Curriculum Vitae

Sep 5, 2023, Cairo

Personal Data

Name:	*Elbaz*
Surname:	*Abouelmagd*
Scientific Name:	*Elbaz I. Abouelmagd*
Full Name:	*Elbaz Ibrahim Mohammed Abouelmagd*
Nationality:	*Egyptian*
Date of Birth:	*06/05/1973*
Place of Birth:	*Egypt*
Gende:	*Male*
Marital Status:	*Married*
Home Address:	*Building 2036 – Zahraa Nasr City 11528 – Nasr City – Cairo – Egypt*
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E-mail:	*eabouelmagd@gmail.com* *elbaz.abouelmagd@nriag.sci.eg*
Languages:	*Arabic (Mother Tongue)* *English (Fluent reading, Speaking and Writing)*

Web Scie QR

Orcid ID QR

Scientific IDs

Scientific Name of Publications:		*Elbaz I. Abouelmagd*
Researches ID	**Scopus ID:**	*55208141600*
	Web of Science Researcher ID:	*I-1780-2012*
	Orcid ID:	*0000-0002-2800-4527*
	MR Author ID:	*1045841*
	SciProfiles:	832611
	ISNI ID:	*0000000501800664*

No. of published chapter of books		*Two Chapters*
Scopus	*Scopus Papers:*	*77*
	Scopus H-Index:	*30*
	Scopus Citation:	*1530*
Clarivate Web of Science™	*Clarivate Papers*	*77*
	Clarivate H-Index:	*30*
	Clarivate Citation:	*1525*
Google Scholar Link: Elbaz I. Abouelmagd - Google Scholar	*Google Sch H-Index:*	*32*
	Google Sch Citation:	*1987*
iD https://orcid.org/ 0000-0002-2800-4527 Preview public record	*Elbaz I. Abouelmagd (0000-0002-2800-4527) - My ORCID*	
No.of Publications in indexed journals	*77*	
No.of indexed publications in last 5 year	*55*	
No. of publications in Q1 journals in last 5 years	*16*	

No. of publications in Q2 journals in last 5 years	*16*
No. of publications in Q3 journals in last 5 years	*5*
No. of publications in Q4 journals in last 5 years	*11*

Specialist	***Applied Mathematics***

Affiliation:	*National Research Institute of Astronomy and Geophysics (NRIAG) Helwan 11421 – Cairo – Egypt.*
Org. web:	*http://www.nriag.sci.eg/*
URL	*Elbaz I. Abouelmagd - NRIAG*
Degree:	*Associate Professoer*
Position:	*Head of Stellar Astronomy Laboratory*

Educational Qualifications

2005 – 2010 : Ph.D. In Applied Mathematics, Ain Shams University.

2001 – 2005 : M.Sc. In Applied Mathematics, Ain Shams University.

2001 – 2002 : Aerospace Diploma, Astronomy Depart, Cairo University.

1992 – 1996 : B.Sc. Mathematics Department, El-Mansoura University.

PhD. Title

Semi–analytical solution for the perturbed

N–body problem under mutual gravitational force with numerical applications

MSc. Title

The effect of oblateness of the massive primary

on the stability of Lagrangian points in the restricted three body problem

Experience

- **Oct / 2023 – Up to Date**
  Full Professor in Astronomy Department
  National Research Institute of Astronomy and Geophysics (NRIG)
  Helwan 11421 – Cairo – Egypt.

- **Sep / 2020 – at Up to Date**
  Head of Stellar Astronomy Laboratory

- **Aug / 2015 – Sep / 2023**
  Associate Professor in Astronomy Department
  National Research Institute of Astronomy and Geophysics (NRIG)
  Helwan 11421 – Cairo – Egypt.

- **Sept / 2010 – Aug / 2015**
  Assistant Professor in Mathematics Department – Faculty of Science – King Abdulaziz University – Jeddah, Kingdom of Saudi Arabia.

- **Sept / 2007 – Aug / 2009**
  Lecturer in the Higher Institute of Electronics – Libya.

- **Sept / 2005 – Aug / 2007**
  Lecturer in Mathematics Department – Teachers College – 7th October University – Libya.

Innovation

- *Published more than 80 papers in the fields of Mathematics, Astronomy, Space Sciences, Physics and Space Engenerring in international classified journals*

- *My name was included in the list of the best in the world according to the American Stanford University study in 2021. A study by the American Stanford University launched a list of the names of the best 2% of the world's scientists, and their number is approximately 100 thousand scientists from 149 countries. The results of the study are based on the Scopus Database of the international publishing house Elsevier, and its results were published in the journal PLOS Biology recently, which included 22 major scientific fields and 176 sub-fields.*

Awards

- *Award Professor Mahmoud Khairy in Mathematical Astronomy, Academy of Scientific Research & Technology, 2023*
- *National Research Institute of Astronomy and Geophysics Award of Distinguished in Scientific Abundance, 2022*
- *National Research Institute of Astronomy and Geophysics Award of Distinguished in Scientific Abundance, 2021*
- *Best research award for the year 2021 from Space Science and Astronomy of Scientific Society*
- *National Research Institute of Astronomy and Geophysics Award of Distinguished in Scientific Abundance, 2020*
- *National Research Institute of Astronomy and Geophysics Award of Scientific Abundance, 2019*
- *National Research Institute of Astronomy and Geophysics Award of Scientific Abundance, 2018*

Scholarship Hosted

Mr. Kushekbay Abylay is a PhD student (second year) at Al-Farabi Kazakh National University, Kazakh, three months from February 18, 2020 - May 17, 2020.

