visco-Da Rios equation for the hybrid frame in R-3**
GÜRBUZ Ş. N.
OPTIK, vol.248, 2021 (SCI-Expanded)
- XIV. **The evolution of the electric field with Frenet frame in Lorentzian Lie groups**
Gürbüz N. E.
Optik, vol.247, 2021 (SCI-Expanded)
- XV. **The variation of the electric field along optic fiber for null Cartan and pseudo-null frames**
GÜRBUZ Ş. N.
International Journal of geometric methods in modern physics, vol.18, no.8, 2021 (SCI-Expanded)
- XVI. **Geometry of curve flows in isotropic spaces**
Gurbuz N., Yoon D. W.
AIMS MATHEMATICS, vol.5, no.4, pp.3434-3445, 2020 (SCI-Expanded)
- XVII. **Three anholonomy densities according to bishop frame in euclidean 3-space**
Gurbuz N.
Journal of Mathematical Physics, Analysis, Geometry, vol.15, no.4, pp.510-525, 2019 (SCI-Expanded)
- XVIII. **Parallel transports and related phases according to Frenet and Darboux frame in \mathbb{R}^3**
Gurbuz N.
International Journal of Geometric Methods in Modern Physics, vol.15, no.12, 2018 (SCI-Expanded)
- XIX. **Three classes of non-lightlike curve evolution according to Darboux frame and geometric phase**
Gurbuz N.
International Journal of Geometric Methods in Modern Physics, vol.15, no.2, 2018 (SCI-Expanded)
- XX. **Anholonomy according to three formulations of non-null curve evolution**
Gurbuz N.
International Journal of Geometric Methods in Modern Physics, vol.14, no.12, 2017 (SCI-Expanded)
- XXI. **Generalized Elastic Line Deformed on a Nonnull Surface by an External Field in the 3-Dimensional Semi-Euclidean Space E^3**
Gurbuz N., Gorgulu A.
Ukrainian Mathematical Journal, vol.67, no.3, pp.381-389, 2015 (SCI-Expanded)
- XXII. **Moving non-null curves according to Bishop frame in Minkowski 3-space**
Gurbuz N.
International Journal of Geometric Methods in Modern Physics, vol.12, no.5, 2015 (SCI-Expanded)
- XXIII. **Relaxed elastic lines of second kind in dual space**
AYDIN ŞEKERCİ G., Gurbuz N., Gorgulu A., Coken A. C.
International Journal of Geometric Methods in Modern Physics, vol.12, no.2, 2015 (SCI-Expanded)
- XXIV. **On dual r-elastic line**
Gürbüz Ş. N., Gorgulu A.
INTERNATIONAL JOURNAL OF GEOMETRIC METHODS IN MODERN PHYSICS, vol.11, no.10, 2014 (SCI-Expanded)

- XXV. **p elastica in the 3 dimensional Lorentzian space forms**
 GÜRBÜZ Ş. N.
 Turkish Journal of Mathematics, vol.30, pp.33-41, 2009 (SCI-Expanded)
- XXVI. **Intrinsic formulation for elastic line deformed on a surface by external field in the Minkowski 3-space $E^{-1}(3)$**
 Gurbuz N.
 JOURNAL OF MATHEMATICAL ANALYSIS AND APPLICATIONS, vol.327, no.2, pp.1086-1094, 2007 (SCI-Expanded)
- XXVII. **Intrinsic formulation for elastic line deformed on a surface by external field in the Minkowski 3-space E^3_1**
 GÜRBÜZ Ş. N.
 J.Math.Anal.Appl., vol.327, pp.1086-1094, 2007 (SCI-Expanded)
- XXVIII. **An extension of Takahashi theorem for the linearized operators of the higher order mean curvatures**
 Alias L. J., Gurbuz N.
 Geometriae Dedicata, vol.121, no.1, pp.113-127, 2006 (SCI-Expanded)

