

## Full Citation List by Paper

### Kemble 2003

1. Cornelisse, J.W., Schoyer, H.F.R., Wakker, K.F., *Rocket Propulsion and Spacecraft Dynamics*, Pitman, 1979.
2. Jewitt, J.C., Sheppard, S., Porco, P., “Jupiter’s Outer Satellites and Trojans,” invited review for Jupiter (ed. F. Bagenal), Cambridge University Press, 2004.
3. Carusi, A., Valsecchi, G., “Numerical simulation of close encounters between Jupiter and minor bodies,” *Asteroids* (Univ. of Arizona Press, Tucson), pp. 391–416, 1979.
4. Koon, W.S., Lo, M.W., Marsden, J.E., Ross, S.D., “Resonance and capture of Jupiter comets,” *Celestial Mechanics and Dynamical Astronomy* 81(1–2), 27–38 (2001).
5. Ross, S.D., “Statistical theory of interior–exterior transition and collision probabilities for minor bodies in the solar system,” *Libration Point Orbits and Applications* (eds. G. Gómez, M.W. Lo, J.J. Masdemont), World Scientific, 2003, pp. 637–652.
6. Gómez, G., Koon, W.S., Lo, M.W., Marsden, J.E., Masdemont, J., Ross, S.D., “Invariant manifolds, the spatial three-body problem and space mission design,” *AAS/AIAA Astrodynamics Specialist Conference*, Québec City, Canada, 2001.
7. Kemble, S., Taylor, M.J., “Mission design options for a small satellite mission to Jupiter,” IAF-03-A.09, Proc. IAC Bremen, 2003.
8. Langevin, Y., “Chemical and solar electric propulsion options for a Mercury cornerstone mission,” IAF-99-A.2.04, Proc. 50th IAF Congress, Amsterdam, Oct. 1999.
9. Casalino, L., Colasurdo, G., Pastrone, D., “Optimal low-thrust escape trajectories using gravity assist,” *Journal of Guidance, Control, and Dynamics* 22(5), 1999.
10. Kemble, S., “Optimised Transfers to Mercury,” IAF-01-A.5.03, Proc. IAC Toulouse, 2001.

### Melman et al. 2008

1. Carroll, W. and Ostlie, A., *An Introduction to Modern Astrophysics*, Addison-Wesley, Reading, 1996.
2. Noca, M. and Bailey, R., “Mission Trades for Aerocapture at Neptune,” AIAA-2004-3843, 40th AIAA/ASME/SAE/ASEE Joint Propulsion Conference, Fort Lauderdale, FL, July 2004.
3. Gooding, R., “A Procedure for the Solution of Lambert’s Orbital Boundary-Value Problem,” *Celestial Mechanics and Dynamical Astronomy* 48, 1990, pp. 145–165.
4. Cornelisse, J., Schöyer, H., and Wakker, K., *Rocket Propulsion and Spaceflight Dynamics*, Pitman Publishing, London, 1979.

5. Spornick, J. and Jensen, M., "Atlas Launch System Mission Planner's Guide," Tech. Rep., International Launch Services, 2004 (Rev. 10).
6. Larson, W. and Wertz, J., Space Mission Analysis and Design, Microcosm Press, Torrance, 3rd ed., 1999.
7. Miner, E.D. and Wessen, R.R., Neptune: The Planet, Rings and Satellites, Springer-Praxis, New York, 2002.
8. Vasile, M., "Robust Mission Design Through Evidence Theory and Multiagent Collaborative Search," Annals of the New York Academy of Sciences 1065, 2005, pp. 152–173.
9. Regan, F.J. and Anandakrishnan, S.M., Dynamics of Atmospheric Re-entry, AIAA Education Series, Washington, DC, 1993.
10. Lockwood, M.K., "Neptune Aerocapture Systems Analysis," AIAA-2004-4951, AIAA Atmospheric Flight Mechanics Conference, Providence, RI, Aug. 2004.
11. Campagnola, S. and Lo, M., "BepiColombo Gravitational Capture and the Elliptic Restricted Three-Body Problem," Proceedings in Applied Mathematics and Mechanics, Nov. 2007.
12. Russell, R. and Lam, T., "Designing Ephemeris Capture Trajectories at Europa Using Unstable Periodic Orbits," Journal of Guidance, Control, and Dynamics 30(2), Mar.–Apr. 2007.
13. Orlando, G. and Noomen, R., "Temporary Capture Method based on Energy Surface Reconstruction, Manifolds Dynamics and Patterns Recognition," to be published.
14. Orlando, G., Trajectory Optimization for a Mission to Neptune and Triton: release of a Triton orbiter and capture at Triton, Master's thesis, Delft University of Technology, Sept. 2008.
15. Szebehely, V., Theory of Orbits, Academic Press, 1967.
16. Goldberg, D., Genetic Algorithms in Search, Optimization, and Machine Learning, Addison-Wesley, Reading, 1989.
17. Michalewicz, Z., Genetic Algorithms + Data Structures = Evolution Programs, Springer, Berlin, 3rd ed., 1996.
18. Broyden, C., "The Convergence of a Class of Double-Rank Minimization Algorithms," Journal of the Institute of Mathematics and Applications 6, 1970, pp. 76–90.
19. Fletcher, R., "A New Approach to Variable Metric Algorithms," The Computer Journal 13, 1970, pp. 317–322.
20. Goldfarb, D., "A Family of Variable Metric Updates Derived by Variational Means," Mathematics of Computation 24, 1970, pp. 23–26.
21. Shanno, D., "Conditioning of Quasi-Newton Methods for Function Minimization," Mathematics of Computation 24, 1970, pp. 647–656.

22. Orlando, G., Mooij, E., and Noomen, R., “Optimal Orbital Stability around Planetary Satellites as Optimization Problem,” to be published.

## Landis

1. Oleson (2017)
2. S.R. Oleson et al., COMPASS Final Report: Triton Hopper, NASA CD-2016-127, Final Report to the NASA Innovative Advanced Concepts Program, 2016.
3. S.R. Oleson and G.A. Landis, “Triton Hopper: Exploring Neptune’s Captured Kuiper Belt Object,” Planetary Science Vision 2050 Workshop, Washington, DC, Feb. 2017.
4. G.A. Landis, S.R. Oleson, and the COMPASS team, “A Hopper for Exploring Neptune’s Moon Triton,” 15th NASA Small Bodies Assessment Group (SBAG) Meeting, JHU/APL, Laurel, MD, June 2016.
5. D.P. Cruikshank, “Triton, Pluto, and Charon,” in *The New Solar System* (4th ed., Beatty, Petersen, Chaikin, eds.), Sky Publishing, 1999, pp. 285–296.
6. D.P. Cruikshank (ed.), *Neptune and Triton*, Univ. of Arizona Press, 1995.
7. B. Bienstock et al., *Neptune Orbiter, Probe, and Triton Lander Mission*, Progress in Astronautics and Aeronautics Series 224, AIAA, 2008.
8. R. Bailey and M. Noca, “Mission Trades for Aerocapture at Neptune,” AIAA-2004-3843, 40th Joint Propulsion Conference, Fort Lauderdale, FL, July 2004.
9. Y. Yamashita, M. Kato, and M. Arakawa, “Experimental study on the rheological properties of polycrystalline solid nitrogen and methane: Implications for tectonic processes on Triton,” *Icarus* 207(2), June 2010, pp. 972–977.
10. J. Machado-Rodriguez and G.A. Landis, “Analysis of a Radioisotope Thermal Rocket Engine,” AIAA-2017-1445, AIAA SciTech Forum 2017, Grapevine, TX, Jan. 2017.
11. D. Palac et al., “Nuclear Systems Kilopower Overview,” Nuclear and Emerging Technologies for Space 2016, Huntsville, AL, Feb. 2016.
12. M.A. Gibson, S.R. Oleson, D.I. Poston, and P. McClure, “NASA’s Kilopower Reactor Development and the Path to Higher Power Missions,” IEEE Aerospace Conference, Big Sky, MT, Mar. 2017.

## Capinski

1. Gidea (2025)
- 1 V.I. Arnold. “Instability of dynamical systems with several degrees of freedom.” *Sov. Math. Doklady* 5:581–585 (1964).

