

Dr. Badam Singh Kushvah
Professor
Department of Mathematics and Computing
IIT(ISM), Dhanbad -826004, Jharkhand (India)
Phone & Fax:+91-326-2235765
Mobile: +91 9471191119
E-mails:bskush@gmail.com,bskush@iitism.ac.in
<https://www.iitism.ac.in/~bskush/>

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

1. 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
2. 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
3. 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
4. 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
5. 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>
6. 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
7. 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>
8. 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
9. 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
10. Kumar, V., Kushvah, B. S., Mar. 2020. Computation of Periodic Orbits around L₁ and L₂ using PSO Technique. *Astronomy Reports* 64 (1), 82–93
11. Yadav, A. K., Kushvah, B. S., Dolas, U., Dec. 2018. Lissajous motion near Lagrangian point L₂ in radial solar sail. *Journal of Astrophysics and Astronomy* 39 (6), 72
12. 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

13. 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
14. 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
15. 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
16. 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
17. 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
18. 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
19. 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
20. Mia, R., Kushvah, B. S., Sep. 2016b. Stability and Fourier-Series Periodic Solution in the Binary Stellar Systems. *Few-Body Systems* 57, 851–867
21. Mia, R., Kushvah, B. S., Mar. 2016a. Orbital dynamics of exoplanetary systems Kepler-62, HD 200964 and Kepler-11. *MNRAS457*, 1089–1100
22. Srivastava, V. K., Kumar, J., Kulshrestha, S., Kushvah, B. S., Jan. 2016a. Mars solar conjunction prediction modeling. *Acta Astronautica* 118, 246–250
23. 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
24. Tiwary, R. D., Kushvah, B. S., May 2015. Computation of halo orbits in the photogravitational Sun-Earth system with oblateness. *Ap&SS357*, 73
25. 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 space crafts. *Acta Astronautica* 110, 206–213
26. 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
27. 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
28. Kumari, R., Kushvah, B. S., Feb. 2014. Stability regions of equilibrium points in restricted four-body problem with oblateness effects. *Ap&SS349*, 693–704
29. Kishor, R., Kushvah, B. S., Dec. 2013a. Linear stability and resonances in the generalized photogravitational Chermnykh-like problem with a disc. *MNRAS436*, 1741–1749

30. 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
31. Kumari, R., Kushvah, B. S., Apr. 2013. Equilibrium points and zero velocity surfaces in the restricted four-body problem with solar wind drag. *Ap&SS* 344, 347–359
32. Kishor, R., Kushvah, B. S., Apr. 2013c. Periodic orbits in the generalized photogravitational Chermnykh-like problem with power-law profile. *Ap&SS* 344, 333–346
33. 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&SS* 337, 115–127
34. Kushvah, B. S., May 2011a. Trajectories of L_4 and Lyapunov Characteristic Exponents in the Generalized Photogravitational Chermnykh-Like problem. *Ap&SS* 333, 49–59
35. Kushvah, B. S., Mar. 2011b. Trajectory and stability of Lagrangian point L_2 in the Sun-Earth system. *Ap&SS* 332, 99–106
36. Kushvah, B. S., Sep. 2009. Linearization of the Hamiltonian in the generalized photogravitational Chermnykh's problem. *Ap&SS* 323, 57–63
37. 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
38. Kushvah, B. S., Nov. 2008a. Linear stability of equilibrium points in the generalized photogravitational Chermnykh's problem. *Ap&SS* 318, 41–50
39. Kushvah, B. S., Jun. 2008b. The effect of radiation pressure on the equilibrium points in the generalized photogravitational restricted three body problem. *Ap&SS* 315, 231–241
40. 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&SS* 312, 279–293
41. 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
42. 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
43. 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



(Badam Singh Kushvah)

Dhanbad: August 18, 2023