References

- [Abd17] A. R. Abdulghany. "Generalization of parallel axis theorem for rotational inertia." In: *American Journal of Physics* 85 (Oct. 2017), pp. 791–795.

 DOI: 10.1119/1.4994835.
- [ACFL95] E. F. Arias, P. Charlot, M. Feissel, and J.-F. Lestrade. "The extragalactic reference system of the International Earth Rotation Service, ICRS." In: *Astronomy & Astrophysics* 303 (Nov. 1995), pp. 604–608.
- [ACMo6] I. Alonso-Mallo, B. Cano, and M. J. Moreta. "Stability of Runge-Kutta-Nyström methods." In: Journal of Computational and Applied Mathematics 189.1-2 (May 1, 2006), pp. 120-131.

 DOI: 10.1016/j.cam.2005.01.005.
- [AK15] Z. A. Anastassi and A. A. Kosti. "A 6(4) optimized embedded Runge-Kutta-Nyström pair for the numerical solution of periodic problems." In: *Journal of Computational and Applied Mathematics* 275 (2015), pp. 311–320.

 DOI: 10.1016/j.cam.2014.07.016.
- [Arc+11] B. A. Archinal, M. F. A'Hearn, E. Bowell, A. Conrad, G. J. Consolmagno, R. Courtin, T. Fukushima, D. Hestroffer, J. L. Hilton, G. A. Krasinsky, G. Neumann, J. Oberst, P. K. Seidelmann, P. Stooke, D. J. Tholen, P. C. Thomas, and I. P. Williams. "Report of the IAU Working Group on Cartographic Coordinates and Rotational Elements: 2009." In: Celestial Mechanics and Dynamical Astronomy 109.2 (2011), pp. 101–135. DOI: 10.1007/s10569-010-9320-4. eprint: http://goo.gl/d6WdlJ.
- [BC72] R. A. Broucke and P. J. Cefola. "On the Equinoctial Orbit Elements." In: *Celestial Mechanics* 5.3 (May 1972), pp. 303–310.

 DOI: 10.1007/BF01228432.
- [BCMo7] S. Blanes, F. Casas, and A. Murua. "Splitting methods for non-autonomous linear systems." In: *International Journal of Computer Mathematics* 84.6 (2007), pp. 713–727. DOI: 10.1080/00207160701458567.
- [BCRoo] S. Blanes, F. Casas, and J. Ros. "Processing Symplectic Methods for Near-Integrable Hamiltonian Systems." In: *Celestial Mechanics and Dynamical Astronomy* 77.1 (2000), pp. 17–36.
 DOI: 10.1023/A:1008311025472.
- [BCR01a] S. Blanes, F. Casas, and J. Ros. "High-order Runge-Kutta-Nyström geometric methods with processing." In: *Applied Numerical Mathematics* 39.3–4 (2001). Themes in Geometric Integration, pp. 245–259.

 DOI: 10.1016/S0168-9274(00)00035-0.
- [BCRo1b] S. Blanes, F. Casas, and J. Ros. "New Families of Symplectic Runge–Kutta–Nyström Integration Methods." In: Numerical Analysis and Its Applications. Ed. by L. Vulkov, P. Yalamov, and J. Waśniewski. Vol. 1988. Lecture Notes in Computer Science. Springer Berlin Heidelberg, 2001, pp. 102–109.
 DOI: 10.1007/3-540-45262-1 13.
- [BCR99] S. Blanes, F. Casas, and J. Ros. "Symplectic Integration with Processing: A General Study." In: SIAM Journal on Scientific Computing 21.2 (1999), pp. 711–727.

 DOI: 10.1137/S1064827598332497.
- [Běi13] 北斗卫星导航系统公开服务性能规范(1.0 版)—BeiDou Navigation Satellite System Open Service Performance Standard (Version 1.0). BDS-OS-PS-1.0. Chinese: http://www.beidou.gov.cn/zt/zcfg/201710/P020171202709828404659.pdf—English: http://www.beidou.gov.cn/xt/gfxz/201805/P020180509584193805984.pdf. 中国卫星导航系统管理办公室—China Satellite Navigation Office, Dec. 2013.
- [Ben97] J. R. Benada. PO.DAAC Merged GDR (TOPEX-Poseidon) Generation B User's handbook, version 2.o. D-11007. Jet Propulsion Laboratory, July 30, 1997. eprint: https://podaac-tools.jpl.nasa.gov/drive/files/allData/topex/L2/mgdrb/docs/uhmgdrb/html/usr_toc.htm.