- 2 T. Kapela, M. Mrozek, D. Wilczak, P. Zgliczyński. “CAPD::DynSys: a flexible C++ toolbox for rigorous numerical analysis of dynamical systems.” *Commun. Nonlinear Sci. Numer. Simul.* 101:105578 (2021).
- 3 S. Bolotin, D. Treschev. “Unbounded growth of energy in nonautonomous Hamiltonian systems.” *Nonlinearity* 12(2):365 (1999).
- 4 A. Delshams, R. de la Llave, T.M. Seara. “A geometric approach to the existence of orbits with unbounded energy in generic periodic perturbations of geodesic flows on  $T^2$ .” *Comm. Math. Phys.* 209(2):353–392 (2000).
- 5 D. Treschev. “Evolution of slow variables in near-integrable Hamiltonian systems.” In *Progress in Nonlinear Science*, Vol. 1 (Nizhny Novgorod, 2001), pp. 166–169. RAS Institute of Applied Physics, Nizhny Novgorod, 2002.
- 6 J.N. Mather. “Arnold diffusion. I. Announcement of results.” *J. Math. Sci. (NY)* 124(5):5275–5289 (2004).
- 7 D. Treschev. “Evolution of slow variables in a priori unstable Hamiltonian systems.” *Nonlinearity* 17(5):1803–1841 (2004).
- 8 A. Delshams, R. de la Llave, T.M. Seara. “A geometric mechanism for diffusion in Hamiltonian systems overcoming the large gap problem: heuristics and rigorous verification on a model.” *Mem. Amer. Math. Soc.* 179(844): viii+141 (2006).
- 9 A. Delshams, R. de la Llave, T.M. Seara. “Orbits of unbounded energy in quasi-periodic perturbations of geodesic flows.” *Adv. Math.* 202(1):64–188 (2006).
- 10 G.N. Piftankin. “Diffusion speed in the Mather problem.” *Dokl. Akad. Nauk* 408(6):736–737 (2006).
- 11 V. Gelfreich, D. Turaev. “Unbounded energy growth in Hamiltonian systems with a slowly varying parameter.” *Comm. Math. Phys.* 283(3):769–794 (2008).
- 12 A. Delshams, G. Huguet. “Geography of resonances and Arnold diffusion in a priori unstable Hamiltonian systems.” *Nonlinearity* 22(8):1997 (2009).
- 13 C.-Q. Cheng, J. Yan. “Arnold diffusion in Hamiltonian systems: a priori unstable case.” *J. Differential Geom.* 82(2):229–277 (2009).
- 14 J.N. Mather. “Arnold diffusion by variational methods.” In *Essays in Mathematics and its Applications*, pp. 271–285. Springer, 2012.
- 15 V. Kaloshin, K. Zhang. “Arnold diffusion for smooth convex systems of two and a half degrees of freedom.” *Nonlinearity* 28(8):2699–2720 (2015).
- 16 P. Bernard, V. Kaloshin, K. Zhang. “Arnold diffusion in arbitrary degrees of freedom and normally hyperbolic invariant cylinders.” *Acta Mathematica* 217(1):1–79 (2016).
- 17 C.-Q. Cheng, J. Xue. “Variational approach to Arnold diffusion.” *Science China Mathematics* 62(11):2103–2130 (2019).

- 18 D. Treschev. “Arnold diffusion far from strong resonances in multidimensional a priori unstable Hamiltonian systems.” *Nonlinearity* 25(9):2717–2757 (2012).
- 19 M. Gidea, R. de la Llave. “Perturbations of geodesic flows by recurrent dynamics.” *J. Eur. Math. Soc. (JEMS)* 19(3):905–956 (2017).
- 20 V. Gelfreich, D. Turaev. “Arnold diffusion in a priori chaotic symplectic maps.” *Comm. Math. Phys.* 353(2):507–547 (2017).
- 21 M. Gidea, J.-P. Marco. “Diffusing orbits along chains of cylinders.” *Discrete and Continuous Dynamical Systems A* 40(0), 2020.
- 22 V. Kaloshin, K. Zhang. *Arnold Diffusion for Smooth Systems of Two and a Half Degrees of Freedom*. Princeton Univ. Press, 2020.
- 23 M. Gidea, R. de la Llave, T.M. Seara. “A general mechanism of diffusion in Hamiltonian systems: qualitative results.” *Comm. Pure Appl. Math.* 73(1):150–209 (2020).
- 24 M. Gidea, R. de la Llave, T.M. Seara. “A general mechanism of instability in Hamiltonian systems: skipping along a normally hyperbolic invariant manifold.” *Discrete Contin. Dyn. Syst. A*, 2019.
- 25 L. Chierchia, G. Gallavotti. “Drift and diffusion in phase space.” *Ann. Inst. H. Poincaré Phys. Théor.* 60(1):1–144 (1994).
- 26 J. Féjoz, M. Guardia, V. Kaloshin, P. Roldán. “Kirkwood gaps and diffusion along mean motion resonances in the restricted planar three-body problem.” *J. Eur. Math. Soc.* 18(10):2315–2403 (2016).
- 27 A. Delshams, M. Gidea, P. Roldán. “Arnold’s mechanism of diffusion in the spatial circular restricted three-body problem: a semi-analytical argument.” *Physica D* 334:29–48 (2016).
- 28 M. Capinski, M. Gidea, R. de la Llave. “Arnold diffusion in the planar elliptic restricted three-body problem: mechanism and numerical verification.” *Nonlinearity* 30(1):329–360 (2017).
- 29 A. Delshams, V. Kaloshin, A. de la Rosa, T.M. Seara. “Global instability in the restricted planar elliptic three body problem.” *Comm. Math. Phys.* 366(3):1173–1228 (2019).

## Gilliam

1. Bettinger (2025)
- 1 Batista Negri, R., and Prado, A.F.B.A., “Circular Restricted n-Body Problem,” *Journal of Guidance, Control, and Dynamics* 45(7), 2022, pp. 1357–1364.
- 2 Grasset, O., Dougherty, M., Coustenis, A., Bunce, E., Erd, C., Titov, D., Blanc, M., Coates, A., Drossart, P., Fletcher, L., Hussmann, H., Jaumann, R., Krupp, N., Lebreton, J.-P., Prieto-Ballesteros, O., Tortora, P., Tosi, F., Van Hoolst, T., “JUpiter

- ICy Moons Explorer (JUICE): An ESA Mission to Orbit Ganymede and to Characterise the Jupiter System,” *Planetary and Space Science* 78, 2013, pp. 1–21.
- 5 JPL, “Three-Body Periodic Orbits,” <[ssd.jpl.nasa.gov/tools/periodic\\_orbits.html](https://ssd.jpl.nasa.gov/tools/periodic_orbits.html)>, 2024.
  - 4 Szebehely, V., *Theory of Orbits. The Restricted Problem of Three Bodies*, Academic Press, 1967.
  - 5 JPL, “Three-Body Periodic Orbits,” [ssd.jpl.nasa.gov/tools/periodic\\_orbits.html](https://ssd.jpl.nasa.gov/tools/periodic_orbits.html) >, 2024.
  - 6 Williams, D.R., “Uranian Satellites Fact Sheet,” [nssdc.gsfc.nasa.gov/planetary/factsheet/uraniansat](https://nssdc.gsfc.nasa.gov/planetary/factsheet/uraniansat), 2016 (accessed Dec 1, 2024).
  - 7 Williams, D.R., “Solar System Small Worlds Fact Sheet,” [nssdc.gsfc.nasa.gov/planetary/factsheet/ga](https://nssdc.gsfc.nasa.gov/planetary/factsheet/ga), 2016 (accessed Dec 1, 2024).
  - 8 Negri, R.B., and Prado, A.F., “Generalizing the Bicircular Restricted Four-Body Problem,” *Journal of Guidance, Control, and Dynamics* 43(6), 2020, pp. 1173–1179.
  - 9 Iuliano, J., “A Solution to the Circular Restricted N Body Problem in Planetary Systems,” M.S. thesis, California Polytechnic State Univ., 2016.
  - 10 Gauthier, R., “Dynamical Aspects in (4+1)-Body Problems,” M.S. thesis, Wilfrid Laurier University, 2023.
  - 11 Wilmer, A., and Bettinger, R., “Lagrangian Derivation and Stability Analysis of Multi-Body Gravitational Dynamical Models with Application to Cislunar Periodic Orbit Propagation,” *Proc. 2021 AAS/AIAA Astrodynamics Specialist Conference*, 2021.
  - 12 Wilmer, A., and Bettinger, R., “Lagrangian Dynamics and the Discovery of Cislunar Periodic Orbits,” *Nonlinear Dynamics* (2023). <https://doi.org/10.1007/s11071-022-07829-1>.