Societies and Unions Membership

- *Individual membership of International Astronomical Union (IAU) – Vienna. https://www.iau.org/administration/membership/individual/17668/*
- *Member and Secretary of National Committee in COSPAR (Dec 12, 2018 - Dec 16, 2021) https://cosparhq.cnes.fr/about/members/international-scientific-unions/*
- *Member of the American Mathematical Society – USA*
- *Member of Space Science and Astronomy of Scientific Society – Egypt*

- *Member of Egyptian Mathematical Society – Egypt*

Committees Membership

- *A member of International Advisory Committee of Center of fundamental research in celestial mechanics and space dynamics (CFRSC) – India.*
- *National Committee of Astronomy and Space Sciences – Academy of Scientific Research & Technology (Dec 12, 2018 - Dec 16, 2021)– Egypt*
- *Specialized Scientific Council of Space and Remote Sensing – Academy of Scientific Research & Technology (Jun 11, 2018 – Up to Date) – Egypt*
- *Chairman of NRIAG Classification Committee (Scimago Committee) (Sep 3, 2021 – Up to Date) – Egypt*
- *Intellectual Property Controls Committee and Scientific Research Ethical Charter (Nov 11, 2018 – Up to Date) – Egypt*
- *A member of Publication Committee (Nov 14, 2019 – Up to Date) – Egypt*
- *Chairman of the Scientific Activity: Follow-Up Committee of the Astronomy Department, National Research Institute of Astronomy and Geophysics (NRIAG). (2016 – up to now)*
- *A member of the establishment committee of the Faculty of Science and arts (Khulais), Jeddah University (2013).*
- *Member of the General Committee of Sports Activity King Abdulaziz University (2010 – 2013).*
- *Chairman of the Committee schedules in Mathematics Department, Faculty of Science and arts (Khulais), King Abdulaziz University (2010 – 2015).*

- *A member of the Quality Committee in Mathematics Department, Faculty of Science and arts (Khulais). King Abdulaziz University (2010 – 2015).*

- *A member of the Curriculum Development Committee in Mathematics Department, Faculty of Science and arts (Khulais). King Abdulaziz University (2010 – 2015).*

- *A Member of the Academic Advising Committee in Mathematics Department, Faculty of Science and arts (Khulais), King Abdulaziz University (2010 – 2015).*

- *6 - Pioneer Committee of the Sports Activity in the Faculty of Science and Arts (Khulais), King Abdulaziz University (2010 – 2015).*

International Scientific Committees of Conferences

- *A member of Organization Committee of The fourth ArAs School for Astrophysics, Oct. 19 - 26, 2019, Kottamia Astronomical Observatory, Cairo – Egypt*
  http://awsa.ar-as.org/sfa4/committees.html

- *A member of International Scientific Committee of An International Conference on Physics, Society and Technology (ICPST), Jan 17-19, 2019, in University of Delhi, Delhi – India*
  http://www.icpst2019.com/

- *A member of International Scientific Committee of An International Conference on Nonlinear Dynamics and Complexity, May 11 - 15, 2015, La Manga – Spain. http://ndc.lhscientificpublishing.com/*

Journals Editor

- *Editor of Open Physics: Cosmology and Gravitation Section, from: May 11, 2021 – up to Date*
  Open Physics (degruyter.com)

- *Editor Board of Applied mathematics & Nonlinear science (2016 – up to Date)*

http://journals.up4sciences.org/applied_mathematics_and_nonlinear_sciences.html

Editors of special issues

- *Guest Editor:Special Issue on Dynamical Systems and Their Applications to Engineering, Economy and Health Sciences for Fractals (2022)* Fractals | Vol 30, No 02 (worldscientific.com)
- *Lead Guest Editor: Recent Trends in Celestial Mechanics, for Advances in Astronomy (2020)* *https://www.hindawi.com/journals/aa/si/628674/*

Potential Referee of PHD & M.Sc theses

- **Institute:** Department of Mathematics, School of Mathematics, Statistics and Computational Science, Central University of Rajasthan, India

Name of the Candidate: Saleem Yousuf
Title of the Thesis: A study of stability analysis in restricted three – body problem with Perturbations.