- [Beuo3] H. Beust. "Symplectic integration of hierarchical stellar systems." In: *Astronomy & Astrophysics* 400 (Mar. 2003), pp. 1129–1144.

 DOI: 10.1051/0004-6361:20030065.
- [BF54] P. F. Byrd and M. D. Friedman. *Handbook of elliptic integrals for engineers and physicists*. Springer-Verlag, 1954.
- [Bjö94] Å. Björck. "Numerics of Gram-Schmidt orthogonalization." In: *Linear Algebra and its Applications* 197–198 (1994), pp. 297–316.

 DOI: 10.1016/0024-3795(94)90493-6.
- [Bla+13] S. Blanes, F. Casas, A. Farrés, J. Laskar, J. Makazaga, and A. Murua. "New families of symplectic splitting methods for numerical integration in dynamical astronomy." In: *Applied Numerical Mathematics* 68 (2013), pp. 58–72.

 DOI: 10.1016/j.apnum.2013.01.003.
- [BMo2] S. Blanes and P. C. Moan. "Practical Symplectic Partitioned Runge–Kutta and Runge–Kutta–Nyström Methods." In: *Journal of Computational and Applied Mathematics* 142.2 (May 2002), pp. 313–330.

 DOI: 10.1016/S0377-0427(01)00492-7.
- [Bra+14] B. K. Bradley, B. A. Jones, G. Beylkin, K. Sandberg, and P. Axelrad. "Bandlimited implicit Runge–Kutta integration for Astrodynamics." In: *Celestial Mechanics and Dynamical Astronomy* 119.2 (2014), pp. 143–168.

 DOI: 10.1007/s10569-014-9551-x.
- [Brao6] C. Braak. "A Markov Chain Monte Carlo version of the genetic algorithm Differential Evolution: easy Bayesian computing for real parameter spaces." In: *Statistics and Computing* 16 (Sept. 2006), pp. 239–249.

 DOI: 10.1007/s11222-006-8769-1.
- [Bre73] R. P. Brent. Algorithms for minimization without derivatives. Prentice-Hall, 1973.
- [BS96] F. Blanc and C. Schgounn. AVISO/Altimetry, AVISO User Handbook for Merged TOPEX/-POSEIDON products, Edition 3.o. AVI-NT-02-101-CN. Centre national d'études spatiales, July 1996.
- [BSFL98] R. S. Bhat, B. E. Shapiro, R. B. Frauenholz, and R. K. Leavitt. *TOPEX/Poseidon Orbit Maintenance for First Five Years*. Technical Report 97-1398. Jet Propulsion Laboratory, May 11, 1998. eprint: https://trs.jpl.nasa.gov/handle/2014/22860.
- [Bul65] R. Bulirsch. "Numerical Calculation of Elliptic Integrals and Elliptic Functions." In: *Numerische Mathematik* 7.1 (Feb. 1, 1965), pp. 78–90.
 DOI: 10.1007/BF01397975.
- [Bul69] R. Bulirsch. "Numerical Calculation of Elliptic Integrals and Elliptic Functions. III." In: *Numerische Mathematik* 13.4 (Aug. 1969), pp. 305–315.

 DOI: 10.1007/BF02165405.
- [Cap12] M. Capderou. Satellites: de Kepler au GPS. Springer-Verlag France, 2012.
- [CFSZo7] E. Celledoni, F. Fassò, N. Säfström, and A. Zanna. "The exact computation of the free rigid body motion and its use in splitting methods." Preprint at https://www.math.unipd.it/~fasso/research/papers/norway.pdf. Oct. 2007.
- [CFSZo8] E. Celledoni, F. Fassò, N. Säfström, and A. Zanna. "The exact computation of the free rigid body motion and its use in splitting methods." In: *SIAM J. Scientific Computing* 30 (May 2008), pp. 2084–2112.
- [CGMo8] M. P. Calvo, S. González-Pinto, and J. I. Montijano. "Global error estimation based on the tolerance proportionality for some adaptive Runge–Kutta codes." In: *Journal of Computational and Applied Mathematics* 218.2 (2008). The Proceedings of the Twelfth International Congress on Computational and Applied Mathematics, pp. 329–341. DOI: 10.1016/j.cam.2007.02.034.
- [Cha73] J. F. Chandler. "Determination of the Dynamical Properties of the Jovian System by Numerical Analysis." PhD thesis. Massachusetts Institute of Technology, 1973. eprint: http://hdl.handle.net/1721.1/51410.

