List of publications

Prof. Badam Singh Kushvah

Publications in the International Journals and SCIE or ESCI http://arxiv.org

1. Verma, R. K., Kushvah, B. S., 2024. Non-collinear equilibrium points in the perturbed restricted three-body problem with unstable elongated primary. Indian Journal of Physics, 1–9

2. Bora, C. A., Kushvah, B. S., Mouli, G. C., Yousuf, S., 2024. Temporal trends in asteroid behaviour: a machine learning and n-body integration approach. Monthly Notices of the Royal Astronomical Society 534 (1), 415–430

3. Kumar, M., Pal, A. K., Verma, R. K., Kushvah, B. S., 2024. Analysis of albedo and disc effects in the generalized restricted four-body problem. Advances in Space Research 73 (8), 4284–4295

4. Verma, R. K., Kushvah, B. S., Pal, A. K., 2024. Dynamics of the perturbed restricted three-body problem with quantum correction and modified gravitational potential. Archive of Applied Mechanics 94 (3), 651–665

5. Verma, R. K., Kushvah, B. S., Mahato, G., Pal, A. K., 2023a. Perturbed restricted problem of three bodies with elongated smaller primary. The Journal of the Astronautical Sciences 70 (3), 1–26

6. Verma, R. K., Pal, A. K., Kushvah, B. S., Mahato, G., 2023b. Effect of finite straight segment and oblateness in the restricted 2+ 2 body problem. Archive of Applied Mechanics 93 (7), 2813–2829

7. Kumar, V., Kushvah, B. S., 2022. The transfer trajectory onto the asteroid for mining purposes using lpg-algorithm. In: Nonlinear Dynamics and Applications: Proceedings of the ICNDA 2022. Springer International Publishing Cham, pp. 633–648

8. Mahato, G., Kushvah, B. S., Pal, A. K., Verma, R. K., 2022a. Dynamics of the restricted three-body problem having elongated smaller primary with disc-like structure. Advances in Space Research 69 (9), 3490–3501

9. Mahato, G., Pal, A. K., Alhowaity, S., Abouelmagd, E. I., Kushvah, B. S., 2022b. Effect of the planetesimal belt on the dynamics of the restricted problem of 2 + 2 bodies. Applied Sciences 12 (1).
URL https://www.mdpi.com/2076-3417/12/1/424

10. Kumar, V., Kushvah, B. S., Bando, M., 2022. An alternative opportunity of future psyche mission using differential evolution and gravity assists. AIMS Mathematics 7 (4), 7012–7025

11. Yadav, A. K., Kushvah, B. S., Dolas, U., 2021b. Controlling the libration point orbits for crtbp with non-ideal solar sail and albedo effect. Chaos, Solitons & Fractals 152, 111387.
URL https://www.sciencedirect.com/science/article/pii/S0960077921007414

12. Srivastava, V. K., Mishra, P., Ramakrishna, B., Kushvah, B., 2021. Orbit prediction and earth shadow modeling for chandrayaan-2 orbiter. Astrophysics and Space Science 366 (8), 1–12

13. Yadav, A., Kushvah, B., Dolas, U., 2021a. Station-keeping error analysis for halo orbits around libration point l1 using linear control logic. Astronomy and Computing 35, 100462

14. Kumar, V., Kushvah, B. S., Mar. 2020. Computation of Periodic Orbits around L_1 and L_2 using PSO Technique. Astronomy Reports 64 (1), 82–93

15. Yadav, A. K., Kushvah, B. S., Dolas, U., Dec. 2018. Lissajous motion near Lagrangian point L_2 in radial solar sail. Journal of Astrophysics and Astronomy 39 (6), 72

16. Srivastava, V. K., Kumar, J., Mishra, P., Kushvah, B. S., Oct. 2018b. Halo orbit of regularized circular restricted three-body problem with radiation pressure and oblateness. Journal of Astrophysics and Astronomy 39 (5), 63

17. Tiwary, R. D., Kushvah, B. S., Ishwar, B., Jun. 2018. Trajectory of asteroid 2017 SB20 within the CRTBP. Journal of Astrophysics and Astronomy 39 (3), 29