Date: Sep 10, 2022

Workshops

- International Workshop on Celestial Mechanics and Dynamical Astronomy (IWCMDA-2023)", Central University of Rajasthan, Jan. 6 – 8, 2023, deliver online talk on "Relative Motion"
- Role of space science and technology and remote sensing in climate changes, at Academy of Scientific Research & Technology, Aug 3, 2022
- Priorities of support the capabilities of Egyptian economy in the face of crises (from the Corona crisis to the Russian-Ukrainian war) at Academy of Scientific Research & Technology, Jul 27, 2022

Lectures

- Second Advanced Arab School for Astrophysics, Kottamia Astronomical Observatory, Egypt, Oct 22 -27, 2022.
  Title: Celestial Mechanics and Space Colonization

Research Interest

Main research interests are studying the behavior of the dynamical system, which describe the physical phenomena. In particular, the mathematical systems that are concerned with the problems of astronomical systems, celestial mechanics and space dynamics. More precisely, my research is oriented to study the motion of infinitesimal bodies under the effect of various perturbing forces and analyze the stability of motion. I am using perturbation methods to find the periodic solutions. Furthermore, the numerical techniques can be used to evaluate the possible solutions. In Mathematics, Mathematical Physics, Space Science, Celestial Mechanics and Space Dynamics fields: I have published more than 80 international papers, all of them are in Impacted International Journal, indexed in Scopus and Web of Science. Also, I have reviewed hundreds of papers for many International and high potential Journals in the aforementioned fields. I have also participated in many international scientific projects, some of them have been completed and the others are still under development.

Journal Papers

Some Publications

1. ***Alhowaity S., Selim H. H., Gao F., Pathak N. M., Abouelmagd E. I., New approach to regularize the perturbed two–body problem. Applied Mathematics and Nonlinear Sciences (2023) Accepted***

2. ***Doshi M. J., Pathak N. M. , Abouelmagd E. I., Periodic orbits of the perturbed relative motion. Advances in Space Research. (2023) 72 (6) 2020–2038***

3. ***Sheth D., Pathak N. M., Thomas V. O., Abouelmagd E. I., Periodic orbits analysis of elliptical Sun–Saturn system. Astronomy Reports. (2023) 67 (5): 520–535***

4. ***Ershkov S., Leshchenko D., Prosviryakov E. Y., Abouelmagd E. I., Finite-Sized Orbiter's Motion around the Natural Moons of Planets with Slow-***

Variable Eccentricity of Their Orbit in ER3BP. Mathematics. (2023) 11 (14): 3147.

5. *Doshi M .J., Pathak N. M., Abouelmagd E .I. Single Variable Regression Model with Error Analysis for Evolution of Periodic Orbit in Formation Satellite. In Mathematical Modeling, Computational Intelligence Techniques and Renewable Energy: Proceedings of the Third International Conference, MMCITRE 2022, pp. 275-286. Singapore: Springer Nature Singapore, (2023)*

6. *Patel B. M. , Pathak N. M., Abouelmagd E. I. Analysis of Third-Order Resonant Periodic Orbits in Perturbed Circular Restricted Three-Body Problem. Mathematical Modeling, Computational Intelligence Techniques and Renewable Energy: Proceedings of the Third International Conference, MMCITRE 2022, pp. 77-89. Singapore: Springer Nature Singapore, (2023)*

7. *Patel B. M. , Pathak N. M., Abouelmagd E. I. Analysis of Resonant Periodic Orbits in the Framework of the Perturbed Restricted Three Bodies Problem. Universe. (2023) 9 (5): 239*

8. *Abouelmagd E. I. , Guirao J. L. G. , Llibre J. On the Periodic Orbits of the Perturbed Two-and Three-Body Problems. Galaxies. (2023) 11(2): 58*

9. *Abouelmagd E. I. , Guirao J. L. G. , Llibre J. Periodic Orbits of Quantised Restricted Three-Body Problem. Universe (2023) (9): 149*

10. *Sheth D., Pathak N. M., Thomas V. O., Abouelmagd E. I., Analysis of Exterior Resonant Periodic orbits in the Photogravitational ERTBP. Archive of Applied Mechanics (2023) (93): 2079 - 2112*

11. *Ershkov S., Abouelmagd E. I., Rachinskaya A., Perturbation of relativistic effect in the dynamics of test particle. J. Math. Anal. Appl. (2023) 524 (1): 127067*

12. *Alhowaity S., Abouelmagd E. I. , Diab Z., Guirao J. L., Calculating periodic orbits of Hénon-Heiles system. Front. Astron. Space Sci. (2023) 9: 945236*

13. *Miaa R., Prasadua P. R. , Abouelmagd E. I., Analysis of stability of non-collinear equilibrium points: Application to Sun–Mars and Proxima Centauri systems. Acta Astronautica (2023) 104: 199 – 206*

14. ***Doshi M. J., Pathak N. M., Abouelmagd E. I., Multivariate Regression Analysis and Error Estimation in Formation Satellite. Astronomy Reports (2022) 66 (7): 616 – 628***

15. ***Patel B. M., Pathak N. M., Abouelmagd E. I., Stability analysis of first order resonant periodic orbit. Icarus (2022) 378: 115165***

16. ***Ansari A. A. , Alhowaity S. , Abouelmagd E. I., Sahdev S. K., Analysis of Equilibrium Points in Quantized Hill System. Mathematics (2022) 10(13): 2186***

17. ***Patel B. M., Pathak N. M., Abouelmagd E. I., Nonlinear regression multivariate model for first order resonant periodic orbits and error analysis. Planetary and Space Science (2022) 219: 105516***

18. ***BairwaL. K., Ashok Kumar Pal A. K., Reena Kumari R., Alhowaity S., Abouelmagd E. I., Study of Lagrange Points in the Earth–Moon System with Continuation Fractional Potential. Fractional Potential. Fractal Fract. (2022) 6(6): 321***