- [Cha95] J. Chapront. "Representation of planetary ephemerides by frequency analysis. Applications to the five outer planets." In: *Astronomy & Astrophysics Supplement Series* 109 (Jan. 1995), pp. 181–192.
- [Chi97] S. A. Chin. "Symplectic integrators from composite operator factorizations." In: *Physics Letters A* 226.6 (1997), pp. 344–348.

 DOI: 10.1016/S0375-9601(97)00003-0.
- [CHMR96] M. P. Calvo, D. J. Higham, J. I. Montijano, and L. Rández. "Global error estimation with adaptive explicit Runge-Kutta methods." In: *IMA Journal of Numerical Analysis* 16.1 (1996), pp. 47–63.
 DOI: 10.1093/imanum/16.1.47.
- [CHO73] C. J. Cohen, E. C. Hubbard, and C. Oesterwinter. Astronomical Papers Prepared for the Use of the American Ephemeris and Nautical Almanac Elements of the Outer Planets for One Million Years. Vol. XXII. I. United States Government Printing Office, 1973.
- [CKoo] S. A. Chin and D. W. Kidwell. "Higher-order force gradient symplectic algorithms." In: *Physical Review E* 62 (Dec. 2000), p. 8746.

 DOI: 10.1103/PhysRevE.62.8746.
 eprint: http://arxiv.org/abs/physics/0006082.
- [CR91] J. Candy and W. Rozmus. "A symplectic integration algorithm for separable Hamiltonian functions." In: *Journal of Computational Physics* 92.1 (Jan. 1991), pp. 230–256. DOI: 10.1016/0021-9991(91)90299-Z.
- [CS93a] M. P. Calvo and J. M. Sanz-Serna. "High-Order Symplectic Runge–Kutta–Nyström Methods." In: *SIAM Journal on Scientific Computing* 14.5 (1993), pp. 1237–1252. DOI: 10.1137/0914073.
- [CS93b] M. P. Calvo and J. M. Sanz-Serna. "The Development of Variable-step Symplectic Integrators with Application to the Two-body Problem." In: SIAM Journal on Scientific Computing 14.4 (July 1993), pp. 936–952.
 DOI: 10.1137/0914057.
- [CV84] J. Chapront and D. T. Vu. "A new compact representation of ephemerides: application to the motion of Pluto, the Sun and the Galilean satellites of Jupiter." In: *Astronomy & Astrophysics* 141 (1984), pp. 131–143.
- [Del90] J.-B. Delambre. "De l'usage du calcul différentiel dans la construction des tables astronomiques." In: *Mémoires présentés à l'Académie*. Vol. V. Mémoires de l'Académie Royale des Sciences de Turin. 1790, pp. 143–180.
- [DEP87a] J. R. Dormand, M. E. A. El-Mikkawy, and P. J. Prince. "Families of Runge-Kutta-Nyström Formulae." In: *IMA Journal of Numerical Analysis* 7.2 (1987), pp. 235–250. DOI: 10.1093/imanum/7.2.235.
- [DEP87b] J. R. Dormand, M. E. A. El-Mikkawy, and P. J. Prince. "High-Order Embedded Runge–Kutta–Nyström Formulae." In: *IMA Journal of Numerical Analysis* 7.4 (1987), pp. 423–430.

 DOI: 10.1093/imanum/7.4.423.
- [DL₄₂] G. C. Danielson and C. Lánczos. "Some improvements in practical Fourier analysis and their application to x-ray scattering from liquids." In: *Journal of the Franklin Institute* 233.4 (1942), pp. 365–380.

 DOI: 10.1016/S0016-0032(42)90767-1.
- [DM11] F. Diele and C. Marangi. "Explicit symplectic partitioned Runge-Kutta-Nyström methods for non-autonomous dynamics." In: *Applied Numerical Mathematics* 61.7 (2011), pp. 832-843.

 DOI: 10.1016/j.apnum.2011.02.003.
- [Dor96] J. R. Dormand. Numerical Methods for Differential Equations A Computational Approach. CRC Press, 1996.
- [Emeo7] V. V. Emel'yanenko. "A method of symplectic integrations with adaptive time-steps for individual Hamiltonians in the planetary *N*-body problem." In: *Celestial Mechanics and Dynamical Astronomy* 98.3 (2007), pp. 191–202.

 DOI: 10.1007/s10569-007-9077-6.