18. Vaishwar, A., Kushvah, B. S., Mishra, D. P., Jan. 2018. Secular Effect of Sun Oblateness on the Orbital Parameters of Mars and Jupiter. Few-Body Systems 59 (1), 4

19. Srivastava, V. K., Kumar, J., Kushvah, B. S., Jan. 2018a. Halo orbit transfer trajectory design using invariant manifold in the Sun-Earth system accounting radiation pressure and oblateness. Ap&SS363 (1), 17

20. Kishor, R., Kushvah, B. S., Sep. 2017. Normalization of Hamiltonian and nonlinear stability of the triangular equilibrium points in non-resonance case with perturbations. Ap&SS362, 156

21. Deo, S. N., Kushvah, B. S., Jul. 2017. Yarkovsky effect and solar radiation pressure on the orbital dynamics of the asteroid (101955) Bennu. Astronomy and Computing 20, 97–104

22. Srivastava, V. K., Kumar, J., Kushvah, B. S., Mar. 2017. Regularization of circular restricted three-body problem accounting radiation pressure and oblateness. Ap&SS362, 49

23. Srivastava, V. K., Kumar, J., Kushvah, B. S., Dec. 2016b. The effects of oblateness and solar radiation pressure on halo orbits in the photogravitational Sun-Earth system. Acta Astronautica 129, 389–399

24. Mia, R., Kushvah, B. S., Sep. 2016b. Stability and Fourier-Series Periodic Solution in the Binary Stellar Systems. Few-Body Systems 57, 851–867

25. Mia, R., Kushvah, B. S., Mar. 2016a. Orbital dynamics of exoplanetary systems Kepler-62, HD 200964 and Kepler-11. MNRAS457, 1089–1100

26. Srivastava, V. K., Kumar, J., Kulshrestha, S., Kushvah, B. S., Jan. 2016a. Mars solar conjunction prediction modeling. Acta Astronautica 118, 246–250

27. Srivastava, V. K., Kumar, J., Kulshrestha, S., Kushvah, B. S., Bhaskar, M. K., Somesh, S., Roopa, M. V., Ramakrishna, B. N., Aug. 2015a. Eclipse modeling for the Mars Orbiter Mission. Advances in Space Research 56, 671–679

28. Tiwary, R. D., Kushvah, B. S., May 2015. Computation of halo orbits in the photogravitational Sun-Earth system with oblateness. Ap&SS357, 73

29. Srivastava, V. K., Kumar, J., Kulshrestha, S., Srivastava, A., Bhaskar, M. K., Kushvah, B. S., Shiggavi, P., Vallado, D. A., May 2015b. Lunar shadow eclipse prediction models for the Earth orbiting spacecraft: Comparison and application to LEO and GEO spacecrafts. Acta Astronautica 110, 206–213

30. Srivastava, V. K., Yadav, S. M., Ashutosh, Kumar, J., Kushvah, B. S., Ramakrishna, B. N., Ekambram, P., Mar. 2015c. Earth conical shadow modeling for LEO satellite using reference frame transformation technique: A comparative study with existing earth conical shadow models. Astronomy and Computing 9, 34–39

31. Pal, A. K., Kushvah, B. S., Jan. 2015. Geometry of halo and Lissajous orbits in the circular restricted three-body problem with drag forces. MNRAS446, 959–972

32. Kumari, R., Kushvah, B. S., Feb. 2014. Stability regions of equilibrium points in restricted four-body problem with oblateness effects. Ap&SS349, 693–704

33. Kishor, R., Kushvah, B. S., Dec. 2013a. Linear stability and resonances in the generalized photogravitational Chermnykh-like problem with a disc. MNRAS436, 1741–1749

34. Kishor, R., Kushvah, B. S., Aug. 2013b. Lyapunov characteristic exponents in the generalized photo-gravitational Chermnykh-like problem with power-law profile. Planet. Space Sci.84, 93–101

35. Kumari, R., Kushvah, B. S., Apr. 2013. Equilibrium points and zero velocity surfaces in the restricted four-body problem with solar wind drag. Ap&SS344, 347–359

36. Kishor, R., Kushvah, B. S., Apr. 2013c. Periodic orbits in the generalized photogravitational Chermnykh-like problem with power-law profile. Ap&SS344, 333–346