19. ***Rashid S., Abouelmagd E. I. , Sultana S. , Chu Y-M., New Developments in Weighted n–Fold Type Inequalities via Discrete Generalized $\widehat{\hbar}$ –Proportional Fractional Operators. Fractals (2022) 30 (2):2240056***

20. ***Rashid S., Abouelmagd E. I. , Aasma Khalid A , Farooq F. B., Chu Y-M., Some Recent Developments on Dynamical ħ–Discrete Fractional Type Inequalities in the Frame of Nonsingular and Nonlocal Kernels. Fractals (2022) 30 (2): 2240110***

21. ***Guirao, J.L.G., Abouelmagd, E.I., Wade, B.A. PREFACE: Special Issue on Dynamical Systems and Their Applications to Engineering, Economy and Health Sciences. Fractals (2022) 30 (2): 2202002***

22. ***Abouelmagd E. I. , Alhowaity S., Diab Z., Guirao J. L., Shehata M. H. On the Periodic Solutions for the Perturbed Spatial Quantized Hill Problem. Mathematics (2022) 10 (4): 614***

23. ***Abouelmagd E. I., Ansari A. A., Dynamical properties of body with variable mass in a fifth–degree Hénon–Heiles system. Astronomy Reports (2022) 66 (1): 64–74***

24. ***Mahato G., Pal A. K,, Alhowaity S., Abouelmagd E. I., Kushvah B. S. Effect of the Planetesimal Belt on the Dynamics of the Restricted Problem of 2+ 2 Bodies. Applied Sciences. (2022) 12 (1): 424***

25. ***Abouelmagd E. I., Selim H. H., Minglibayev M. Zh., Kushekbay A. K.,*** *A new model emerged from the three–body problem within frame of variable mass.* ***Astronomy Reports (2021) 65 (11): 1169 – 1177***

26. ***Abouelmagd E. I., Mia R., AE Perdiou A. E.,*** *Lie series solution of the bicircular problem*. ***Results in Physics (2021) 31: 104848.***

27. ***Abouelmagd E. I., Pal A. K., Guirao J. L. G.,*** *Analysis of nominal halo orbits in the Sun–Earth system*. ***Archive of Applied Mechanics. (2021) 91 (12): 4751–4763***

28. ***Kumari R., Pal A. K., Abouelmagd E. I., Alhowaity S.*** *Approximation Solution of the Nonlinear Circular Sitnikov Restricted Four–Body Problem*. ***Symmetry. (2021) 13 (10): 1966***

29. ***Ershkov S., Abouelmagd E.I. & Rachinskaya A.,*** *A novel type of ER3BP introduced for hierarchical configuration with variable angular momentum of secondary planet*. ***Archive of Applied Mechanics (2021) 91 (11): 4599–4607 (2021).***

30. ***Sheth D., Thomas V. O., Abouelmagd E. I., Srivastava V. K.,*** *Fifth order solution of Halo Orbits via Lindstedt–Poincaré technique and Differential Correction Method*. ***New Astronomy (2021) 87: 1015855.***

31. ***Ansari A. A., Abouelmagd E. I.,*** *Variable mass motion in the Hénon–Heiles system*. ***Modern Physics Letters A (2021) 36 (21): 2150150.***

32. ***Pal A. K., Abouelmagd E. I.,*** *Dynamical Substitutes and Energy Surfaces in the Bicircular Sun–Earth–Moon System*. ***Astronomy Letters (2021) 47 (5) 331–344.***

33. ***Abouelmagd E. I., Kalantonis V. S. and Perdiou A. E.*** *A Quantized Hill's Dynamical System*. ***Advances in Astronomy (2021) 2021: 9963761.***

34. ***Ershkov S., Leshchenko D., Abouelmagd E. I.*** *About influence of differential rotation in convection zone of gaseous or fluid giant Planet (Uranus) onto the parameters of orbits of satellites.* ***The European Physical Journal Plus (2021) 136 (4): 387.***

35. ***Pal A. K., Abouelmagd E. I., Guirao J. L. G., Brzezinski D. W.*** *Periodic Solutions of Nonlinear Relative Motion Satellites.* ***Symmetry. (2021) 13 (4): 595.***

36. ***Pal A. K., Abouelmagd E. I., Kishor R.*** *Effect of Moon perturbation on the energy curves and equilibrium points in the Sun–Earth–Moon system.* ***New Astronomy (2021) 84: 101505.***

37. ***Patel B. M., Pathak N. M., Abouelmagd E. I.*** *First order resonant in periodic orbits.* ***International Journal of Geometric Methods in Modern Physics (2021) 18 (1): 2150011.***

38. ***Abouelmagd E. I., Ansari A. A., Shehata M. H.*** *On Robe's restricted problem with a modified Newtonian potential.* ***International Journal of Geometric Methods in Modern Physics (2021) 18 (1): 2150005.***

39. ***Abouelmagd E. I., Doshi M. J. , Pathak N. M.*** *Evolution of Periodic Orbits within the Frame of Formation Satellites.* ***Advances in Astronomy (2020) 2020: 1348319.***