## Miceli et al. 2024

- 1 National Academies of Sciences, Engineering, and Medicine, “NASA 2023 Decadal Survey,” Technical Report, National Academies Press, Washington, D.C., 2023.
- 2 Swenson, B., “Neptune atmospheric probe mission,” *AIAA Guidance, Navigation and Control Conference*, 1992. doi:10.2514/6.1992-4371.
- 3 Masters, A., et al., “Neptune and Triton: Essential pieces of the Solar System puzzle,” *Planetary and Space Science* 104, 2014, pp. 108–121. doi:10.1016/j.pss.2014.05.008.
- 4 Rymer, A.M., Runyon, K.D., Clyde, B., Núñez, J.I., Nikoukar, R., Soderlund, K.M., Sayanagi, K., et al., “Neptune Odyssey: A Flagship Concept for the Exploration of the Neptune–Triton System,” *Planetary Science Journal* 2(5), 2021, p. 184. doi:10.3847/PSJ/abf654.
- 5 Vallado, D.A., *Fundamentals of Astrodynamics and Applications*, 5th ed., Microcosm Press, New York, 2022.

- 6 Marley, M. et al., “Planetary Science Decadal Survey JPL Rapid Mission Architecture Neptune–Triton–KBO Study Final Report,” NASA JPL Technical Report, 2010.
- 7 Melman, J., Orlando, G., Safipour, E., Mooij, E., Noomen, R., “Trajectory Optimization for a Mission to Neptune and Triton,” AIAA/AAS Astrodynamics Specialist Conference, 2007, Paper AIAA-2008-7366.
- 8 Koon, W., Lo, M., Marsden, J., Ross, S., *Dynamical Systems, the Three-Body Problem, and Space Mission Design*, Springer, New York, 2011.
- 9 Smith, T.R., and Bosanac, N., “Constructing Motion Primitive Sets to Summarize Periodic Orbit Families and Hyperbolic Invariant Manifolds in a Multi-Body System,” *Celestial Mechanics and Dynamical Astronomy* 134(1), 2022, p. 7. doi:10.1007/s10569-022-10063-x.
- 10 Smith, T.R., and Bosanac, N., “A Motion Primitive Approach to Trajectory Design in a Multi-Body System,” *Proc. AAS/AIAA Astrodynamics Specialist Conference*, 2022.
- 11 Wolek, A., and Woolsey, C.A., *Model-Based Path Planning*, Springer, Cham, 2017, pp. 183–206. doi:10.1007/978-3-319-55372-6<sub>9</sub>.
- 12 Frazzoli, E., “Robust Hybrid Control for Autonomous Vehicle Motion Planning,” Ph.D. Dissertation, MIT, 2001.
- 13 Paranjape, A.A., Meier, K.C., Shi, X., Chung, S.J., Hutchinson, S., “Motion Primitives and 3D Path Planning for Fast Flight Through a Forest,” *Int. J. Robotics Research* 34(3), 2015, pp. 357–377. doi:10.1177/0278364914558017.
- 14 Wang, B., Gong, J., Zhang, R., Chen, H., “Learning to Segment and Represent Motion Primitives from Driving Data for Motion Planning Applications,” *Proc. 21st IEEE Intelligent Transportation Systems Conf.*, Maui, 2018, pp. 1408–1414. doi:10.1109/ITSC.2018.8569913.
- 15 Reng, L., Moeslund, T.B., Granum, E., “Finding Motion Primitives in Human Body Gestures,” in *Gesture in Human-Computer Interaction and Simulation: 6th International Gesture Workshop (2005)*, pp. 133–144. doi:10.1007/11678816<sub>16</sub>.
- 16 Majumdar, A., Tedrake, R., “Funnel Libraries for Real-Time Robust Feedback Motion Planning,” *Int. J. Robotics Research* 36(8), 2017, pp. 947–982. doi:10.1177/0278364917712421.
- 17 Kulic, D., Takano, W., Nakamura, Y., “Incremental Learning, Clustering and Hierarchy Formation of Whole Body Motion Patterns using Adaptive Hidden Markov Chains,” *Int. J. Robotics Research* 27(7), 2008, pp. 761–784.
- 18 Dermý, O., Paraschos, A., Ewerton, M., Peters, J., Charpillet, F., Ivaldi, S., “Prediction of Intention during Interaction with iCub with Probabilistic Movement Primitives,” *Frontiers in Robotics and AI* 4, 2017.
- 19 Clever, D., Harant, M., Koch, H., Mombaur, K., Endres, D., “Generation of Complex Humanoid Walking Sequences Based on Optimal Control and Learning of Movement Primitives,” *Robotics and Autonomous Systems* 83, 2016, pp. 287–298.

- 20 Cochrane, C.J., Persinger, R.R., Vance, S.D., et al., “Single- and Multi-Pass Magnetometric Subsurface Ocean Detection and Characterization in Icy Worlds Using PCA: Application to Triton,” *Earth and Space Science* 9(2), 2022. doi:10.1029/2021EA002034.
- 21 Szebehely, V., *Theory of Orbits: The Restricted Problem of Three Bodies*, Academic Press, London, 1967.
- 22 NASA, “Neptunian Satellite Fact Sheet,” NASA Planetary Fact Sheet, 2023. ([nssdc.gsfc.nasa.gov/planetary/factsheets/neptune.html](https://nssdc.gsfc.nasa.gov/planetary/factsheets/neptune/neptune.html), accessed 13 Nov 2023).
- 23 NASA Navigation and Ancillary Information Facility (NAIF), “NAIF Generic Kernels,” 2023. ([naif.jpl.nasa.gov/pub/naif/generic\\_kernels/](https://naif.jpl.nasa.gov/pub/naif/generic_kernels/)).
- 24 Murray, C.D., and Dermott, S.F., *Solar System Dynamics*, Cambridge Univ. Press, 1999.
- 25 Vaquero Escribano, T.M., “Spacecraft transfer trajectory design exploiting resonant orbits in multi-body environments,” Ph.D. thesis, Purdue University, 2013.
- 26 Howell, K.C., “Three-Dimensional Periodic Halo Orbits,” *Celestial Mechanics* 32(1), 1984, p. 53.
- 27 Conway, B.A., *Spacecraft Trajectory Optimization*, Cambridge Univ. Press, 2010.
- 28 Topputo, F., Zhang, C., “Survey of Direct Transcription for Low-Thrust Trajectory Optimization with Applications,” *Abstract and Applied Analysis* (2014), Article ID 851720. doi:10.1155/2014/851720.
- 29 Betts, J.T., “Survey of Numerical Methods for Trajectory Optimization,” *Journal of Guidance, Control, and Dynamics* 21(2), 1998, pp. 193–207. doi:10.2514/2.4231.
- 30 Grebow, D.J., Pavlak, T.A., “MCOLL: Monte Collocation Trajectory Design Tool,” AAS/AIAA Astrodynamics Specialist Conference, Stevenson, WA, Aug. 2017. (JPL Document ID 2014/46415).
- 31 Smith, T.R., Bosanac, N., “Motion Primitive Approach to Spacecraft Trajectory Design in a Multi-body System,” *Journal of the Astronautical Sciences* 70(3–4), 2023. doi:10.1007/s40295-023-00395-7.
- 32 Kelly, M., “An Introduction to Trajectory Optimization: How to Do Your Own Direct Collocation,” *SIAM Review* 59(4), 2017, pp. 849–904. doi:10.1137/16M1062569.
- 33 Pritchett, R.E., “Strategies for Low-Thrust Transfer Design Based on Direct Collocation Techniques,” Ph.D. thesis, Purdue University Graduate School, 2020. doi:10.25394/PGS.1273977.
- 34 Ozimek, M., Grebow, D., Howell, K., “A Collocation Approach for Computing Solar Sail Lunar Pole-Sitter Orbits,” *Open Aerospace Engineering Journal* 3, 2010, pp. 65–75. doi:10.2174/1874146001003010065.
- 35 Williams, P., “Hermite-Legendre-Gauss-Lobatto Direct Transcription in Trajectory Optimization,” *Journal of Guidance, Control, and Dynamics* 32(4), 2009, pp. 1392–1395. doi:10.2514/1.42731.



