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1. Name and Surname : Hakan ŞİMŞEK

Contact Informations

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2. Academic Degree : PhD

3. Education :

Degree	University	Department	Year
Licence	Akdeniz University	Mathematics	2004-2008
Master	Akdeniz University	Mathematics -Topology	2008-2010
Doctorate	Akdeniz University	Mathematics -Geometry	2011-2016

4. Thesis

1. ŞİMŞEK H., **On Fuzzy Interior Operators and Fuzzy Closure Operators**, Master's Thesis, Supervisor Prof. Dr. Mustafa Demirci, June 2010.
2. ŞİMŞEK H., **Focal Curves and Focal Surfaces In Finite Dimensional Minkowski Spaces**, Doctorate's Thesis, Supervisor Assoc. Prof. Mustafa Özdemir, April 2016.

5. Research Interests

Curves and Surfaces Theory, Riemann and Finsler Manifolds, Minkowski-Lorentzian Geometry, Singularity Theory, Kinematics Geometry and Quaternions Theory, Clifford's Algebras, Fuzzy Logic, Fuzzy Topology.

6. Publications

6.1. Articles Published in International Journals (Journals in the SCI: Science Citation Index; SSCI: Social Science Citation Index; AHCI: Arts&Humanities Citation Index)

1. ÖZDEMİR M., ERDOĞDU M., ŞİMŞEK H., On the Eigenvalues and Eigenvectors of a Lorentzian Rotation Matrix by Using Split Quaternions. *Adv. Appl. Clifford Algebras*, 24 (2014), 179-192.
2. ÖZDEMİR M., ERDOĞDU M., ŞİMŞEK H., ERGİN A. A., Backlund Transformation for Spacelike Curves in the Minkowski Space-Time, *Kuwait J. Sci*, 41 (2014), 63-80.
3. ŞİMŞEK H., ÖZDEMİR M., The Sub-Parabolic Lines in the Minkowski 3-Space, *Results in Mathematics*, 67 (2015), 417-430.
4. ŞİMŞEK H., ÖZDEMİR M., Similar and Self-Similar Curves in Minkowski n-Space, *Bull. Korean Math. Soc.*, 52 (2015), No. 6, 2071–2093.
5. ŞİMŞEK H., ÖZDEMİR M., Backlund's Theorem for n Dimensional Lorentzian Submanifold in the Minkowski Space E_1^{2n-1} , *Results in Mathematics*, 69 (2016), 201–223.
6. ŞİMŞEK H., ÖZDEMİR M., Generating hyperbolical rotation matrix for a given hyperboloid, *Linear Algebra and Its Applications*, 496 (2016), 221-245.
7. ŞİMŞEK H., ÖZDEMİR M., On Conformal Curves in 2-Dimensional de Sitter Space, *Adv. Appl. Clifford Algebras*, 26 (2016), 757-770.
8. ŞİMŞEK H., ÖZDEMİR M., Rotations on a Lightcone in Minkowski 3-Space, *Adv. Appl. Clifford Algebras*, DOI: 10.1007/s00006-017-0771-5 (2017).
9. ŞİMŞEK H., On Focal Curves of Null Cartan Curves, *Turkish Journal of Mathematics*, (2017) Accepted.
10. ŞİMŞEK H., Similar Null Cartan Curves in the Minkowski n-Space, In Progress 2017.
11. ŞİMŞEK H., Acceleration Focal Surfaces of Null Cartan Curves in Minkowski 3-Space, In Progress, 2017.

6.2. Other Articles Published in International Journals

6.3. Articles Published in National Journals

1. ŞİMŞEK H., ÖZDEMİR M., On Focal Surfaces Formed by Timelike Normal Rectilinear Congruence, *Commun. Fac. Sci. Univ. Ank. Series A1 Math. Stat.*, Vol. 65, Number 2, Pages 55-64 (2016).
2. ŞİMŞEK H., ÖZDEMİR M., Shape Curvatures of Lorentzian Plane Curves, *Commun. Fac. Sci. Univ. Ank. Series A1 Math. Stat.*, Vol. 66, Number 2, Pages 276-288 (2017).