40. ***Abouelmagd E. I., Ansari A. A., Shahbaz Ullah M, Guirao J. L. G.*** *A planar five-body problem in a frame work of heterogeneous and mass variation effects.* ***The Astronomical Journal. (2020) 160: 216 (9pp).***

41. ***Ansari A A, Abouelmagd E. I.,*** *Gravitational potential formulae between two bodies with finite dimensions.* ***Astron. Nachr. / AN. (2020) 341 (6-7): 656–668.***

42. ***Zotos E. E., Abouelmagd E. I., Abd El Motelp N. S.*** *Introducing a new version of the restricted three-body problem with a continuation fraction potential.* ***New Astronomy. (2020) 81:101444.***

43. ***Abouelmagd E. I., Guirao J. L. G., Llibre J.*** *The dynamics of the relativistic Kepler problem.* ***Results in Physics. (2020) 19:103406.***

44. ***Mostafa A., El-Saftawy M. I., Abouelmagd E. I., López M. A.*** *Controlling the Perturbations of Solar Radiation Pressure on the Lorentz Spacecraft.* ***Symmetry. (2020) 12(9):1423.***

45. ***Abozaid A. A., Selim H. H., Gadallah K. A. K., Hassan I. A., Abouelmagd E. I.*** *Periodic orbit in the frame work of restricted three bodies under the asteroids belt effect.* *Applied Mathematics and Nonlinear Sciences* ***(2020) 5(2): 157-176.***

46. **Alshaery A. A., Abouelmagd E. I.** Analysis of the spatial quantized three–body problem. **Results in Physics (2020) 17: 103067.**

47. **Zotos E. E., Chen W., Abouelmagd E I, Han H.** Basins of convergence of equilibrium points in the restricted three-body problem with modified gravitational potential. **Chaos, Solitons & Fractals (2020) 134: 109704.**

48. **Abouelmagd E. I., Guirao J. L. G., Pal A . K.** Periodic solution of the nonlinear Sitnikov restricted three-body problem. **New Astronomy (2020) 75: 101319.**

49. **Pathak N., Abouelmagd E. I.** Higher Ordered Resonant Periodic Orbits in Perturbed Sun-Mars System. **Research & Reviews: Journal of Physics (2019) 8 (2): 130-136.**

50. **Pathak N., Abouelmagd E. I., Thomas V. O.** On higher order of resonant periodic orbits in the photogravitational restricted three body problem. **The Journal of the Astronautical Sciences (2019) 66 (4), 475 –505.**

51. **Abouelmagd E. I., Ansari A. A.** The motion properties of the infinitesimal body in the framework of bicircular Sun perturbed Earth-Moon system. **New Astronomy (2019) 73: 101282.**

52. **Suraj M. S., Abouelmagd E. I., Aggarwal R., Mittal A.** The analysis of restricted five–body problem within frame of variable mass. **New Astronomy (2019) 70: 12 – 21.**

53. **Abouelmagd E. I., Guirao J. L.G., Llibre J.** Periodic orbits for the perturbed planar circular restricted 3-body problem. **Discrete and Continuous Dynamical Systems - Series B (DCDS-B) (2019) 24 (3) 1007 – 1020.**

54. **Pathak N., Thomas V. O., Abouelmagd E. I.** The perturbed photogravitational restricted three-body problem: Analysis of resonant periodic orbits. **Discrete and Continuous Dynamical Systems - Series S (DCDS-S) (2019) 12 (4&5), 849 – 875.**

55. **Selim H. H., Guirao J. L.G., Abouelmagd E I.** Libration points in the restricted three-body problem: Euler angles, existence and stability. **Discrete and Continuous Dynamical Systems - Series S (DCDS-S) (2019) 12 (4&5): 703 – 710.**

56. **Abouelmagd E. I.** Periodic solution of the two-body problem by KB averaging method within frame of the modified Newtonian potential. **The Journal of the Astronautical Sciences (2018) 65 (3): 291 – 306.**

57. **Abouelmagd E. I., Jaume Llibre, Guirao J. L.G. Periodic orbits of the planar anisotropic Kepler problem. International Journal of Bifurcation and Chaos (2017) 27 (3): 1750039.**

58. **Alzahrani F., Abouelmagd E. I., Guirao J. L.G., Hobiny A.** On the libration collinear points in the restricted three–body problem. **Open Physics (2017) 15 (3): 58 – 67.**

59. **Elshaboury S. M., Abouelmagd E. I., Kalantonis V.S., Perdios E. A.** The planar restricted three-body problem when both primaries are triaxial rigid bodies: Equilibrium points and periodic orbits. **Astrophysics Space Science (2016) 361 (9): 315.**

60. **Abouelmagd E. I., Guirao J. L. G.** On the perturbed restricted three-body problem. **Applied Mathematics and Nonlinear Sciences (2016) 1 (1): 118 – 139.**

61. **Abouelmagd E. I., Elshaboury S. M., Selim H. H.** Numerical integration of a relativistic two-body problem via a multiple scales method. **Astrophysics Space Science (2016) 361 (1): 38.**