Articles Published in Other Journals

- I. **GEOMETRIC PHASES, MAGNETIC CURVES FOR DARBOUX FRAMES ON LIGHTLIKE AND TIMELIKE SURFACES**
 GÜRBÜZ Ş. N.
 Journal of Universal Mathematics, vol.7, 2024 (Peer-Reviewed Journal)
- II. **The evolution of the electric field along optical fiber with respect to the type-2 and 3 PAFs in Minkowski 3-space**
 GÜRBÜZ Ş. N., Yoon D. W.
 Tamkang Journal of Mathematics, vol.55, no.2, pp.113-128, 2024 (ESCI)
- III. **Backlund Transformations of Non-Null Curve Flows with Respect to Frenet Frame**
 GÜRBÜZ Ş. N.
 International Journal of Mathematical Combinatorics, vol.4, pp.11-24, 2021 (Peer-Reviewed Journal)
- IV. **The Variation of Electric Field With Respect to Darboux Triad in Euclidean 3-Space**
 GÜRBÜZ Ş. N.
 Mathematical Combinatorics, vol.2, pp.17-32, 2021 (Peer-Reviewed Journal)
- V. **Hasimoto surfaces for two classes of curve evolution in Minkowski 3-space**
 Gurbuz N., Yoon D. W.
 DEMONSTRATIO MATHEMATICA, vol.53, no.1, pp.277-284, 2020 (ESCI)
- VI. **FERMI-WALKER PARALLEL TRANSPORT ACCORDING TO QUASI FRAME IN THREE DIMENSIONAL MINKOWSKI SPACE**
 Gurbuz N., Yoon D. W.
 JOURNAL OF GEOMETRY AND SYMMETRY IN PHYSICS, vol.54, pp.1-12, 2019 (ESCI)
- VII. **Total anholonomies with Bishop 2-type frame in R_{13}**
 GÜRBÜZ Ş. N.
 Nonlinear Analysis and Differential Equations, vol.7, no.1, pp.115-124, 2019 (Peer-Reviewed Journal)
- VIII. **Bishop 2-type frame for non-null curves**
 GÜRBÜZ Ş. N.
 International Mathematical Forum, vol.12, no.18, pp.879-889, 2017 (Peer-Reviewed Journal)
- IX. **Inextensible curve flows according to Bishop 2 type frame in Minkowski 3 space**
 GÜRBÜZ Ş. N.
 International Mathematical Forum, vol.11, no.24, pp.1167-1174, 2016 (Peer-Reviewed Journal)
- X. **Intrinsic geometry of the nonlinear heat equation for spacelike curves with timelike normal according to Bishop 2-type frame in Minkowski 3-space**

GÜRBÜZ Ş. N., Işık E.

International Mathematical Forum, vol.11, pp.1109-1115, 2016 (Peer-Reviewed Journal)

- XI. **Inextensible flows of curves in the equiform geometry of the double isotropic space $D3_2$**
GÖRGÜLÜ A., GÜRBÜZ Ş. N.
New trends in Mathematical Sciences, vol.3, no.4, pp.247-252, 2015 (Peer-Reviewed Journal)
- XII. **The Geometry of vortex filaments for MHD in Minkowski 3-space**
GÜRBÜZ Ş. N.
International Journal of pure and applied Mathematics, vol.91, pp.219-229, 2014 (Peer-Reviewed Journal)
- XIII. **r-normal elastic on non-null surface in Minkowski 3-space**
GÜRBÜZ Ş. N.
International Journal of current research, vol.5, no.11, 2013 (Peer-Reviewed Journal)
- XIV. **The model particle with torsion for 4 dimensional null Cartan curves**
GÜRBÜZ Ş. N.
Life Science Journal, 2013 (Peer-Reviewed Journal)
- XV. **Intrinsic formulation for elastic line deformed on a surface by external field in the pseudo-Galilean space G^3_1**
GÜRBÜZ Ş. N.
Life Science Journal, vol.10, no.4, pp.1348, 2013 (Peer-Reviewed Journal)
- XVI. **Inextensible flows of non-null curves on an pseudo-Euclidean hypersurface in pseudo-Euclidean space R^n_1**
GÜRBÜZ Ş. N.
Life Science journal, vol.10, no.4, pp.1084, 2013 (Peer-Reviewed Journal)
- XVII. **Lightlike Geometry of vortex filaments**
GÜRBÜZ Ş. N., GÖRGÜLÜ A.
International Journal of Pure and Applied Sciences and Technology, vol.3, no.2, pp.80-87, 2011 (Peer-Reviewed Journal)
- XVIII. **Intrinsic geometry of the NLS equation and heat system in 3 dimensional Minkowski space**
GÜRBÜZ Ş. N.
Adv. Studies Thoer. Phys, vol.4, no.11, pp.557-564, 2010 (Peer-Reviewed Journal)
- XIX. **Particle with torsion in the Minkowski space E^3_1**
GÜRBÜZ Ş. N.
Adv. Studies Theor.Phys., vol.4, no.3, pp.101, 2010 (Peer-Reviewed Journal)
- XX. **The motion of timelike surfaces in timelike geodesic coordinates**
GÜRBÜZ Ş. N.
Int. J. Math. Anal, vol.4, no.7, pp.349-356, 2010 (Peer-Reviewed Journal)
- XXI. **The differential formula for the first derivative of unit timelike split quaternion curve in the semi-Euclidean space E^4_2**
GÜRBÜZ Ş. N.
Int.J. Contemp. Math. Sciences, vol.4, no.29, pp.1435-1440, 2009 (Peer-Reviewed Journal)
- XXII. **Inextensible flows of spacelike timelike and null curves**
GÜRBÜZ Ş. N.
Int. J. Contemp. Math. Sciences, vol.4, no.32, pp.1599-1604, 2009 (Peer-Reviewed Journal)
- XXIII. **Bending fluctuations of an elastic line on a curved surface in R^3_1**
GÜRBÜZ Ş. N.
Mathematical Proceedings of the Royal Irish Academy, vol.107, no.1, pp.15-29, 2007 (Peer-Reviewed Journal)
- XXIV. **Backlund transformations of constant torsion curves in R^n_1**
GÜRBÜZ Ş. N.
Hadronic Journal, vol.29, pp.213-220, 2006 (Peer-Reviewed Journal)
- XXV. **The differential formula of Hasimoto transformation in Minkowski 3-space**
GÜRBÜZ Ş. N.
International Journal of Mathematics and Mathematical Sciences, vol.16, pp.2609-2616, 2005 (Scopus)

