



Dr. Mahmood Khalid Jasim Al Shammari

Professor

Mathematical and Physical Sciences - Mathematics Section

College of Arts and Sciences

University of Nizwa, Sultanate of Oman

Telephone: (+968)25446398

Extension: 398

eMail: mahmoodkhalid@unizwa.edu.om

Office Location: 11G-21

Time at UoN: Since 2008

Received a Ph.D. in Applied Mathematics (Mathematical Physics), University of Roorkee (IITR), Roorkee, India, 1999, M.Sc in Mathematics from the Indian Institute of Kanpur (IITK), India, 1990, B.Sc. in Mathematics from the University of Baghdad, Baghdad, Iraq, 1982. His research interests are Mathematical Modeling, Mathematical Physics, Differential Equations and its application, and Numerical Analysis.

[Prof- Mahmood UoN CV.pdf](#)

Academic Qualifications

دكتوراة, المعهد الهندي للتكنولوجيا روركي, 1999

Research Activities

- Research Interests

GRG, Tensor Analysis, Differential Equations, Numerical Analysis, ANN and Fuzzy Logic

- Publications

Article:

1. 2024 Physical Properties And Maximum Allowable Mass-Radius Relation of Complexity-Free Compact Stellar Objects Within Modified $F(R, T)$ Gravity Formalism, Chinese Physics C Vol. 48, No. 8 (2024).
2. 2024 Singularity free charged compact stars model under $F(Q)$ gravity theory, Fortschritte der Physik - Progress of Physics (Wiley publication), Vol. 72, pp. 2300229, Scopus, Impact Factor: 3.9, H-index: 68 (Germany)
<https://doi.org/10.1002/prop.202300229>, Feb. (2024).
3. 2023 Complexity-free Vaidya-Tikekar model describing self-bound compact objects by gravitational decoupling, published Physica Scripta journal, IOP publishing (2023) DOI 10.1088/1402-4896/acd442
4. 2023 Complexity-free solution generated by gravitational decoupling for anisotropic self-gravitating star in symmetric teleparallel $f(Q)$ -gravity theory, Published Eur. Phys. J. C (2023) 83:317, <https://doi.org/10.1140/epjc/s10052-023-11447-5> (Springer- Verlag), Impact factor – 4.991, H index – 183 (Germany).
5. 2023 Study of minimally deformed anisotropic solution for compact objects with massive scalar field in Brans-Dicke gravity admitting Karmarkar condition, published Universe Journal, Universe 2023, 9, 208. <https://doi.org/10.3390/universe9050208>, (MDPI, SCIE, Scopus, Impact Factor: 2.813).
6. 2023 Minimally deformed anisotropic solution generated by vanishing complexity factor condition in $f(Q)$ -gravity theory, Published Physica Scripta journal, 1Vol 98, issue 4, Pp 045305, IOP publishing (2023), DOI 10.1088/1402-4896/acbfef
7. 2022 A simple protocol for anisotropic generalization of Finch-Skea model by gravitational decoupling satisfying vanishing complexity factor condition, Published Eur. Phys. J. C (2022) 82:1173 <https://doi.org/10.1140/epjc/s10052-022-11139-6> (Springer-Verlag), Impact factor – 4.991, H index – 183 (Germany).
8. 2022 Study on anisotropic star in extended teleparallel gravity with minimal matter coupling, Chinese Journal of Physics, 77 (2022) 1742–1754, (Elsevier journal, Scopus, Impact No. 3.237), 2022
9. 2021 Anisotropic solution for compact star in 5D Einstein Gauss Bonnet gravity , Modern Physics Letters A VOL. 36, NO. 32, (Word Scientific Publishing Company, SCOPUS, SCI), 2150231, 2021, (Impact Factor: 2.066) [https://DOI: 10.1142/S021773232150231X](https://doi.org/10.1142/S021773232150231X)
10. 2021 Charged strange star model with Tolman V metric potential in the Einstein-