- [ERo3] M. El-Mikkawy and E. D. Rahmo. "A new optimized non-FSAL embedded Runge–Kutta–Nyström algorithm of orders 6 and 4 in six stages." In: *Applied Mathematics and Computation* 145.1 (2003), pp. 33–43.

 DOI: 10.1016/S0096-3003(02)00436-8.
- [Eve85] E. Everhart. "An Efficient Integrator that Uses Gauss-Radau Spacings." In: *Dynamics of Comets: Their Origin and Evolution*. Ed. by A. Carusi and G. B. Valsecchi. Vol. 115. Astrophysics and Space Science Library. Springer Netherlands, 1985, pp. 185–202. DOI: 10.1007/978-94-009-5400-7_17.
- [Far+13] A. Farrés, J. Laskar, S. Blanes, F. Casas, J. Makazaga, and A. Murua. "High precision symplectic integrators for the Solar System." In: *Celestial Mechanics and Dynamical Astronomy* 116.2 (2013), pp. 141–174.

 DOI: 10.1007/s10569-013-9479-6.
- [Fin87] J. M. Fine. "Low order practical Runge–Kutta–Nyström methods." In: *Computing* 38.4 (1987), pp. 281–297.

 DOI: 10.1007/BF02278707.
- [FMLGo8] A. Fienga, H. Manche, J. Laskar, and M. Gastineau. "INPOPo6: a new numerical planetary ephemeris." In: *Astronomy & Astrophysics* 477.1 (2008), pp. 315–327. DOI: 10.1051/0004-6361:20066607.
- [Fol+14] W. M. Folkner, J. G. Williams, D. H. Boggs, R. S. Park, and P. Kuchynka. "The Planetary and Lunar Ephemerides DE430 and DE431." In: *Interplanetary Network Progress Report* 42.196 (2014). eprint: http://ilrs.gsfc.nasa.gov/docs/2014/196C.pdf.
- [FR90] E. Forest and R. D. Ruth. "Fourth-order symplectic integration." In: *Physica D: Nonlinear Phenomena* 43.1 (May 1990), pp. 105–117.

 DOI: 10.1016/0167-2789(90)90019-L.
- [Fuko9a] T. Fukushima. "Fast computation of complete elliptic integrals and Jacobian elliptic functions." In: *Celestial Mechanics and Dynamical Astronomy* 105.4 (Oct. 25, 2009), pp. 305–328.

 DOI: 10.1007/s10569-009-9228-z.
- [Fuko9b] T. Fukushima. "Fast computation of Jacobian elliptic functions and incomplete elliptic integrals for constant values of elliptic parameter and elliptic characteristic." In: *Celestial Mechanics and Dynamical Astronomy* 105.1 (Oct. 2009), pp. 245–260. DOI: 10.1007/s10569-008-9177-y.
- [Fuk11a] T. Fukushima. "Precise and fast computation of the general complete elliptic integral of the second kind." In: *Mathematics of Computation* 80 (Feb. 2011), pp. 1725–1743. DOI: 10.1090/S0025-5718-2011-02455-5.
- [Fuk11b] T. Fukushima. "Precise and fast computation of a general incomplete elliptic integral of second kind by half and double argument transformations." In: Journal of Computational and Applied Mathematics 235.14 (May 2011), pp. 4140–4148.

 DOI: 10.1016/j.cam.2011.03.004.
- [Fuk12a] T. Fukushima. xgscd.txt (Fortran program package to compute the Jacobian elliptic functions, sn(u|m), cn(u|m), dn(u|m)). Dec. 2012.
- [Fuk12b] T. Fukushima. "Precise and fast computation of a general incomplete elliptic integral of third kind by half and double argument transformations." In: Journal of Computational and Applied Mathematics 236.7 (Jan. 2012), pp. 1961–1975.

 DOI: 10.1016/j.cam.2011.11.007.
- [Fuk18] T. Fukushima. xelbdj.txt: Fortran test driver for "elbdj"/"relbdj", subroutines to compute the double/single precision general incomplete elliptic integrals of all three kinds. Software. Jan. 2018.

 DOI: 10.13140/RG.2.2.11113.80489.
- [Gen72a] W. M. Gentleman. "Algorithm 424: Clenshaw-Curtis quadrature [D1]." In: *Communications of the ACM* 15.5 (May 1972), pp. 353–355.

 DOI: 10.1145/355602.355603.
- [Gen72b] W. M. Gentleman. "Implementing Clenshaw-Curtis quadrature, I methodology and experience." In: *Communications of the ACM* 15.5 (May 1972), pp. 337–342. DOI: 10.1145/355602.361310.