- XXVI. **On a variation problem in Minkowski space**
GÜRBÜZ Ş. N.
Hadronic Journal, vol.27, pp.445-458, 2004 (Peer-Reviewed Journal)
- XXVII. **Intrinsic equations for a relaxed elastic line on an oriented surface in the Minkowski space R^3_1**
GÜRBÜZ Ş. N., GÖRGÜLÜ A.
Hadronic Journal, vol.23, pp.143-163, 2000 (Peer-Reviewed Journal)
- XXVIII. **Intrinsic equations for a relaxed elastic line on an oriented hypersurface in the Minkowski space R^n_1**
GÜRBÜZ Ş. N., GÖRGÜLÜ A.
Turkish Journal of Math, vol.24, pp.283-294, 2000 (Peer-Reviewed Journal)

Papers Published in Refereed Scientific Meetings

- I. **Hasimoto surfaces for two classes of curve evolution according to Frenet frame in Minkowski 3-space**
Gürbüz Ş. N.
5. International conference on computational and experimental Science and Engineering, Antalya, Turkey, 12 - 16 October 2018, pp.1-5
- II. **Motion of curves according to Bishop 2 type frame in Euclidean 3 space**
GÜRBÜZ Ş. N.
The fourteenth International conference on mathematics and its applications, 5 - 07 November 2015, vol.10
- III. **Elastic line is exposed to static force field for null Cartan curves**
Gürbüz Ş. N.
The Fourteenth International conference on Mathematics and its Applications Politehnica University of Timișoara, Timisoara, Romania, 5 - 07 November 2015, vol.10, pp.1-2

Supported Projects

GÜRBÜZ Ş. N., Project Supported by Higher Education Institutions, Minkowski Uzayında Null ve Null Olmayan Eğriler İçin Geometrik Faz ve Hasimoto Yüzeyleri, 2017 - 2019

Peer Reviews in Scientific Publications

JOURNAL OF TAIBAH UNIVERSITY FOR SCIENCE, Journal Indexed in SCI-E, August 2021
AIMS MATHEMATICS, Journal Indexed in SCI-E, March 2021
APPLIED MATHEMATICS AND COMPUTATION, SCI Journal, January 2021
MEDITERRANEAN JOURNAL OF MATHEMATICS, Journal Indexed in SCI-E, April 2018
INTERNATIONAL JOURNAL OF GEOMETRIC METHODS IN MODERN PHYSICS, Journal Indexed in SCI-E, February 2018
Nonlinear Engineering-Modeling and Application, Journal Indexed in ESCI, August 2017
MEDITERRANEAN JOURNAL OF MATHEMATICS, Journal Indexed in SCI-E, July 2017
INTERNATIONAL JOURNAL OF GEOMETRIC METHODS IN MODERN PHYSICS, Journal Indexed in SCI-E, July 2017
Sahand Communications in Mathematical Analysis, Journal Indexed in ESCI, February 2016
INTERNATIONAL JOURNAL OF GEOMETRIC METHODS IN MODERN PHYSICS, Journal Indexed in SCI-E, January 2016

Metrics

Publication: 64

Citation (WoS): 276

Citation (Scopus): 324

H-Index (WoS): 10

H-Index (Scopus): 11

Congress and Symposium Activities

Conference en hommage a Ahmad el Soufi, Audience, Tours, France, 2017

International Conference on surface theory in 3-manifolds , Audience, Sevilla, Spain, 2011

Scholarships

Yök Öğretim Üyesi araştırma bursu, YOK, 2011 - 2011