- Maxwell space time, Results in Physics Journal <https://doi.org/10.1016/j.rinp.2020.103648>, 2021. (ISI, Scopus, (Elsevier's Journals), Impact Factor: 4.476)
11. 2021 Isotropic compact stars in 4D Einstein-Gauss-Bonnet gravity, Classical and Quantum Gravity, Volume 38, Number 3 035002, 2021, Published 17 December 2020 (ISI, Scopus, Impact No. 3.487)
12. 2021 [Anisotropic quark stars in R2 gravity](#), Physics letter B Journal, Volume 817, 10 June 2021, 136330, (Elsevier journal, Scopus, Impact No. 4.384)
13. 2021 Wormholes in $f(R, T)$ gravity satisfying the null energy condition with isotropic pressure, Annals of Physics Journal, 433, 2021, 168575.
<https://doi.org/10.1016/j.aop.2021.168575> , (Elsevier journal, Scopus, SCI, Impact No. 2.73)
14. 2021 Anisotropic Strange Star in 5D Einstein-Gauss-Bonnet Gravity, Entropy 2021, 23, 1015 (MDPI, SCIE, Scopus, Impact Factor : 2.524)
15. 2021 [Structural properties of charged compact stars with color-flavour-locked quarks matter](#), MPLA Journal (Word Scientific Publishing Company, SCOPUS, SCI), 2021, (Impact Factor: 2.066)
16. 2020 Analytical model of dark energy stars, MPLA Journal (Word Scientific Publishing Company), Vol. 35 (10), 2050071, 2020, (Impact factor: 2.066).
17. 2020 Cytotoxic and antimicrobial potential of different leaves extracts of *R. fruticosus* used traditionally to treat diabetes, Toxicology Reports (Elsevier's journals), 7 (2020) 183–187, (impact no 4.81).
18. 2020 A generalised embedding class one static solution describing anisotropic fluid sphere, Astrophysics and Space Science (Springer- Verlag), 365 (1) 1-14, 9 January 2020 (Impact Factor: 1.83).
19. 2020 Conformally symmetric traversable wormholes in modified teleparallel gravity, Phys. Rev. D 101 (8), 084012 (2020) (American Physical Society, H Index: 395, United states) Impact Factor: 5.296, (SCI , Scopus)
20. 2020 Conformally symmetric traversable wormholes in $f(R, T)$ gravity, Annals of Physics Journal 422 168295, 2020 (Elsevier journal, Scopus, Impact No. 2.73)
21. 2020 An EGD model in the background of embedding class I space—time, Eur. Phys. J. C (2020) 80 (10) 1-17: 918 (Springer- Verlag), Impact factor – 4.59, H index – 198 (Germany), 2020, 2020 <https://doi.org/10.1140/epjc/s10052-020-08491-w>
22. 2019 Minimally deformed anisotropic model of class one space-time by gravitational decoupling, Eur. Phys. Journal C (EPJC) (2019) 79:851,
<https://doi.org/10.1140/epjc/s10052-019-7377-0> Impact factor – 4.59, H index – 198

(Germany), Nature Indexed

23. 2019 Anisotropic Compact stars in the Buchdahl model: A comprehensive study, PHYSICAL REVIEW D 99, 044029 (2019) (Impact Factor: 5.296, H-index 396, United States, American Physical Society)

24. 2018 [Anisotropic strange stars in Tolman-Kuchowicz spacetime](https://doi.org/10.1140/epjc/s10052-018-6072-x), Eur. Phys. J. C (2018) 78:603, <https://doi.org/10.1140/epjc/s10052-018-6072-x>, (Springer- Verlag), Impact factor: 4.59, H index – 198 (Germany), Nature Indexed

25. 2017 Relativistic anisotropic models for compact star with equation of state $p=f(\rho)$, International Journal of Modern Physics D, Vol.26, 1750002 (22page), 2017. (Impact no. 1.9)

26. 2016 A New Model for Charged Anisotropic Compact Star”, Astrophysics and Space Science Journal, Springer, Vol. 361: 163, 2016. (Impact no. 2.4)

27. 2016 “Well-behaved Anisotropic Compact Star Models in General Relativity”, Astrophysics and Space Science Journal, Springer, Vol. 361: 352, 2016. (Impact no. 2.4)

28. 2015 “Some New Similarity Solutions of Einstein Field Equations for Spherical Symmetric Fluid Spheres Model of Class Two”, Applied Mathematics and Computation Journal, Elsevier, <http://dx.doi.org/10.1016/j.amc.2014.12.075>, (Impact no. 1.6) , Vol. 253, Pp 242-247, 2015

29. 2015 Relativistic Modelling of Stable Anisotropic Super-Dense Star”, Reports on Mathematical Physics Journal Elsevier, Vol. 67, N0.1, Pp. 21-40, 2015. (Impact No. 0.871)

30. 2014 “Two New Exact Solutions for Relativistic Perfect Fluid Spheres through Lake’s Algorithm”, Astrophysics & Space Science Journal, Springer, DOI 10.1007/s10509-014-2172, Dec. 2014. (Impact no. 2.4)

31. 2013 “Regional Strategic Sensors Characterizations”, Journal of Mathematical and Computational Sciences, Vol. 3, No. 2, 401-418, ISSN: 1927-5307, UK, 2013.

32. 2013 14. “Mathematical Modeling of Radon Concentrations in Soil”, Journal of Mathematical and Computational Sciences, Vol. 3, No. 3, 755-763 ISSN: 1927-5307 UK, 2013

33. 2013 13. “Applications of Lie Group Analysis to a Core Group Model for Isentropic Super-dense stars”, Journal of Mathematical and Computational Sciences, Vol. 3, No. 1, 22-31, ISSN: 1927-5307 UK, 2013.