37. Kushvah, B. S., Kishor, R., Dolas, U., Jan. 2012. Existence of equilibrium points and their linear stability in the generalized photogravitational Chermnykh-like problem with power-law profile. Ap&SS337, 115–127

38. Kushvah, B. S., May 2011a. Trajectories of L_4 and Lyapunov Characteristic Exponents in the Generalized Photogravitational Chermnykh-Like problem. Ap&SS333, 49–59

39. Kushvah, B. S., Mar. 2011b. Trajectory and stability of Lagrangian point L_2 in the Sun-Earth system. Ap&SS332, 99–106

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41. Kushvah, B. S., 2009. Poynting–robertson effect on the linear stability of equilibrium points in the generalized photogravitational chermnykh's problem. Research in Astronomy and Astrophysics 9 (9), 1049

42. Kushvah, B. S., Nov. 2008a. Linear stability of equilibrium points in the generalized photogravitational Chermnykh's problem. Ap&SS318, 41–50

43. Kushvah, B. S., Jun. 2008b. The effect of radiation pressure on the equilibrium points in the generalized photogravitational restricted three body problem. Ap&SS315, 231–241

44. Kushvah, B. S., Sharma, J. P., Ishwar, B., Dec. 2007b. Nonlinear stability in the generalised photogravitational restricted three body problem with Poynting-Robertson drag. Ap&SS312, 279–293

45. Kushvah, B. S., Sharma, J. P., Ishwar, B., Oct. 2007c. Normalization of Hamiltonian in the Generalized Photogravitational Restricted Three Body Problem with Poynting Robertson Drag. Earth Moon and Planets 101, 55–64

46. Kushvah, B. S., Sharma, J. P., Ishwar, B., 2007a. Higher order normalizations in the generalized photogravitational restricted three body problem with Poynting-Robertson drag. Bulletin of the Astronomical Society of India 35

47. Ishwar, B., Kushvah, B., 2006. Linear stability of triangular equilibrium points in the generalized photogravitational restricted three body problem with poynting_robertson drag. Journal of Dynamical Systems and Geometric Theories 4 (1), 79–86

Publications in the International Journals Non SCIE/ESCI

1. Tiwary, R., Srivastava, V., Kushvah, B., 2018. Computation of three-dimensional periodic orbits in the sun-earth system. Phys. Astron. Int. J 2 (1), 98–107

Publications in the International Conferences/proceedings

1. Kumar, V., Kushvah, B. S., 2022. The transfer trajectory onto the asteroid for mining purposes using lpg-algorithm. In: Nonlinear Dynamics and Applications: Proceedings of the ICNDA 2022. Springer International Publishing Cham, pp. 633–648

2. Yadav, A. K., Kushvah, B. S., 2022. Controlling the libration motion of tethered satellite system using sliding mode control scheme. In: AIP Conference Proceedings. Vol. 2435. AIP Publishing LLC, p. 020052

3. Deo, S. N., Kushvah, B. S., 2022. Orbital dynamics of the near-earth asteroids (399457) 2002 pd43,(196256) 2003 eh1 and (489900) 2008 kp. In: AIP Conference Proceedings. Vol. 2435. AIP Publishing LLC, p. 020029

4. Vaishwar, A., Mishra, D. P., Kushvah, B. S., Jan. 2019. Radiation influence on stability of triangular points in elliptic restricted three-body problem. In: American Institute of Physics Conference Series. Vol. 2061 of American Institute of Physics Conference Series. p. 020001

Publications in the National Conferences

1. Kushvah, B. S., 2011. Trajectories and stability regions of the lagrangian points in the generalized chermnykh-like problem. In: Mathematics In Science And Technology: Mathematical Methods, Models and Algorithms in Science and Technology. pp. 499–509

2. KT, S., Kushvah, B., Ishwar, B., 2006. Stability of triangular equilibrium points in robe's generalised restricted three body problem. Celestial Mechanics: Recent Trends, 65

3. Tripathi, D. K., Kushvah, B., Ishwar, B., 2006. Stability of triangular equilibrium points in the generalized photogravitational restricted three body problem with poynting–roberston drag. Celestial Mechanics: Recent Trends, 27