6.4. International Scientific Presentations

1. ŞİMŞEK H., ÖZDEMİR M., The Similarity Invariants of Non-Lightlike Curves in the Minkowski 3-Space, *28th International Conference of The Jangjeon Mathematical Society*, Antalya-TURKEY, May 15-19, 2015.
2. ŞİMŞEK H., ÖZDEMİR M., On Focal Curves Obtained by Null Cartan Curves, *International Conference on Advancement in Mathematical Sciences*, Antalya-TURKEY, November 5-7, 2015.
3. ŞİMŞEK H., ÖZDEMİR M., Rodrigues and Cayley Formulas for Hyperbolic Rotation in 3-Dimensional Space, *International Conference on Advances in Natural and Applied Sciences*, Antalya-TURKEY, April 21-23, 2016.
4. ŞİMŞEK H., ÖZDEMİR M., Getting an Hyperbolic Rotation Matrix by Householder's Method in 3-Dimensional Space, *14. International Geometry Symposium*, Pamukkale, Denizli-TURKEY, May 25-28, 2016.
5. ŞİMŞEK H., Similarity Geometry of 3D-Space Curves, *International Conference on Mathematics and Engineering (ICOME-2017)*, İstanbul-TURKEY, May 10-12, 2017.
6. ŞİMŞEK H., Similarity Geometry of Null Cartan Curves, *6th International Eurasian Conference on Mathematical Sciences and Applications (IECMSA-2017)*, Budapest-HUNGARY, August 15-18, 2017.

6.5. National Scientific Presentations

1. ŞİMŞEK H., ÖZDEMİR M., On Focal Surfaces Which Form Timelike Rectilinear Congruence, *XII. Geometri Sempozyumu*, Bilecik-TÜRKİYE, 23-26 Haziran 2014.
2. ŞİMŞEK H., ÖZDEMİR M., The Geometric Invariants of Null Cartan Curves Under Similarity Transformations, *XIII. Geometri Sempozyumu*, İstanbul-TÜRKİYE, 27-30 Temmuz 2015.
3. ŞİMŞEK H., ÖZDEMİR M., On Conformal Curves in 2-Dimensional de Sitter Space, *28. Ulusal Matematik Sempozyumu*, Antalya-TÜRKİYE, 7-9 Eylül 2015.

7. Other Scientific Activities and Certificates

1. 14th Antalya National Mathematics Olympiad Jury Member, Antalya 2009.
2. The Guidance of Tübitak 43. Secondary Students Research Project Regional Competition, Antalya, March 19-23, 2012.
3. Pedagogical Formation Certificate, Akdeniz University, Faculty of Education, 2014.
4. Idea Development for Research Projects, Project Preparation and Application of Project Management Certificate of Participation, Antalya International University, June 16-18, 2014.

8. Research Project Involvement

1. **Einstein Metrics in Finsler Geometries**, Scholarship, Tübitak 1001 Research Project, Project Number: **113F311**, Principal investigator: Assoc. Prof. Esra Şengelen Sevim (İstanbul Bilgi University), March 2014-September 2016.

9. Teaching Experience

Teaching Assistant (Akdeniz University): Analytical Geometry I-II (2011-2013), Topology I-II (2008-2010).

Teaching Assistant (Antalya Bilim University): Calculus I, II (for Engineering and Architecture) (2014-2016 July).

10. Foreign Language and Level

1. English, YDS 2014 Fall Semester Score: 83.75

11. Computer Skills

1. LaTeX, Maple, MATLAB.

12. References

Prof. Dr. İlham ALİYEV,

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Head of Department of Mathematics
E-mail: jaliev@akdeniz.edu.tr

Assoc. Prof. Mustafa ÖZDEMİR,

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