- 36 De Boor, C., “Good Approximation by Splines with Variable Knots. II,” in Proc. Conference on the Numerical Solution of Differential Equations, Dundee, Scotland, 1973.
- 37 Russell, R., Christiansen, J., “Adaptive Mesh Selection Strategies for Solving Boundary Value Problems,” SIAM Journal on Numerical Analysis 15(1), 1978, pp. 59–80.
- 38 Patrikalakis, N.M., Maekawa, T., Cho, W., Shape Interrogation for CAD and Manufacturing, Springer, New York, 2009.
- 39 Bosanac, N., “Data-Driven Summary of Natural Spacecraft Trajectories in the Earth-Moon System,” AAS/AIAA Astrodynamics Specialist Conference, Big Sky, MT, Aug. 2023.
- 40 Spear, R.L., Bosanac, N., “Rapid Trajectory Design in Multi-Body Systems Using Sampling-Based Kinodynamic Planning,” AAS/AIAA Astrodynamics Specialist Conference, Big Sky, MT, Aug. 2023.
- 41 van der Laan, M., and Bryan, J., “A new partitioning around medoids algorithm,” Journal of Statistical Computation and Simulation 73(8), 2003, pp. 575–584. doi:10.1080/0094965031
- 42 Han, J., Kamber, M., Pei, J., Data Mining: Concepts and Techniques, Morgan Kaufmann, Waltham, 2012.
- 43 Bruchko, K.L., Bosanac, N., “Rapid Trajectory Design in Multi-Body Systems Using Sampling-Based Kinodynamic Planning,” AAS/AIAA Astrodynamics Specialist Conference, Big Sky, MT, Aug. 2023.
- 44 Dijkstra, E.W., “A note on two problems in connexion with graphs,” in Edsger W. Dijkstra: His Life, Work, and Legacy, 2022, pp. 287–290.
- 45 Parrish, N.L., Scheeres, D.J., “Low-Thrust Trajectory Optimization with Simplified SQP Algorithm,” AAS/AIAA Astrodynamics Specialist Conference, 2017. (NASA Technical Report 20170007868).
- 46 Wächter, A., Biegler, L.T., “On the Implementation of a Primal-Dual Interior Point Filter Line Search Algorithm for Large-Scale Nonlinear Programming,” Mathematical Programming 106(1), 2006, pp. 25–57. doi:10.1007/s10107-004-0559-y.

## Gray 1989

1. R.E. Van Allen, R.J. Cesarone, D.L. Gray, “Voyager 2 Navigation to Uranus and Neptune,” AIAA/AAS Astrodynamics Conference, Paper AIAA-82-1474, Aug. 1982.
2. R.J. Cesarone, K. Francis, W.J. Kosmann, S.E. Matousek, C.L. Potts, R.W. Ridenoure, “Mission Design Challenges Posed by the Voyager 2 Neptune Encounter,” AAS/AIAA Astrodynamics Conference, Paper AAS 87-489, Aug. 1987.
3. D.C. Roth, T.H. Taylor, J.A. Wackley, “Development of Three-Way Ranging for the Voyager Neptune Encounter,” AIAA/AAS Astrodynamics Conference, Paper AIAA-88-4265, Aug. 1988.

4. C.L. Potts, K. Francis, S. Matousek, R. Cesarone, D.L. Gray, "Voyager 2 Neptune Targeting Strategy," (to be presented) 27th Aerospace Sciences Meeting, Reno, NV, Jan. 1989.
5. A.B. Sergeyevsky, "Voyager 2: A Grand Tour of the Giant Planets," AAS/AIAA Astrodynamics Conference, Paper AAS 81-187, Aug. 1981.
6. D.L. Gray, R.J. Cesarone, R.E. Van Allen, "Voyager 2 Uranus and Neptune Targeting," AIAA/AAS Astrodynamics Conference, Paper AIAA-82-1476, Aug. 1982.
7. D.L. Gray, A.H. Taylor, R.P. Davis, G.D. Lewis, D.C. Roth, "Voyager 2 Navigation to Uranus," AAS/AIAA Astrodynamics Conference, Paper AAS 85-378, Aug. 1985.
8. T.H. Taylor, R.A. Jacobson, S.P. Synnott, G.D. Lewis, J.E. Riedel, D.C. Roth, "Orbit Determination for the Voyager II Uranus Encounter," AIAA/AAS Astrodynamics Conference, Paper AIAA-86-2112, Aug. 1986.
9. S.P. Synnott, A.J. Donegan, J.E. Riedel, J.A. Stuve, "Interplanetary Optical Navigation: Voyager Uranus Encounter," AIAA/AAS Astrodynamics Conference, Paper AIAA-86-2113, Aug. 1986.
10. D.L. Gray, R.J. Cesarone, C.L. Potts, K. Francis, S.E. Matousek, "Voyager 2 Uranus Navigation results," AIAA/AAS Astrodynamics Conference, Paper AIAA-86-2109, Aug. 1986.
11. W.I. McLaughlin, D.M. Wolff, "Voyager Flight Engineering: Preparing for Uranus," AIAA 23rd Aerospace Sciences Meeting, Paper AIAA-85-0287, Jan. 1985.
12. G. Carlisle, M. Hill, "Voyager Saturn Encounter Attitude and Articulation Control Experience," AAS Rocky Mountain Guidance and Control Conference, Paper 81-042, Feb. 1981.
13. H.P. Marderness, "Voyager Engineering Improvements for Uranus Encounter," AIAA/AAS Astrodynamics Conference, Paper AIAA-86-2110, Aug. 1986.
14. R.P. Laeser, "Operational Compensation for Effect of Close Titan Flyby on Remainder of Voyager 1 Saturn Near Encounter," Proc. Int. Symp. on Spacecraft Flight Dynamics, May 1981, pp. 431-440.
15. R.P. Laeser, "Voyager-Uranus at Our Doorstep," IAF-85-390, 36th IAF Congress, Oct. 1985.
16. R.P. Laeser, "The Engineering of the Voyager 2 Mission to Uranus," IAF-86-??, 37th IAF Congress, Oct. 1986.
17. E.C. Stone, "Voyager 2 Reprogrammed for New Observations at Saturn," Nature, Aug. 20, 1981 (News Views).
18. Views).
19. L. Miller, K. Savary, "Voyager Flight Engineering Preparations for Neptune Encounter," AIAA/AAS Astrodynamics Conference, Paper AIAA-88-4263, Aug. 1988.

## **Ibrahim et al. 2018**

- 1 Szebehely, V.G. (1967) *Theory of Orbits: The Restricted Problem of Three Bodies*. Academic Press, New York.
- 2 Curtis, H.D. (2009) *Orbital Mechanics for Engineering Students*, 2nd ed., Elsevier, Amsterdam.
- 3 Sharma, R.K., Subba Rao, P.V. (1976) “Stationary solutions and their characteristic exponents in the restricted three-body problem when the more massive primary is an oblate spheroid.” *Celestial Mechanics* 13, 137–149. doi:10.1007/BF01232721.
- 4 Ibrahim, A.H., Ismail, M.N., Khalil, I.K.H. (2016) “Studying the libration points of the Sun–Earth–Moon system.” *Int. J. Scientific and Engineering Research* 7(10).
- 5 Ismail, M.N., Khalil, I.K.H., Ibrahim, A.H. (2016) “The effect of solar radiation pressure on the libration points of the restricted four-body problem.” *Global Journal of Advanced Research* 3, 901–906.
- 6 Archambeau, G., Augros, P., Trélat, E. (2008) “Eight Lissajous Orbits in the Earth–Moon System.” (Details not provided in reference list.)
- 7 Celletti, A., Pucacco, G., Stella, D. (2015) “Lissajous and Halo Orbits in the Restricted Three-Body Problem.” *Journal of Nonlinear Science* 25, 343–370. doi:10.1007/s00332-015-9232-2.
- 8 Abouelmagd, E.I., El-Shaboury, S.M. (2012) “Periodic orbits under combined effects of oblateness and radiation in the restricted problem of three bodies.” *Astrophysics and Space Science* 341, 331–341.

## **Fiehler**

1. Oleson (2004)
2. S.R. Oleson, L. Gefert, J. Schreiber, J. McAdams, “Sub-Kilowatt Radioisotope Electric Propulsion for Outer Solar System Exploration,” *Forum on Innovative Approaches to Outer Planetary Exploration 2001–2020*, LPI, Houston, TX, Feb. 2001.
3. S.R. Oleson, L. Gefert, M. Patterson, J. Schreiber, S. Benson, J. McAdams, P. Ostdiek, “Outer Planet Exploration with Advanced Radioisotope Electric Propulsion,” *IEPC-2001-0179*, 27th Int. Electric Propulsion Conf., Pasadena, CA, Oct. 2001.
4. R.J. Noble, “Radioisotope Electric Propulsion of Small Payloads for Regular Access to Deep Space,” *AIAA 93-1897*, 29th Joint Propulsion Conference, Monterey, CA, 1993.
5. R.J. Noble, “Radioisotope Electric Propulsion for Small Robotic Space Probes,” *JBIS* 49, 455–468 (1996).
6. R.J. Noble, “Radioisotope Electric Propulsion of Sciencecraft to the Outer Solar System and Near-Interstellar Space,” *Nuclear News*, Nov. 1999, pp. 34–40.