- [Gen72c] W. M. Gentleman. "Implementing Clenshaw-Curtis quadrature, II computing the cosine transformation." In: *Communications of the ACM* 15.5 (May 1972), pp. 343–346. DOI: 10.1145/355602.361311.
- [GMPS16] K. Goździewski, C. Migaszewski, F. Panichi, and E. Szuszkiewicz. "The Laplace resonance in the Kepler-60 planetary system." In: Monthly Notices of the Royal Astronomical Society: Letters 455.1 (Jan. 1, 2016), pp. L104–L108.
 DOI: 10.1093/mnrasl/slv156.
- [GV13] G. H. Golub and C. F. Van Loan. *Matrix Computations (4th Edition)*. Johns Hopkins University Press, Feb. 15, 2013.
- [Higo2] N. J. Higham. Accuracy and Stability of Numerical Algorithms. Society for Industrial and Applied Mathematics, 2002.
- [HLBo8] Y. Hida, X. S. Li, and D. H. Bailey. "Library for Double-Double and Quad-Double Arithmetic." Preprint at https://www.davidhbailey.com/dhbpapers/qd.pdf. May 8, 2008.
- [HLWo3] E. Hairer, C. Lubich, and G. Wanner. "Geometric numerical integration illustrated by the Störmer–Verlet method." In: *Acta Numerica* (May 2003), pp. 399–450. DOI: 10.1017/S0962492902000144.
- [HMR08] E. Hairer, R. I. McLachlan, and A. Razakarivony. "Achieving Brouwer's law with implicit Runge–Kutta methods." In: *BIT Numerical Mathematics* 48.2 (2008), pp. 231–243. DOI: 10.1007/s10543-008-0170-3.
- [HMSo9] E. Hairer, R. I. McLachlan, and R. D. Skeel. "On energy conservation of the simplified Takahashi–Imada method." In: *Mathematical Modelling and Numerical Analysis* 43.4 (2009). ID: unige:5211, pp. 631–644.
- [HOo9] D. Huybrechs and S. Olver. "Highly oscillatory quadrature." In: *Highly Oscillatory Problems*. Ed. by B. Engquist, A. Fokas, and E. Hairer. Cambridge University Press, 2009, pp. 25–50.

 DOI: 10.1017/CB09781139107136.
- [HSo5] E. Hairer and G. Söderlind. "Explicit, Time Reversible, Adaptive Step Size Control." In: SIAM Journal on Scientific Computing 26.6 (2005), pp. 1838–1851.

 DOI: 10.1137/040606995.
- [INOo6] A. Iserles, S. Nørsett, and S. Olver. "Highly Oscillatory Quadrature: The Story so Far."
 In: Numerical Mathematics and Advanced Applications. Ed. by A. de Castro, D. Gómez,
 P. Quintela, and P. Salgado. Springer Berlin Heidelberg, 2006, pp. 97–118.
 DOI: 10.1007/978-3-540-34288-5_6.
- [JA12] B. A. Jones and R. L. Anderson. "A Survey of Symplectic and Collocation Integration Methods for Orbit Propagation." In: *AAS/AIAA Spaceflight Mechanics Meeting*. Vol. 143. Advances in the Astronautical Sciences. 2012.
- [JE33] E. Jahnke and F. Emde. Funktionentafeln mit Formeln und Kurven—Tables of functions with formulæ and curves. Teubner, 1933.
- [JE38] E. Jahnke and F. Emde. Funktionentafeln mit Formeln und Kurven—Tables of functions with formulæ and curves. Teubner, 1938.
- [JEL60] E. Jahnke, F. Emde, and F. Lösch. *Tafeln Höherer Funktionen—Tables of higher functions*. Teubner, 1960.
- [Jon12] B. Jones. "Orbit Propagation Using Gauss-Legendre Collocation." In: AIAA/AAS Astrodynamics Specialist Conference. Guidance, Navigation, and Control and Co-located Conferences. 2012.
- [Kaho6] W. Kahan. "How Futile are Mindless Assessments of Roundoff in Floating-Point Computation?" Rant at https://people.eecs.berkeley.edu/~wkahan/Mindless.pdf.
 Jan. 11, 2006.
- [KM13] A. Krishnamoorthy and D. Menon. "Matrix Inversion Using Cholesky Decomposition." In: Signal Processing: Algorithms, Architectures, Arrangements, and Applications. 2013, pp. 70–72.
- [Kudo7] S. Kudryavtsev. "Long-term harmonic development of lunar ephemeris." In: *Astronomy & Astrophysics* 471 (2007), pp. 1069–1075.