62. **Abouelmagd E. I., Alzahrani F., Guiro J. L. G., Hobiny A.** Periodic orbits around the collinear libration points. **J. Nonlinear Sci. Appl. (JNSA). (2016) 9 (4): 1716 – 1727.**

63. **Abouelmagd E. I., Mortari D., Selim H.** Analytical study of periodic solutions on perturbed equatorial two-body problem. **International Journal of Bifurcation and Chaos. (2015) 25 (14): 1540040.**

64. **Abouelmagd E. I., Mostafa A., Guiro J. L. G.** A first order automated Lie transform. **International Journal of Bifurcation and Chaos. (2015) 25 (14): 1540026.**

65. **Abouelmagd E. I., Guirao J. L. G., Hobiny A., Alzahrani F.** Dynamics of a tethered satellite with variable mass. **Discrete and Continuous Dynamical Systems -Series S (DCDS-S) (2015) 8 (6): 1035 – 1045.**

66. **Abouelmagd E. I., Alzahrani F., Guirao J. L. G., Hobiny A.** Stability of equilibria points for a dumbbell satellite when the central body is oblate

spheroid. ***Discrete and Continuous Dynamical Systems- Series S (DCDS-S) (2015) 8 (6): 1047 – 1054.***

67. Abouelmagd E. I., Mostafa A. *Out of plane equilibrium points locations and the forbidden movement regions in the restricted three-body problem with variable mass*. ***Astrophysics Space Science (2015) 357 (1): 58.***

68. Abouelmagd E. I., Alhothuali M. S., Guirao J. L. G., Malaikah H. M. *On the periodic structure in the planar photogravitational Hill problem*. ***Applied Mathematics & Information Science. (2015) 9 (5): 2409 – 2416.***

69. Abouelmagd E. I., Alhothuali M. S., Guirao Juan L. G., Malaikah H. M. *The effect of zonal harmonic coefficients in the framework of the restricted three-body problem*. ***Advances in Space Research (2015) 55 (6): 1660 – 1672.***

70. Zhu Z., Zhu Y., Zhang L., Al-Yami M, Abouelmagd E. I., Ahmad B. *Mode-mismatched estimator design for Markov jump genetic regulatory networks with random time delays*. ***Neurocomputing (2015) 168: 1121 – 1131.***

71. Abbas I. A., Marin M., Abouelmagd E. I., Kumar R. *A Green and Naghdi model in a two-dimensional thermoelastic diffusion problem for a half space*. ***Journal of Computational and Theoretical Nanoscience (2015) 12 (2): 280 – 286.***

72. Abouelmagd E. I., Alhothuali M. S., Guirao Juan L. G., Malaikah H. M. *Periodic and secular solutions in the restricted three–body problem under the effect of zonal harmonic parameters*. ***Applied Mathematics & Information Science. (2015) 9 (4): 1 – 11.***

73. Abouelmagd E. I., Guirao Juan L. G., Vera Juan A. *Dynamics of a dumbbell satellite under the zonal harmonic effect of an oblate body*. ***Communications in Nonlinear Science and Numerical Simulation (2015) 20 (3): 1057 – 1069.***

74. Hayat T., Ashraf B., Shehzad S. A., Abouelmagd E. I. *Three-dimensional flow of Eyring Powell nanofluid over an exponentially stretching sheet*. ***International Journal of Numerical Methods for Heat & Fluid Flow (2015) 25 (3): 593 – 616.***

75. Abouelmagd E. I., Guirao Juan L. G., Mostafa A. *Numerical integration of the restricted thee-body problem with Lie series*. ***Astrophysics Space Science (2014) 354 (2): 369 – 378.***

76. Abouelmagd E. I., Awad M. E., Elzayat E. M. A., Abbas I. A. *Reduction the secular solution to periodic solution in the generalized restricted three-body problem*. ***Astrophysics Space Science (2014) 350 (2): 495 – 505.***

77. Abouelmagd E. I., Asiri H. M., Sharaf M. A. *The effect of oblateness in the perturbed restricted three-body problem*. ***Meccanica (2013) 48 (10): 2479 – 2490.***

78. Abouelmagd E. I. *Stability of the triangular points under combined effects of radiation and oblateness in the restricted three-body problem*. ***Earth Moon and Planets (2013) 110 (3-4): 143 – 155.***

79. Abouelmagd E. I. *The effect of photogravitational force and oblateness in the perturbed restricted three-body problem*. ***Astrophysics Space Science (2013) 346 (1): 51 – 69.***

80. Abouelmagd E. I., Sharaf M. A. *The motion around the libration points in the restricted three-body problem with the effect of radiation and oblateness.* ***Astrophysics Space Science (2013) 344 (2): 321 – 332.***

81. Sharaf M. A., Abouelmagd E. I. *The equations of motion for photogravitational and oblateness in elliptic restricted three body problem in terms of regularized levi-civita variables*. ***Bulletin of Pure & Applied Sciences-Mathematics and Statistics (2012) 31(1): 129 – 135.***

82. Abouelmagd E. I. *Existence and stability of triangular points in the restricted three-body problem with numerical applications*. ***Astrophysics Space Science (2012) 342 (1): 45 – 53.***

83. Abouelmagd E. I., El-Shaboury S. M. *Periodic orbits under combined effects of oblateness and radiation in the restricted problem of three bodies*. ***Astrophysics and Space Science (2012) 341 (2): 331 – 341.***

2 - Some papers under publications

- *5 papers under publications*
- *More than 10 papers under construction*

Projects

1. **Projects under evaluation (1 projects)**
2. **Projects under development (1 projects)**

- **Title*:*** *Dynamics of the satellite system of gaseous Jovian planets under statistical laws.*

  P. I.: Fabao Gao (Email: gaofabao@sina.com)

  International Researcher: Elbaz I. Abouelmagd

  Period: January 1, 2022 - December 31, 2025.