7. S.R. Oleson, S. Benson, L. Gefert, M. Patterson, J. Schreiber, "Radioisotope Electric Propulsion for Fast Outer Planetary Orbiters," AIAA-2002-3967, 38th Joint Propulsion Conference, Indianapolis, IN, July 2002.
8. National Research Council, *New Frontiers in the Solar System: An Integrated Exploration Strategy*, National Academies Press, 2002, Ch. 7.
9. S. Oleson, L. Gefert, S. Benson, M. Patterson, M. Noca, J. Sims, "Mission Advantages of NEXT: NASA's Evolutionary Xenon Thruster," AIAA-2002-3969, 38th Joint Propulsion Conference, Indianapolis, IN, July 2002.
10. Neptune Orbiter Mission Package, In-Space Propulsion "Integrated Space Transportation" Systems Analysis Team report, April 2001.
11. Alagheband, A., Corazzini, T., Duchemin, O., Henny, D., Mason, R., Noca, M., "Neptune Explorer – An All Solar Powered Neptune Orbiter Mission," AIAA-1996-2980, 32nd Joint Propulsion Conference, Lake Buena Vista, FL, July 1996.
12. "The Vision for Space Exploration," NASA, Feb. 2004.
13. J.G. Schreiber, L.G. Thieme, "Overview of NASA GRC Stirling Technology Development," AIAA-2003-6093, 1st Int. Energy Conversion Engineering Conf., Portsmouth, VA, Aug. 2003.
14. E.J. Pencil, H. Kamhawi, L. Arrington, "Overview of NASA's Pulsed Plasma Thruster Development Program," AIAA-2004-3455, 40th Joint Propulsion Conference, Fort Lauderdale, FL, July 2004.
15. R. Oberto, T. Sweetser, et al., "Team X Titan Orbiter 2003-10," JPL Advanced Projects Design Team Report 658, 2003.
16. M. Patterson, S. Domonkos, J. Foster, T. Haag, "NEXT: NASA's Evolutionary Xenon Thruster Development Status," AIAA-2003-4862, 39th Joint Propulsion Conf., Huntsville, AL, July 2003.
17. T.K. Phelps, S. Wiseman, D.S. Komm, T. Bond, L. Pinero, "Development of the NEXT Power Processing Unit," AIAA-2003-4867, 39th Joint Propulsion Conf., Huntsville, AL, July 2003.
18. R.S. Aadland, C.S. Engelbrecht, G.B. Ganapathi, D.A. Browning, F. Wilson, W.A. Hoskins, "Xenon Propellant Management System for 40 cm NEXT Ion Thruster," AIAA-2003-4880, 39th Joint Propulsion Conf., Huntsville, AL, July 2003.
19. R. Gershman, "Propulsion and Power Technology Needs of Future Solar System Exploration Missions," Solar System Exploration Theme Overview, March 1999.
20. TRW Space
21. Technology Division, "Storable Thruster Upgrade Technology Program, Informal Report: Mission Analysis Task," for NASA GRC, Sept. 2001.
22. The Boeing Company, *Delta IV Payload Planner's Guide*, MDC 00H0043, Oct. 2000.

23. The Boeing Company, Delta IV Payload Planner's Guide Update, April 2002.

## **Stuchi et al. 2008**

1. Brouwer, D., Clemence, M.G. *Methods of Celestial Mechanics*. Academic Press, New York, 1961.
2. Corrêa, A.A., Ph.D. Thesis, INPE (Brazil), 2005 (in Portuguese).
3. Gómez, G., Jorba, A., Llibre, J., Masdemont, J., Martínez, R., Simó, C., *Dynamics and Mission Design Near the Libration Points*. World Scientific, 2002.
4. Hammel, H.B., Baines, K.H., Cuzzi, J.D., et al., "Exploration of the Neptune System," ASP Conf. Series 272, 297–323 (2002).
5. Holman, M.J., Kavelaars, J.J., Grav, T., et al., "Discovery of five irregular moons of Neptune," *Nature* 430, 865–867 (2004).
6. Jorba, A., Masdemont, J., "Dynamics in the centre manifold of the collinear points of the restricted three-body problem," *Physica D* 132, 189–213 (1999).
7. Jorba, A., "A methodology for the numerical computation of normal forms, centre manifolds and first integrals of Hamiltonian systems." *Experimental Mathematics* 8, 155–195 (1999).
8. Oberti, P., "Lagrangian satellites of Thetis and Dione," *Astronomy*
9. *Astrophysics* 228, 275–283 (1990).
10. Sharma, R.K., Subbarao, P.V., "Stationary solutions and their characteristic exponents in the restricted three-body problem when the more massive primary is an oblate spheroid," *Celestial Mechanics* 13, 137–149 (1976).
11. Sharma, R.K., "Periodic orbits of the second kind in the restricted three-body problem when the more massive primary is an oblate spheroid," *Astrophysics and Space Science* 76, 255–258 (1981).
12. Sharma, R.K., "Periodic orbits of the third kind in the restricted three-body problem with oblateness," *Astrophysics and Space Science* 166, 211–218 (1990).
13. Simó, C., *Estabilitat de Sistemes Hamiltonians*, Mem. Real Acad. Ciencias Artes Barcelona 48(7), 1989.
14. Simó, C., "On the analytical and numerical approximation of invariant manifolds," in *Modern Methods in Celestial Mechanics* (Benest
15. Froeschlé, eds.), Ed. Frontières, 1990, pp. 285–330.
16. Simó, C., Stuchi, T.J., "Stable and unstable manifolds and the destruction of KAM tori in the Hill problem," *Physica D* 140(1), 2000.
17. Solórzano, C.R.H., Sukhanov, A.A., Prado, A.F.B.A., "Optimization on Transfer to Neptune," *Proc. ICNPAA Mathematical Problems in Engineering*

18. Aerospace, Timișoara, Romania, 2004.
19. Solórzano, C.R.H., Sukhanov, A.A., Prado, A.F.B.A., “Close Approach to Neptune using Gravity Assists,” Proc. 56th IAF Congress, Fukuoka, Japan, 2005.
20. Solórzano, C.R.H., Sukhanov, A.A., Prado, A.F.B.A., “Analysis of trajectories to Neptune using gravity assists,” *Advances in the Astronautical Sciences* 144, 447–457 (2006).
21. Stuchi, T.J., “KAM Tori in the center manifold of the 3-D Hill problem,” in *Advances in Space Dynamics* (O.C. Winter, A.F.B.A. Prado, eds.), São José dos Campos, Brazil, 2002, pp. 112–127.
22. Subbarao, P.V., Sharma, R.K., “On the stability of the triangular points in the restricted three-body problem,” *Astronomy*
23. *Astrophysics* 43, 381–383 (1975).
24. Szebehely, V., *Theory of Orbits*. Academic Press, New York, 1967.
25. Vieira Neto, E., Winter, O.C., “Time analysis for temporary gravitational capture: satellites of Uranus,” *Astronomical Journal* 122, 440–448 (2001).
26. Yokoyama, T., Santos, M.T., Cardin, G., Winter, O.C., “On the orbits of the outer satellites of Jupiter,” *Astronomy*
27. *Astrophysics* 401, 763–772 (2003).

## **Canales et al. 2023**

- 1 National Academies of Sciences, Engineering, and Medicine, *Origins, Worlds, and Life: A Decadal Strategy for Planetary Science and Astrobiology 2023–2032*, National Academies Press, Washington, D.C., 2022, pp. 278–298.
- 2 Phillips, C.B., Pappalardo, R.T., “Europa Clipper Mission Concept,” *Eos, Transactions AGU* 95(20), 2014, pp. 165–167.
- 3 Grasset, O., et al., “Jupiter ICy Moons Explorer (JUICE): An ESA Mission to Orbit Ganymede. . .,” *Planetary and Space Science* 78, Apr. 2013, pp. 1–21.
- 4 Sims, J.A., “Jupiter Icy Moons Orbiter Mission Design Overview,” *AAS/AIAA Astrodynamics Specialist Conf.*, NASA CP-20060043643, 2006.
- 5 Ross, S.D., Koon, W.S., Lo, M.W., Marsden, J.E., “Design of a Multi-Moon Orbiter,” 13th AAS/AIAA Space Flight Mechanics Meeting, AAS 03-143, 2003.
- 6 Izzo, D., Simoes, L.F., Martens, M., de Croon, G.C., Heritier, A., Yam, C., “Search for a Grand Tour of the Jupiter Galilean Moons,” Proc. 15th Genetic and Evolutionary Computation Conf. (GECCO), 2013, pp. 1301–1308.
- 7 Colasurdo, G., Zavoli, A., Longo, A., Casalino, L., Simeoni, F., “Tour of Jupiter Galilean Moons: Winning Solution of GTOC6,” *Acta Astronautica* 102, Sept. 2014, pp. 190–199.