 DOI: 10.1051/0004-6361:20077568.

- [LDVo4] V. Lainey, L. Duriez, and A. Vienne. "New accurate ephemerides for the Galilean satellites of Jupiter." In: *Astronomy & Astrophysics* 420.3 (2004), pp. 1171–1183.

 DOI: 10.1051/0004-6361:20034565.
- [Lea86] W. M. Lear. *The Gravitational Acceleration Equations*. Internal Note 86-FM-15. NASA Johnson Space Center, Apr. 1986.
- [Lea87] W. M. Lear. *The Programs TRAJ1 and TRAJ2*. Internal Note 87-FM-4. NASA Johnson Space Center, Apr. 1987.
- [Lin81] S. Linnainmaa. "Software for Doubled-Precision Floating-Point Computations." In: *ACM Transactions on Mathematical Software* 7.3 (Sept. 1981), pp. 272–283. DOI: 10.1145/355958.355960.
- [LJVF89] A. C. Long, J. J. O. Cappellari, C. E. Velez, and A. J. Fuchs. Goddard Trajectory Determination System (GTDS) Mathematical Theory Revision 1. Tech. rep. FDD/552-89/001 CSC/TR-89/6001. Computer Sciences Corporation, National Aeronautics, and Space Administration/Goddard Space Flight Center, July 1989.
- [LLL12] 李松明, 李岩, and 李劲东.""天绘一号"传输型摄影测量与遥感卫星." In: 遥感学报 16.S1 (2012), pp. 10–16.
 DOI: 10.11834/jrs.20120003.
 CNKI: YGXB201251005.
- [MA92] R. I. McLachlan and P. Atela. "The Accuracy of Symplectic Integrators." In: *Nonlinearity* 5 (1992), pp. 541–562.

 DOI: 10.1088/0951-7715/5/2/011.
- [McLo2] R. I. McLachlan. "Families of High-Order Composition Methods." In: *Numerical Algorithms* 31.1-4 (2002), pp. 233–246.
 DOI: 10.1023/A:1021195019574.
- [McLo7] R. I. McLachlan. "A New Implementation of Symplectic Runge–Kutta Methods." In: SIAM Journal on Scientific Computing 29.4 (2007), pp. 1637–1649.

 DOI: 10.1137/06065338X.
- [McL93] R. I. McLachlan. "Symplectic integration of Hamiltonian wave equations." In: *Numerische Mathematik* 66.1 (1993), pp. 465–492.

 DOI: 10.1007/BF01385708.
- [McL95] R. I. McLachlan. "On the Numerical Integration of Ordinary Differential Equations by Symmetric Composition Methods." In: SIAM Journal on Scientific Computing 16.1 (Jan. 1995), pp. 151–168.

 DOI: 10.1137/0916010.
- [Mon92] O. Montenbruck. "Numerical integration methods for orbital motion." In: *Celestial Mechanics and Dynamical Astronomy* 53.1 (1992), pp. 59–69.

 DOI: 10.1007/BF00049361.
- [MQo2] R. I. McLachlan and G. R. W. Quispel. "Splitting methods." In: *Acta Numerica* 11 (Jan. 2002), pp. 341–434.
 DOI: 10.1017/S0962492902000053.
- [MQ06] R. I. Mclachlan and G. R. W. Quispel. "Geometric Integrators for ODEs." In: *Journal of Physics A* 39 (2006), pp. 5251–5285.

 DOI: 10.1088/0305-4470/39/19/S01.
- [Mur98] A. Murua. "Runge-Kutta-Nyström methods for general second order ODEs with application to multi-body systems." In: *Applied Numerical Mathematics* 28.2-4 (Oct. 1998), pp. 387–399.

 DOI: 10.1016/S0168-9274(98)00055-5.
- [Myro7] V. Myrnyy. "A Simple and Efficient FFT Implementation in C++." In: *Dr. Dobb's* (2007). eprint: https://drdobbs.com/cpp/a-simple-and-efficient-fft-implementatio/199500857.
- [New87] I. Newton. *Philosophiæ naturalis principia mathematica*. Facsimile at https://cudl.lib.cam.ac.uk/view/PR-ADV-B-00039-00001/1. Jussu Societatis Regiæ ac Typis Joseph Streater, 1687.