  Reference: 12172322.

  Source: National Natural Science Foundation of China (NSFC).

  Money: 89 700 USD.

3. Projects have been accomplished (7 projects)

- **Title*:*** *Modeling of science and engineering problems through dynamical systems.*

  P. I.: Juan Luis García Guirao (Email: juan.garcia@upct.es)

  Co. I. Elbaz I. Abouelmagd

  Period: July, 2019 – March, 2022.

  Reference: 20783/PI/18.

  Source: Fundación Séneca (Spain).

  Money: 45 000 EUR.

- **Title:** *Discrete, Continuous and Hamiltonian Dynamical Systems with Applications.*

  P. I.: Juan Luis García Guirao (Email: juan.garcia@upct.es)

  Co. I. Elbaz I. Abouelmagd

  Period: January, 2018 – December, 2021.

  Reference: PGC2018-097198-B-100.

  Source: Ministry of Science, Innovation and Universities (Spain).

  Money: 60 000 EUR.

- **Title:** *Discrete and continuous dynamical system with emphasis on the periodic structure and their applications.*

  P. I.: Juan Luis García Guirao (Email: juan.garcia@upct.es)

  Co. I. Elbaz I. Abouelmagd

Period: 2014 – 2017.

Reference: MTM2014 – 51891 – p.

Source: Ministry of Economy and Competitiveness (Spain)

Money: 52 756 EUR.

- **Title:** *Dynamics of constrained and unconstrained mechanical systems: Periodic orbits using the averaging theory.*

  P. I.: Mohammed Shabab Alhuthali

  Co. I.: Elbaz I. Abouelmagd

  Period: 9 Months (2014).

  Reference: Grant No: 59 – 130 – 35 - RG

  Source: Deanship of Scientific Research, King Abdulaziz University, Kingdom of Saudi Arabia.

  Money: 150 000 RS.

- **Title:** *Out-of-plane equilibrium points in the restricted three-body problem with variable mass.*

  P. I.: Elbaz I. Abouelmagd

  Period: : 9 Month, 2014

  Reference: Grant No: 857-71-D1434.

  Source: Deanship of Scientific Research, King Abdulaziz University, Kingdom of Saudi Arabia.

  Money: 20 000 RS.

- **Title:** *The effect of photogravitational force and oblateness in the restricted three-body problem.*

  P. I.: Elbaz I. Abouelmagd

  Period: 9 Month, 2013

  Reference: Grant No: 857-003-D1433.

  Source: Deanship of Scientific Research, King Abdulaziz University, Kingdom of Saudi Arabia.

  Money: 20 000 RS.

- **Title:** *Unperturbed and Perturbed Restricted Three Body Problem.*

  P. I.: Elbaz I. Abouelmagd

  Co. I.: Mohamed Aadel Sharaf

  Period: 2013 – 2014.

  Reference: Grant No: 116/130/1432.

  Source: Deanship of Scientific Research, King Abdulaziz University, Kingdom of Saudi Arabia.

  Money: 104 000 RS.

Scientific Supervision

NO.	Title	Deg.	S. Date	Institute	Status
1- Abylay Kushekbay	*Secular Perturbations in the Three-Body Problem with Variable Masses and Sizes*	*Ph.D.*	*28 /11 / 2018*	*Al-Farabi Kazakh National University, kazakhstan*	*Under development*
2- Mohamed Shaabn Mostafa	*Dynamics of spacecraft relative motion for rendezvous maneuvers perturbed orbit*	*MSc.*	*26 /10 / 2016*	*Al-Azhar University, Egypt*	*Completed, Jun 2019*
3 – Ahmed Atia Elsaid	*Periodic solution of the restricted three-body problem under the gravitational potential effect of the asteroids belt*	*MSc.*	*10 / 4 / 2016*	*Al-Azhar University Egypt*	*Completed, Sep 2019*

Referees Activity

I have reviewed more than 150 paper in JCR Journal, some of these journal are listed:

NO.	Journal Title	Publisher
1	*Monthly Notices of the Royal Astronomical Society*	*Roy. Astro. Soci.*
2	*The Astronomical Journal*	*IOP*
3	*Aerospace*	*MDPI*
4	*Universe*	
5	*Applied Sciences*	
6	*Sensors*	
7	*Electronics*	
8	*Axioms*	
9	*Materials*	
10	*Galaxies*	
11	*International Journal of Bifurcation and Chaos*	*World Sci.*
12	*Fractal*	
13	*Advances in Space Research*	*Elsevier*
14	*Physics Letters A*	
15	*Aerospace Science and Technology*	
16	*International Journal of Non-Linear Mechanics*	
17	*New Astronomy*	
18	*Astronomy and Computing*	
19	*Chaos, Solitons & Fractals*	
20	*The Journal of the Astronautical Sciences*	*Springer*
21	*Journal of Astrophysics & Astronomy*	
22	*Celestial Mechanics and Dynamical Astronomy*	
23	*Astrophysics Space Science*	
24	*Few-body Systems*	