- 8 Gómez, G., Koon, W.S., Lo, M.W., Marsden, J.E., Masdemont, J.J., Ross, S.D., “Invariant Manifolds, the Spatial Three-Body Problem and Space Mission Design,” *Advances in the Astronautical Sciences* 109, 2001, pp. 3–22.
- 9 Gómez, G., Koon, W.S., Lo, M.W., Marsden, J.E., Masdemont, J.J., Ross, S.D., “Invariant Manifolds, the Spatial Three-Body Problem and Space Mission Design,” *Nonlinearity* 17(5), 2004, p. 1571.
- 10 Koon, W.S., Lo, M.W., Marsden, J.E., Ross, S.D., “Heteroclinic Connections Between Periodic Orbits and Resonance Transitions in Celestial Mechanics,” *Chaos* 10(2), 2000, pp. 427–469.
- 11 Koon, W.S., Lo, M.W., Marsden, J.E., Ross, S.D., “Constructing a Low Energy Transfer Between Jovian Moons,” *Celestial Mechanics (AMS Conference Series)*, Providence, RI, 2002, p. 129.
- 12 Koon, W.S., Lo, M.W., Marsden, J.E., Ross, S.D., *Dynamical Systems, the Three-Body Problem and Space Mission Design*, Marsden Books, Wellington, NZ, 2011, pp. 1167–1181.
- 13 Grover, P., Ross, S., “Designing Trajectories in a Planet–Moon Environment Using the Controlled Keplerian Map,” *Journal of Guidance, Control, and Dynamics* 32(2), 2009, pp. 437–444.
- 14 Campagnola, S., Russell, R.P., “Endgame Problem Part 1:  $V_\infty$ -Leveraging Technique and the Leveraging Graph,” *Journal of Guidance, Control, and Dynamics* 33(2), 2010, pp. 463–475.
- 15 Campagnola, S., Russell, R.P., “Endgame Problem Part 2: Multi-body Technique and the Tisserand–Poincaré Graph,” *Journal of Guidance, Control, and Dynamics* 33(2), 2010, pp. 476–486.
- 16 Lantoine, G., Russell, R.P., Campagnola, S., “Optimization of Low-Energy Resonant Hopping Transfers Between Planetary Moons,” *Acta Astronautica* 68(7), 2011, pp. 1361–1378.
- 17 Lantoine, G., Russell, R.P., “Near Ballistic Halo-to-Halo Transfers Between Planetary Moons,” *Journal of the Astronautical Sciences* 58(3), 2011, pp. 335–363.
- 18 Fantino, E., Castelli, R., “Efficient Design of Direct Low-Energy Transfers in Multi-Moon Systems,” *Celestial Mechanics and Dynamical Astronomy* 127(4), 2017, pp. 429–450.
- 19 Fantino, E., Flores, R.M., Al-Khateeb, A.N., “Efficient Two-Body Approximations of Impulsive Transfers Between Halo Orbits,” *Proc. 69th IAC, Paper IAC-18,C1,1,7,x44277*, Oct. 2018.
- 20 Canales, D., Howell, K.C., Fantino, E., “Moon-to-Moon Transfer Methodology for Multi-Moon Systems in the Coupled Spatial CR3BP,” *Proc. AAS/AIAA Astrodynamics Specialist Conf.*, AAS 20-462, Aug. 2020.

- 21 Canales, D., Howell, K.C., Fantino, E., “Transfer Design Between Neighborhoods of Planetary Moons in the CR3BP: The Moon-to-Moon Analytical Transfer Method,” *Celestial Mechanics and Dynamical Astronomy* 133(8), 2021, p. 36.
- 22 Canales, D., Howell, K.C., Fantino, E., “A Versatile Moon-to-Moon Transfer Design Method for Applications Involving Libration Point Orbits,” *Acta Astronautica* 198, Sept. 2022, pp. 388–402.
- 23 Canales, D., Gupta, M., Park, B., Howell, K.C., “Exploration of Deimos and Phobos Leveraging Resonant Orbits,” *Proc. 31st AAS/AIAA Space Flight Mechanics Meeting*, AAS 21-234, 2021.
- 24 Canales, D., Gupta, M., Park, B., Howell, K.C., “A Transfer Trajectory Framework for the Exploration of Phobos and Deimos Leveraging Resonant Orbits,” *Acta Astronautica* 194, May 2022, pp. 263–276.
- 25 Lara, M., Russell, R.P., Villac, B.F., “Fast Estimation of Stable Regions in Real Models,” *Meccanica* 42, 2007, pp. 511–515.
- 26 Villac, B.F., “Using FLI Maps for Preliminary Spacecraft Trajectory Design in Multi-Body Environments,” *Celestial Mechanics and Dynamical Astronomy* 102, Sept. 2008, pp. 29–48.
- 27 Haller, G., Sapsis, T., “Lagrangian Coherent Structures and the Smallest Finite-Time Lyapunov Exponent,” *Chaos* 21(2), 2011, Paper 023115.
- 28 Canales, D., Howell, K.C., Fantino, E., “Using Finite-Time Lyapunov Exponent Maps for Planetary Moon-Tour Design,” *Proc. 2021 AAS/AIAA Astrodynamics Specialist Conf.*, AAS 21-625, 2021.
- 29 Canales, D., Howell, K.C., Fantino, E., “Using Finite-Time Lyapunov Exponent Maps for Planetary Moon-Tour Design,” *Proc. AIAA ASCEND 2021*, Paper AIAA 2021-4154, 2021.
- 30 Poincaré, H., *Les Méthodes Nouvelles de la Mécanique Céleste*, Gauthier-Villars, Paris, 1892, pp. 128–130.
- 31 Szebehely, V., *The General and Restricted Problems of Three Bodies*, Springer, Vienna, 1974, pp. 12–49.
- 32 Broucke, R.A., “Periodic Orbits in the Restricted Three-Body Problem with Earth–Moon Masses,” *JPL Technical Report 32-1168*, Pasadena, 1968.
- 33 Howell, K.C., Campbell, E.T., “Three-Dimensional Periodic Solutions that Bifurcate from Halo Families in the CR3BP,” *Advances in the Astronautical Sciences* 102, 1999, pp. 891–910.
- 34 Haapala, A., Howell, K.C., “A Framework for Constructing Transfers Linking Periodic Libration Point Orbits in the Spatial CR3BP,” *Int. Journal of Bifurcation and Chaos* 26(5), 2016, 1630013.



- 35 Wiggins, S., Guckenheimer, J., “Chaotic Transport in Dynamical Systems,” *Physics Today* 45(7), 1992, pp. 68–69.
- 36 Gawlik, E.S., Marsden, J.E., Du Toit, P.C., Campagnola, S., “Lagrangian Coherent Structures in the Planar Elliptic Restricted Three-Body Problem,” *Celestial Mechanics and Dynamical Astronomy* 103(3), 2009, pp. 227–249.
- 37 Short, C.R., Howell, K.C., “Lagrangian Coherent Structures in Various Map Representations for Application to Multi-Body Gravitational Regimes,” *Acta Astronautica* 94(2), 2014, pp. 592–607.
- 38 Perez-Palau, D., Gómez, G., Masdemont, J., “Detecting Invariant Manifolds Using Hyperbolic Lagrangian Coherent Structures,” *Proc. 1st IAA Conference on Dynamics and Control of Spacecraft*, IAA-AAS-DyCoSS1-08-06, 2012.
- 39 Haller, G., “A Variational Theory of Hyperbolic Lagrangian Coherent Structures,” *Physica D* 240(7), 2011, pp. 574–598.
- 40 Huilgol, R., Phan-Thien, N., *Kinematics of Fluid Flow* (Ch. 1 in *Fluid Mechanics of Viscoelasticity*, Vol. 6 of *Rheology Series*), Elsevier, 1997, pp. 1–83.
- 41 Golub, G., Kahan, W., “Calculating the Singular Values and Pseudo-Inverse of a Matrix,” *SIAM J. Numerical Analysis* 2(2), 1965, pp. 205–224.
- 42 Smith, D.R., *An Introduction to Continuum Mechanics—After Truesdell and Noll*, Springer, 1993, pp. 143–162.
- 43 Short, C.R., Blazeviski, D., Howell, K.C., Haller, G., “Stretching in Phase Space and Applications in General Non-Autonomous Multi-Body Problems,” *Celestial Mechanics and Dynamical Astronomy* 122(3), 2015, pp. 213–238.
- 44 “SPICE – An Observation Geometry System for Space Science Missions,” 2023, [naif.jpl.nasa.gov/naif/](https://naif.jpl.nasa.gov/naif/) (retrieved 12 May 2023).
- 45 Canales, D., “Transfer Design Methodology Between Neighborhoods of Planetary Moons in the CR3BP,” Ph.D. Thesis, Purdue University, 2021.