- [New89] X. X. Newhall. "Numerical Representation of Planetary Ephemerides." In: *Celestial Mechanics* 45 (1989), pp. 305–310. eprint: http://adsabs.harvard.edu/full/1989CeMec..45..305N.
- [OLBC10] F. Olver, D. Lozier, R. Boisvert, and C. Clark. NIST Handbook of Mathematical Functions. Cambridge University Press, 2010.
- [OS94] D. I. Okunbor and R. D. Skeel. "Canonical Runge–Kutta–Nyström methods of orders five and six." In: *Journal of Computational and Applied Mathematics* 51.3 (1994), pp. 375–382.

 DOI: 10.1016/0377-0427(92)00119-T.
- [Ove65] K. J. Overholt. "An Instability in the Fibonacci and Golden Section Search Methods." In: *BIT* 5.4 (1965). Merged with the preceding article (starting p. 282) on the journal website, pp. 284–286.

 DOI: 10.1007/BF01937508.
- [PL10] G. Petit and B. Luzum. *IERS Conventions (2010)*. IERS Technical Note 36. International Earth Rotation and Reference Systems Service Convention Centre, 2010. eprint: http://www.iers.org/IERS/EN/Publications/TechnicalNotes/tn36.html.
- [PR14] E. Pellegrini and R. P. Russell. "F and G Taylor Series Solutions to the Circular Restricted Three Body Problem." In: *AAS/AIAA Spaceflight Mechanics Meeting*. Vol. 152. Advances in the Astronautical Sciences. 2014.
- [QT90] G. D. Quinlan and S. Tremaine. "Symmetric multistep methods for the numerical integration of planetary orbits." In: *Astronomical Journal* 100 (Nov. 1990), pp. 1694–1700.
- [Qui99] G. D. Quinlan. "Resonances and instabilities in symmetric multistep methods." Preprint at https://arxiv.org/pdf/astro-ph/9901136.pdf. Jan. 12, 1999.
- [QZJo8] 曲宏松, 张叶, and 金光. "基于 *Q* 值选取的太阳同步回归轨道设计算法." In: 光学精密工程 16.9 (Sept. 2008), pp. 1688-1694. CNKI: GXJM200809026.
- [Rie+16] J. Ries, S. Bettadpur, R. Eanes, Z. Kang, U. Ko, C. McCullough, P. Nagel, N. Pie, S. Poole, H. Save, and B. Tapley. *The Combination Global Gravity Model GGMo5C*. Technical Memorandum CSR-TM-16-01. Center for Space Research at the University of Texas at Austin, Jan. 2016.
 eprint: ftp://ftp.csr.utexas.edu/pub/grace/GGM05/README_GGM05C.pdf.
- [RLo6] R. P. Russell and M. Lara. "Repeat Ground Track Lunar Orbits in the Full-Potential Plus Third-Body Problem." In: *AIAA/AAS Astrodynamics Specialist Conference*. Vol. 3. Collection of Technical Papers. Aug. 2006.

 DOI: 10.2514/6.2006-6750.
- [Rut83] R. Ruth. "A Canonical Integration Technique." In: *Proceedings of the 1983 Particle Accelerator Conference (PAC 83).* Vol. 30. IEEE Transactions on Nuclear Science. https://accelconf.web.cern.ch/accelconf/p83/PDF/PAC1983_2669.PDF. May 1, 1983, pp. 2669–2671.
- [Sat69] Saturn V Flight Evaluation Working Group. Saturn V Launch Vehicle, Flight Evaluation Report AS-503, Apollo 8 Mission. Tech. rep. MPR-SAT-FE-69-1. George C. Marshall Space Flight Center, Feb. 1969.

 eprint: http://hdl.handle.net/2060/19690015314.
- [SM10] J. R. Scott and M. C. Martini. "High-Speed Solution of Spacecraft Trajectory Problems Using Taylor Series Integration." In: *Journal of Spacecraft and Rockets* 47.1 (2010), pp. 199–202.
- [Smi61] O. K. Smith. "Eigenvalues of a Symmetric 3×3 Matrix." In: Communications of the ACM 4.4 (Apr. 1961), p. 168.

 DOI: 10.1145/355578.366316.
- [SN97] M. Sidlichovsky and D. Nesvorny. "Frequency modified Fourier transform and its application to asteroids." In: *Celestial Mechanics and Dynamical Astronomy* 65 (1997), pp. 137–148.
- [Som93] B. P. Sommeijer. "Explicit, high-order Runge-Kutta-Nyström methods for parallel computers." In: *Applied Numerical Mathematics* 13.1–3 (1993), pp. 221–240. DOI: 10.1016/0168-9274(93)90145-H.