25	***Astronomische Nachrichten / Astronomical Notes***	***Wiley***
26	***Computational and Mathematical Methods***	
27	***Open Physics***	***De Gruyter***

Scientific Visit

- *2023 Universitat Autònoma de Barcelona, Barcelona – Spain. Prof. Jaume Llibre (Email: jllibre@mat.uab.cat)*
- *2023 Technical University of Cartagena, Cartagena – Spain. Prof Juan Luis García Guirao (Email: juan.garcia@upct.es)*
- *2017 Universitat Autònoma de Barcelona, Barcelona – Spain. Prof. Jaume Llibre (Email: jllibre@mat.uab.cat)*
- *2016 Universitat Autònoma de Barcelona, Barcelona – Spain. Prof. Jaume Llibre (Email: jllibre@mat.uab.cat)*
- *2014 Technical University of Cartagena, Cartagena – Spain. Prof Juan Luis García Guirao (Email: juan.garcia@upct.es)*

Training Courses

- *16/11/2022 - 15/2/2023 International Standard for Energy Management Systems, ISO 50001 - 2018*
- *1/12/2022 - 1/2/2023: International Standard for Governance Management Systems, ISO 37000*
- *11/12/2022 - 22/1/2023: International Standard for Quality Management Systems, ISO 9001- 2015*
- *9/11/2022 - 5/1/2023: International Standard for Innovation Management Systems, ISO 56002 – 2019*
- *03 – 04 Feb. 2014: Method of enhancing self-confidence of college student. Center for Teaching & Learning Development - King Abdulaziz University*

- *10 – 11 Feb. 2014: Cognitive skills for effective negotiation. Center for Teaching & Learning Development - King Abdulaziz University*

- *17 – 18 Feb. 2014: Six steps approach for the effective student assessment. Center for Teaching & Learning Development - King Abdulaziz University*

- *24 – 25 Jun. 2014: Blackboard essential training E-Learning. Center for Teaching & Learning Development - King Abdulaziz University*

Teaching Courses

Based on my research and previous extensive experiences in teaching different courses of Mathematical Sciences, Mathematical Physics, Engineering Mathematics, I would be interested to teach courses in: Basis of Mathematics, Calculus of Several Variables, Differential Equations, Partial Differential Equations, Mathematical Engineering, Applied Mathematics, Numerical Analysis, Statistics and Probability, Mathematica Software. Some special cources in Engineering Mechanics (Statics & Dynamics), Orbital Mechanics, Astrodynamics, Celestial Mechanics, ... etc.

Conferences

- *The Arab Conference on Astronomy and Geophysics, Sixth Assembly ACAG7, Oct 11 – 14, 2021, Cairo – Egypt*

- *Artificial Intelligence and Recent IT Technologies Impact for Building Egyptian Knowledge and Innovation Society, First International Conference, 8 – 9 Sep 2019. Cairo – Egypt*

- *The Arab Conference on Astronomy and Geophysics, Sixth Assembly ACAG6, Oct 15 – 17, 2018, Cairo – Egypt*

- *The Arab Conference on Astronomy and Geophysics Fifth Assembly ACAG5, Oct 17 – 20, 2016, Cairo – Egypt.*

- *International Conference on Nonlinear Dynamics and Complexity, May 11 - 15, 2015, La Manga – Spain.*

- *5th Saudi Science Conference, Umm Al Qura University, April 16 - 18, 2012, Makkah Saudi Arabia*

Appreciation certificates

- *Centre for Fundamental Research in Space Dynamics and Celestial Mechanics: Certificate of Life member (2014 Up to Date) – India*
- *Indian Acadmy of Scince: Certificate of Reviewer Excellence 2017 – India*

Award of Excellence in Scientific Research from King Abdulaziz University for Publishing the Papers:

- *The motion around the libration points in the restricted three-body problem with the effect of radiation and oblateness.* ***Astrophysics and Space Science (2013) 344 (2), 321-332.***
- *Stability of the triangular points under combined effects of radiation and oblateness in the restricted three-body problem.* ***Earth, Moon, and Planets (2013) 110 (3-4), 143-155.***
- *The effect of oblateness in the perturbed restricted three-body problem.* ***Meccanica (2013) 48 (10), 2479-2490.***
- *The effect of photogravitational force and oblateness in the perturbed restricted three-body problem****. Astrophysics and Space Science (2013) 346 (1), 51-69***
- *Existence and stability of triangular points in the restricted three-body problem with numerical applications.* ***Astrophysics Space Science (2012) 342: 45-53.***
- *Periodic orbits under combined effects of oblateness and radiation in the restricted problem of three bodies.* ***Astrophysics and Space Science (2012) 341: 331-341.***