## Gawlik 2007

1. 1. Dellnitz, M., et al., “Transport in dynamical astronomy and multibody problems,” *Int. J. Bifurcation and Chaos* 15, 699–727 (2005).
2. 2. Porter, M.A., Cvitanović, P., “Ground control to Niels Bohr: exploring outer space with atomic physics,” *Notices of the AMS* 52, 1020–1025 (2005).
3. 3. Shadden, S.C., Lekien, F., Marsden, J.E., “Definition and properties of Lagrangian coherent structures from finite-time Lyapunov exponents in two-dimensional aperiodic flows,” *Physica D* 212, 271–304 (2005).
4. 4. Koon, W.S., Lo, M., Marsden, J.E., Ross, S.D., “Heteroclinic connections between periodic orbits and resonance transitions in celestial mechanics,” *Chaos* 10, 427–469

(2000).

5. 5. Marsden, J.E., Ross, S.D., “New methods in celestial mechanics and mission design,” *Bulletin of the AMS* 43, 43–73 (2005).
6. 6. Koon, W.S., Lo, M.W., Marsden, J.E., Ross, S.D., “Resonance and capture of Jupiter comets,” *Celestial Mechanics and Dynamical Astronomy* 81, 27–38 (2001).
7. 7. Gómez, G., Koon, W.S., Lo, M.W., Marsden, J.E., Masdemont, J., Ross, S.D., “Connecting orbits and invariant manifolds in the spatial restricted three-body problem,” *Nonlinearity* 17, 1571–1606 (2004).
8. 8. Koon, W.S., Lo, M.W., Marsden, J.E., Ross, S.D., “Dynamical systems, the three-body problem, and space mission design,” in *Differential Equations and Dynamical Systems* (World Scientific, 2000), pp. 1167–1181.
9. 9. Parker, T.S., Chua, L.O., *Practical Numerical Algorithms for Chaotic Systems*, Springer-Verlag, New York, 1989.
10. 10. Szebehely, V.G., *Theory of Orbits: The Restricted Problem of Three Bodies*, Academic Press, New York, 1967.
11. 11. Goldstein, H., Poole, C., Safko, J., *Classical Mechanics*, Addison Wesley, San Francisco, 2002.
12. 12. Ross, S.D., “Cylindrical Manifolds and Tube Dynamics in the Restricted Three-Body Problem,” Ph.D. thesis, Caltech, 2004.
13. 13. Lekien, F., Shadden, S.C., Marsden, J.E., “Lagrangian coherent structures in n-dimensional systems,” *Journal of Mathematical Physics* 48, 017504 (2007).
14. 14. Arnold, V.I., *Mathematical Methods of Classical Mechanics*, Springer, New York, 1989.
15. 15. Marsden, J.E., West, M., “Discrete mechanics and variational integrators,” *Acta Numerica* 10, 357–514 (2001).
16. 16. Press, W.H., Teukolsky, S.A., Vetterling, W.T., Flannery, B.P., *Numerical Recipes in C: The Art of Scientific Computing*, Cambridge Univ. Press, 1992.
17. 17. Piegl, L., Tiller, W., *The NURBS Book*, Springer-Verlag, New York, 1997.

## **Munoz-Gutierrez et al. 2025**

1. Alexandersen, M., Gladman, B., Kavelaars, J.J., et al. 2016, *AJ* 152, 111. doi:10.3847/0004-6256/152/5/111.
2. Balaji, S., Zaveri, N., Hayashi, N., et al. 2023, *MNRAS* 524, 3039. doi:10.1093/mnras/stad2026.
3. Bannister, M.T., Gladman, B.J., Kavelaars, J.J., et al. 2018, *ApJS* 236, 18. doi:10.3847/1538-4365/aab77a.
4. Barr, A.C., Schwamb, M.E. 2016, *MNRAS* 460, 1542. doi:10.1093/mnras/stw1052.

5. Chen, Y.-T., Gladman, B., Volk, K., et al. 2019, AJ 158, 214. doi:10.3847/1538-3881/ab480b.
6. Chiang, E.I., Jordan, A.B. 2002, AJ 124, 3430. doi:10.1086/344605.
7. Dias-Oliveira, A., Sicardy, B., Ortiz, J.L., et al. 2017, AJ 154, 22. doi:10.3847/1538-3881/aa74e9.
8. Fernández, J.A., Ip, W.H. 1984, Icarus 58, 109. doi:10.1016/0019-1035(84)90101-5.
9. Forgács-Dajka, E., Kővári, E., Kovács, T., Kiss, C., Sándor, Z. 2023, arXiv:2302.01221. doi:10.48550/arXiv.2302.01221.
10. Forgács-Dajka, E., Sándor, Z., Érdi, B. 2018, MNRAS 477, 3383. doi:10.1093/mnras/sty641.
11. Gladman, B., Lawler, S.M., Petit, J.-M., et al. 2012, AJ 144, 23. doi:10.1088/0004-6256/144/1/23.
12. Gomes, R.S. 2000, AJ 120, 2695. doi:10.1086/316816.
13. Hahn, J.M., Malhotra, R. 2005, AJ 130, 2392. doi:10.1086/452638.
14. Harris, C.R., Millman, K.J., van der Walt, S.J., et al. 2020, Nature 585, 357. doi:10.1038/s41586-020-2649-2.
15. Hunter, J.D. 2007, Computing in Science
16. Engineering 9, 90. doi:10.1109/MCSE.2007.55.
17. Ida, S., Bryden, G., Lin, D.N.C., Tanaka, H. 2000, ApJ 534, 428. doi:10.1086/308720.
18. Ip, W.H., Fernández, J.A. 1997, A
19. A 324, 778.
20. Lellouch, E., Santos-Sanz, P., Lacerda, P., et al. 2013, A
21. A 557, A60. doi:10.1051/0004-6361/201322047.
22. Levison, H.F., Morbidelli, A., Van Laerhoven, C., Gomes, R., Tsiganis, K. 2008, Icarus 196, 258. doi:10.1016/j.icarus.2007.11.035.
23. Li, H., Zhou, L.-Y. 2023, A
24. A 680, A68. doi:10.1051/0004-6361/202346636.
25. Lykawka, P.S., Mukai, T. 2007, Icarus 189, 213. doi:10.1016/j.icarus.2007.01.001.
26. Malhotra, R. 1993, Nature 365, 819. doi:10.1038/365819a0.
27. Malhotra, R. 1995, AJ 110, 420. doi:10.1086/117532.
28. Malhotra, R. 1998, Lunar and Planetary Science Conference, Abstract 1476.
29. Malhotra, R., Chen, Z. 2023, MNRAS 521, 1253. doi:10.1093/mnras/stad483.

30. Milani, A., Nobili, A.M., Carpino, M. 1989, *Icarus* 82, 200. doi:10.1016/0019-1035(89)90031-6.
31. Mommert, M., Harris, A.W., Kiss, C., et al. 2012, *A*
32. A 541, A93. doi:10.1051/0004-6361/201118562.
33. Morbidelli, A. 1997, *Icarus* 127, 1. doi:10.1006/icar.1997.5681.
34. Muñoz-Gutiérrez, M.A., Peimbert, A., Lehner, M.J., Wang, S.-Y. 2021, *AJ* 162, 164. doi:10.3847/1538-3881/ac1102.
35. Muñoz-Gutiérrez, M.A., Peimbert, A., Pichardo, B. 2018, *AJ* 156, 108. doi:10.3847/1538-3881/aad4f8.
36. Muñoz-Gutiérrez, M.A., Peimbert, A., Pichardo, B., Lehner, M.J., Wang, S.-Y. 2019, *AJ* 158, 184. doi:10.3847/1538-3881/ab4399.
37. Muñoz-Gutiérrez, M.A., Pichardo, B., Reyes-Ruiz, M., Peimbert, A. 2015, *ApJL* 811, L21. doi:10.1088/2041-8205/811/2/L21.
38. Murray, C.D., Dermott, S.F. 1999, *Solar System Dynamics*. Cambridge Univ. Press.
39. Murray-Clay, R.A., Chiang, E.I. 2005, *ApJ* 619, 623. doi:10.1086/426425.
40. Nesvorný, D. 2018, *ARA*
41. A 56, 137. doi:10.1146/annurev-astro-081817-052028.
42. Nesvorný, D., Roig, F., Ferraz-Mello, S. 2000, *AJ* 119, 953. doi:10.1086/301208.
43. Petit, J.-M., Kavelaars, J.J., Gladman, B.J., et al. 2011, *AJ* 142, 131. doi:10.1088/0004-6256/142/4/131.
44. Rein, H., Liu, S.F. 2012, *A*
45. A 537, A128. doi:10.1051/0004-6361/201118085.
46. Rein, H., Spiegel, D.S. 2015, *MNRAS* 446, 1424. doi:10.1093/mnras/stu2164.
47. Rein, H., Hernandez, D.M., Tamayo, D., et al. 2019, *MNRAS* 485, 5490. doi:10.1093/mnras/stz769.
48. Robutel, P., Laskar, J. 2001, *Icarus* 152, 4. doi:10.1006/icar.2000.6576.
49. Stern, S.A., Grundy, W.M., McKinnon, W.B., Weaver, H.A., Young, L.A. 2018, *ARA*
50. A 56, 357. doi:10.1146/annurev-astro-081817-051935.
51. Tiscareno, M.S., Malhotra, R. 2009, *AJ* 138, 827. doi:10.1088/0004-6256/138/3/827.
52. Vilenius, E., Kiss, C., Müller, T., et al. 2014, *A*
53. A 564, A35. doi:10.1051/0004-6361/201322416.
54. Volk, K., Murray-Clay, R., Gladman, B., et al. 2016, *AJ* 152, 23. doi:10.3847/0004-6256/152/1/23.