- [SQG13] P. W. Sharp, M. A. Qureshi, and K. R. Grazier. "High order explicit Runge–Kutta Nyström pairs." In: *Numerical Algorithms* 62.1 (2013), pp. 133–148.

 DOI: 10.1007/s11075-012-9571-0.
- [SSo2] M. Sofroniou and G. Spaletta. "Symplectic Methods for Separable Hamiltonian Systems." In: Computational Science ICCS 2002. Ed. by P. M. A. Sloot, A. G. Hoekstra, C. J. K. Tan, and J. J. Dongarra. Vol. 2331. Lecture Notes in Computer Science. Springer, Berlin, Heidelberg, Apr. 10, 2002, pp. 506–515.
 DOI: 10.1007/3-540-47789-6_53.
- [Sta98] E. M. Standish. *JPL Planetary and Lunar Ephemerides*, *DE*₄*05*/*LE*₄*05*. Interoffice Memorandum IOM 312.F–98–048. Jet Propulsion Laboratory, Aug. 1998.
- [Stö12] C. Störmer. "Sur les trajectoires des corpuscules électrisés dans l'espace sous l'action du magnétisme terrestre, avec application aux aurores boréales." In: *Radium* 9.11 (Nov. 1912), pp. 395–399.

 DOI: 10.1051/radium:01912009011039501.
- [Suz90] M. Suzuki. "Fractal decomposition of exponential operators with applications to many-body theories and Monte Carlo simulations." In: *Physics Letters A* 146 (June 1990), pp. 319–323.

 DOI: 10.1016/0375-9601(90)90962-N.
- [Tao12] T. Tao. A mathematical formalisation of dimensional analysis. Blog post. University of California, Los Angeles, Dec. 29, 2012. eprint: https://terrytao.wordpress.com/2012/12/29/a-mathematical-formalisation-of-dimensional-analysis/.
- [TBS13] Y. Takahashi, M. W. Busch, and D. J. Scheeres. "Spin state and moment of inertia characterization of 4179 Toutatis." In: *The Astronomical Journal* 146.4 (Sept. 2013), pp. 95–104.

 DOI: 10.1088/0004-6256/146/4/95.
- [Tre10] L. N. Trefethen. "Householder triangularization of a quasimatrix." In: *IMA Journal of Numerical Analysis* 30.4 (2010), pp. 887–897.

 DOI: 10.1093/imanum/drp018.
- [Ver67] L. Verlet. "Computer "Experiments" on Classical Fluids. I. Thermodynamical Properties of Lennard-Jones Molecules." In: *Physical Review* 159.1 (July 5, 1967), pp. 98–103. DOI: 10.1103/PhysRev.159.98.
- [Wal18] U. Walter. Astronautics The Physics of Space Flight Third Edition. Springer Nature Switzerland AG, 2018.

 DOI: 10.1007/978-3-319-74373-8.
- [Waro3] H. S. Warren Jr. *Hacker's Delight*. Addison-Wesley, 2003.
- [Wes17] D. B. Westra. Identites and properties for associated Legendre functions. Personal note. Universität Wien, Sept. 2017.

 eprint: https://www.mat.univie.ac.at/~westra/associatedlegendrefunctions.pdf.
- [WG13] G. Wilkins and M. Gu. "A modified Brent's method for finding zeros of functions." In: Numerische Mathematik 123 (2013), pp. 177–188.

 DOI: 10.1007/s00211-012-0480-x.
- [XZLo9] 徐莹, 张有广, and 林明森. "卫星高度计轨道设计的因素分析." In: 遥感技术与应用 24.2 (2009), pp. 155-163.

 DOI: 10.11873/j.issn.1004-0323.2009.2.155.

 CNKI: YGJS200902005.
- [Yos90] H. Yoshida. "Construction of higher order symplectic integrators." In: *Physics Letters* A 150.5-7 (1990), pp. 262-268. DOI: 10.1016/0375-9601(90)90092-3.
- [Zha+15] Y. Zhao, J. Ji, J. Huang, S. Hu, X. Hou, Y. Li, and W.-H. Ip. "Orientation and rotational parameters of asteroid 4179 Toutatis: new insights from Chang'e-2's close flyby." In: *Monthly Notices of the Royal Astronomical Society* 450.4 (May 2015), pp. 3620–3632. DOI: 10.1093/mnras/stv792.