34. 2013 12. “A fuzzy Based Feature Extraction Approach for Handwritten Characters”, IJCSI International Journal of Computer Science Issues, Vol. 10, Issue 4, No 1, ISSN (Print): 1694-0814 | ISSN (Online): 1694-0784, www.IJCSI.org , 2013.

35. 2013 11. "Dynamic Stability of Charged Isentropic Super-dense Star Model", Journal of Mathematical and Computational Sciences, Vol. 3, No. 1, 266-277, ISSN: 1927-5307 UK, 2013.
36. 2013 10. "Invariant Solutions of Einstein Field Equation for Conformally Flat Fluid Spheres of Embedding Class One", International Journal of Theoretical Physics, DOI 10.1007/s10773-013-1708-y, Springer, 2013
37. 2013 9. "A Fuzzy Logic based Handwritten Numeral Recognition System", International Journal of Computer Applications, (ISSN: 0975-8887), Vol. 83 – No. 10, Dec. 2013.
38. 2013 8. "Quasi-Compactness in Quasi-Banach Spaces for ", Journal of Advances in Mathematics, Vol. 4, No 1, Pp 325-341, Council for Innovative Research, India Nov. 2013
39. 2012 17. ``A Plasma Emission Controller for Reactive Magnetron Sputtering of Titanium Dioxide Films``, Advances in Theoretical and Applied Mechanics journal, Vol. 5, no. 1, 1 – 10, 2012
40. 2012 16. ``On Most General Exact Solution of Plasma Sheath Model for a Negatively Biased Probe``, Advance Studies in Theoretical Physics, Vol. 6, No. 9, 447-455, 2012
41. 2011 22. "On Lie's Reduction Theorem through an Application for a Relativistic Radiating Fluid Spheres Model", International Journal of Algorithms, Computing and Mathematics, Vol.4, No.1, Feb. 2011
42. 2011 21. "An Extensive Study of Mathematical Wastewater Flow Model over Slime Layers``, Applied Mathematical Sciences, Vol. 5, no. 80, 3971 – 3979, 2011
43. 2011 20. ``A New Generating Solution of a Relativistic Radiating Fluid Spheres Model``, Applied Mathematical Sciences, Vol. 5, no. 80, 4005 – 4014, 2011
44. 2011 19. ``A non-linear Supervised ANN Algorithm for Face Recognition Model using Delphi Languages``, Contemporary Engineering Sciences Journal, Vol. 4, no. 4, 177 – 186, 2011
45. 2011 18. ``Generalized Exact Solution for a Spherical Symmetric Perfect Fluid Model of Embedding Class Two``, Applied Mathematical Sciences, Vol. 5, no. 16, 763 – 774, 2011
46. 2010 23. ``Similarity Solutions for Relativistic Accelerating Fluid Plates of Embedding Class One Using Symbolic Computation``, Advances in Theoretical Physics Journal, Vol. 4, no. 10, 449 – 466, 2010
47. 2006 24. ``On the Monge's method with its Application to the Conformally Space-time Metric``, Babylon University Journal , Vol. 12, No.3, 2006
48. 2005 On the Stability of Isentropic Fluid Spheres``, Al-Nahrain University Journal, ISSN: 1814-5922, Vol. 8(1), pp 57-59, 2005

49. 2005 25. ``On the Exact Solution of a Space-time Metric Conformal to Mainkoskian Manifold``, Journal of Al-Nahrain University, ISSN:1814-5922, Vol. 8(1), pp 60-62, 2005
50. 2003 27. "On the Most General Accurate Solutions for Buchdal`s fluid Spheres``, Astrophysics and Space Science Journal, Vol. 283, No. 3, Page 337-346, Kluwer Academic Publisher, Netherlands, 2003. (Impact no. 1.96).
51. 2001 33. ``On the Most General Exact Solutions for Buchdal`s Spheres``, Tata McGrawl-Hill, www.tatamcgrawhill.com, 2001.
52. 2000 28. ``On Most General Exact Solution for Vaidya-Tikekar Isentropic Super-dense Star``, Astrophysics and Space Science Journal, Vol. 272, 403-415, Kluwer Academic Publisher, Netherlands, 2000. (Impact no. 1.96)
53. 1998 34. ``On Perfect Fluid Distribution of Embedding Class One with Non-vanishing Curvature Tensor``, Progress of Mathematics journal, Vol. 32, No.2 Pp. 63-74, 1998

[Prof- Mahmood UoN CV.pdf](#)

Ref.: <https://www.unizwa.edu.om/staff/cas/mahmoodkhalid>