55. Wyatt, M.C. 2003, ApJ 598, 1321. doi:10.1086/379064.

## Bury

1. McMahon (2020)

- 1 Lo, M.W., Ross, S.D., “Low Energy Interplanetary Transfers Using Invariant Manifolds of  $L_1$ ,  $L_2$ , and Halo Orbits,” NASA Tech Brief 23, 1999.
- 2 Gómez, G., Koon, W.S., Lo, M.W., Marsden, J.E., Masdemont, J., Ross, S.D., “Connecting Orbits and Invariant Manifolds in the Spatial Restricted Three-Body Problem,” Nonlinearity 17, 1571–1606 (2004).
- 3 Koon, W.S., Lo, M.W., Marsden, J.E., Ross, S.D., Dynamical Systems, the Three-Body Problem, and Space Mission Design, 2006 (available online).
- 4 Parker, J.S., “Low-Energy Ballistic Lunar Transfers,” Ph.D. thesis, Univ. of Colorado Boulder, 2007.
- 5 Vaquero Escribano, T.M., “Spacecraft Transfer Trajectory Design Exploiting Resonant Orbits in Multi-body Environments,” Ph.D. thesis, Purdue Univ., 2013.
- 6 von Kirchbach, C., Zheng, H., Aristoff, J., Kavanagh, J., Villac, B., Lo, M., “Trajectories Leaving a Sphere in the Restricted 3-Body Problem,” Advances in the Astronomical Sciences 120(II), 1875–1901 (2005).
- 7 Baoyin, H., McInnes, C.R., “Trajectories to and from the Lagrange Points and the Primary Body Surfaces,” Journal of Guidance, Control, and Dynamics 29(4), 998–1003 (2006).
- 8 Alessi, E.M., Gómez, G., Masdemont, J.J., “Leaving the Moon by Means of Invariant Manifolds of Libration Point Orbits,” Commun. Nonlinear Sci. Numer. Simul. 14(12), 4153–4167 (2009).
- 9 Davis, K.E., Anderson, R.L., Scheeres, D.J., Born, G.H., “The Use of Invariant Manifolds for Transfers Between Unstable Periodic Orbits of Different Energies,” Celestial Mechanics and Dynamical Astronomy 107(4), 471–485 (2010).
- 10 Davis, K.E., Anderson, R.L., Scheeres, D.J., Born, G.H., “Optimal Transfers Between Unstable Periodic Orbits Using Invariant Manifolds,” Celestial Mechanics and Dynamical Astronomy 109(3), 241–264 (2011).
- 11 Anderson, R.L., Parker, J.S., “Comparison of Low-Energy Lunar Transfer Trajectories to Invariant Manifolds,” Celestial Mechanics and Dynamical Astronomy 115, 311–331 (2013).
- 12 Parker, J.S., Anderson, R.L., Simon, M.K., Low-Energy Lunar Trajectory Design, JPL/Caltech, 2013.
- 13 Anderson, R.L., Lo, M.W., “Spatial Approaches to Moons from Resonance Relative to Invariant Manifolds,” Acta Astronautica 105(1), 355–372 (2014).

- 14 Anderson, R.L., “Approaching Moons from Resonance via Invariant Manifolds,” *Journal of Guidance, Control, and Dynamics* 38(6), 2015.
- 15 Joffre, E., Zamaro, M., Silva, N., Marcos, A., Simplício, P., “Trajectory design and guidance for landing on Phobos,” *Acta Astronautica* 151, 389–400 (2018).
- 16 Restrepo, R.L., Russell, R.P., Lo, M.W., “Europa Lander Trajectory Design Using Lissajous Staging Orbits,” AAS Astrodynamics Specialist Conference, 2018.
- 17 Restrepo, R.L., “Patched Periodic Orbits: A Systematic Strategy for Low-Energy Trajectory and Moon Tour Design,” Ph.D. thesis, 2018.
- 18 Davis, D.C., Boudad, K.K., Power, R.J., Howell, K.C., “Heliocentric Escape and Lunar Impact from Near Rectilinear Halo Orbits,” AAS Astrodynamics Specialist Conference, Portland, ME, 2019.
- 19 Roy, A.E., *Orbital Motion*, 4th ed., IOP Publishing, 2005.
- 20 Howell, K.C., “Three-dimensional, periodic ‘halo’ orbits,” *Celestial Mechanics* 32(1), 53–71 (1984).
- 21 Bury, L., McMahon, J., “Low-Energy Trajectories As Staging Points for Landing on the Secondary Body in the CR3BP,” AAS Astrodynamics Specialist Conference, Maui, HI, 2019.

## Balint 2005

- 1 President G.W. Bush, *A Renewed Spirit of Discovery: The President’s Vision for U.S. Space Exploration*, Jan. 2004.
- 2 L.A.M. Benner, *The Encyclopedia of Planetary Sciences*. Chapman
1. Hall, New York, 1997.
- 3 T. Balint, *Europa Surface Science Package Feasibility Assessment*, JPL Technical Report D-30050, Sept. 2004.
- 4 NASA, “NASA’s Mars Exploration Program,” [marsprogram.jpl.nasa.gov/](http://marsprogram.jpl.nasa.gov/), 2004.
- 5 T. Balint, N. Emis, “Thermal Analysis of a Small-RPS Concept for the Mars NetLander Network Mission,” in M.S. El-Genk (ed.), *STAIF-2005*, AIP Conf. Proc. 746, 2005.
- 6 M. Noca, R.W. Bailey, “Mission Trades for Aerocapture at Neptune,” AIAA-2004-3843, 40th Joint Propulsion Conference, July 2004.
- 7 R. Bailey, J. Hall, T. Spilker, N. Okong’o, “Neptune Aerocapture Mission and Spacecraft Design Overview,” AIAA-2004-3842, 40th Joint Propulsion Conference, July 2004.
- 8 NASA-KSC, “Launch vehicle database,” [elvperf.ksc.nasa.gov/elvMap/](http://elvperf.ksc.nasa.gov/elvMap/), July 2004.
- 9 R. Haw, “Mass allocation and V requirements for a Triton Lander,” Personal communication, June 2004.

- 10 T.S. Balint, “Small Power System Trade Options for Advanced Mars Mission Studies,” Proc. 55th IAC (IAC-04-Q.3.b.08), Vancouver, Oct. 2004.
- 11 P. Anderson, “SRG110 Program Overview,” briefing at JPL, June 28, 2004.
- 12 R. Rovang, MMRTG Preliminary Design Review Data Package, Boeing, Feb. 24, 2004.
- 13 R.J. Lipinski, S.A. Wright, M.P. Sherman, R.X. Lenard, R.A. Talandis, D.I. Poston, et al., “Small Fission Power Systems for Mars,” in M.S. El-Genk (ed.), STAIF-2002, AIP Conf. Proc. 608, 2002, pp. 1043–1053.
- 14 I. Jun, “Peer Review for Radiation Shielding Approach,” JPL Technical Baseline Review Presentation, Feb. 2004.

## **Neptune–Triton Flagship NASA, 2008**

- 1 References not found in the provided sources.

## **Nakamiya et al. 2012**

n provided sources

## **Loeffler et al. 2024**

n provided sources

## **Fitzgerald**

1. Ross (2022)

n provided sources

## **Saturn Oblateness Halo Orbits 2021**

n provided sources