

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 (1st May 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/d6Wd1J>.
- [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.
- [BCM07] 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.
- [BCR00] 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.
- [BCR01b] 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 2.0*. D-11007. Jet Propulsion Laboratory, 30th July 1997.
eprint: https://podaac-tools.jpl.nasa.gov/drive/files/allData/topex/L2/mgdrb/docs/uhmgdrb/html/usr_toc.htm.

- [Beuo03] 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.
- [BM02] 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. J. F. ter 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 3.0*. 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, 11th May 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 (1st Feb. 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.
- [CK00] 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. Lánzos. ‘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.
- [Eme07] 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.

- [ER03] 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.
- [Fan91a] T. Fantet de Lagny. ‘Nouvelle methode de Mr. T. F. de Lagny pour l’approximation des Racines cubiques’. In: *Le Journal des sçavans* 1691.17 (14th May 1691), pp. 200–203.
eprint: <https://gallica.bnf.fr/ark:/12148/bpt6k56538h/f202.double>.
- [Fan91b] T. Fantet de Lagny. *Méthode nouvelle, infiniment générale et infiniment abrégée, Pour l’Extraction des Racines quarrées, cubiques, &c. & pour l’Approximation des mêmes Racines à l’infini dans toutes sortes d’égalitez. Proposée à examiner aux Mathématiciens de l’Europe*. De l’Imprimerie d’Antoine Lambin, ruë S. Jacques, au Miroir, 1691.
eprint: <https://gallica.bnf.fr/ark:/12148/bpt6k1039787>.
- [Fan92] T. Fantet de Lagny. *Methodes nouvelles et abregées pour l’extraction et l’approximation des racines. Et pour resoudre par le cercle et la ligne droite, plusieurs problèmes solides & sursolides ; comme la duplication du cube, l’invention de deux & de quatre moyennes proportionnelles, &c. dans toute la précision possible, & d’une maniere praticable. Avec une dissertation sur les methodes d’arithmetique & d’analyse ; où l’on établit des principes generaux pour en juger*. De l’Imprimerie de Jean Cusson, ruë saint Jacques, à l’Image de saint Jean Baptiste, 1692.
eprint: <https://nubis.univ-paris1.fr/ark:/15733/3415>.
- [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. ‘INPOP06: 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.
- [Fuk09a] T. Fukushima. ‘Fast computation of complete elliptic integrals and Jacobian elliptic functions’. In: *Celestial Mechanics and Dynamical Astronomy* 105.4 (25th Oct. 2009), pp. 305–328.
DOI: 10.1007/s10569-009-9228-z.
- [Fuk09b] 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 (1st Jan. 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, 15th Feb. 2013.
- [Hal09] E. Halley. ‘A new, exact, and easy Method of finding the Roots of any Equations generally, and that without any previous Reduction’. In: *The Philosophical Transactions of the Royal Society of London, from their commencement, in 1665, to the year 1800; Abridged, with notes and biographic illustrations*. Ed. by C. Hutton, G. Shaw and R. Pearson. Vol. III from 1683 to 1694. Translated from the Latin [Hal94]. 1809, pp. 640–649.
- [Hal94] E. Halley. ‘Methodus Nova Accurata & Facilis Inveniendi Radices Æquationum quarumcumque generaliter, sine prævia Reductione’. In: *Philosophical Transactions of the Royal Society* 18.210 (May 1694), pp. 136–148.
DOI: 10.1098/rstl.1694.0029.
- [Higo02] 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>. 8th May 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.
- [HMRo8] 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.

- [HS05] 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.
- [INO06] A. Iserles, S. P. Nørsett and S. Olver. ‘Highly Oscillatory Quadrature: The Story so Far’. In: *Numerical Mathematics and Advanced Applications*. Ed. by A. B. 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.
- [Kah06] W. Kahan. ‘How Futile are Mindless Assessments of Roundoff in Floating-Point Computation?’ Rant at <https://people.eecs.berkeley.edu/~wkahan/Mindless.pdf>. 11th Jan. 2006.
- [KB01] W. Kahan and D. Bindel. ‘Computing a Real Cube Root’. 2001 retypesetting by Bindel of a purported 1991 version by Kahan, at <https://cscclub.uwaterloo.ca/~pbarfuss/qbrt.pdf>. 21st Apr. 2001.
- [KM13] A. Krishnamoorthy and D. Menon. ‘Matrix Inversion Using Cholesky Decomposition’. In: *Signal Processing: Algorithms, Architectures, Arrangements, and Applications*. 2013, pp. 70–72.
- [Kud07] S. M. Kudryavtsev. ‘Long-term harmonic development of lunar ephemeris’. In: *Astronomy & Astrophysics* 471 (2007), pp. 1069–1075. DOI: 10.1051/0004-6361:20077568.
- [LDV04] 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 TRA71 and TRA72*. 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—Mapping Satellite-1 transmission type photogrammetric and remote sensing satellite’. In: *遥感学报—Journal of Remote Sensing* 16.S1 (2012), pp. 10–16. DOI: 10.11834/jrs.20120003. CNKI: YGXB2012S1005.
- [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.
- [MQo6] 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. Dobbs’s* (2007). eprint: <https://drdobbs.com/cpp/a-simple-and-efficient-fft-implementation/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>.
- [NW86] A. M. Nobili and C. M. Will. ‘The real value of Mercury’s perihelion advance’. In: *Nature* 320 (6th Mar. 1986), pp. 39–41.
DOI: 10.1038/320039a0.
- [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/ALAA 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>. 12th Jan. 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—Repeat sun-synchronous orbit design method based on Q value selection’. In: *光学精密工程—Optics and Precision Engineering* 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 GGM05C*. 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. 1st May 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. Nesvorný. ‘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, 10th Apr. 2002, pp. 506–515. doi: 10.1007/3-540-47789-6_53.
- [Sta98] E. M. Standish. *JPL Planetary and Lunar Ephemerides, DE405/LE405*. Interoffice Memorandum IOM 312.F-98-048. Jet Propulsion Laboratory, Aug. 1998.
- [Ste74] P. H. Sterbenz. *Floating-point computation*. Prentice-Hall, 1974.
- [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, 29th Dec. 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 (5th July 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.
- [War03] 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.
- [WL17] 汪海洪 and 罗北. ‘计算测高卫星地面轨迹交叉点的快速数值算法—Fast Numerical Algorithm for the Calculation of Altimetric Crossovers from Satellite Ground Tracks’. In: *武汉大学学报 · 信息科学版—Geomatics and Information Science of Wuhan University* 42.3 (Mar. 2017), pp. 293–298.
DOI: 10.13203/j.whugis20140866.
CNKI: WHCH201703002.
- [WYZ15] 温生林, 闫野 and 张华. ‘低轨回归轨道卫星轨迹漂移特性分析与控制—Analysis and control of groundtrack drift for recursive low earth orbit satellites’. In: *系统工程与电子技术—Systems Engineering and Electronics* 37.3 (2015). The DOI is not registered; see <https://www.sys-ele.com/CN/10.3969/j.issn.1001-506X.2015.03.22>, pp. 613–619.
DOI: 10.3969/j.issn.1001-506X.2015.03.22.
CNKI: XTYD201503023.
- [XZLo9] 徐莹, 张有广 and 林明森. ‘卫星高度计轨道设计的因素分析—An Analysis on the Considerations of Satellite Altimeter Orbit Design’. In: *遥感技术与应用—Remote Sensing Technology and Application* 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.

- [Zhō+12] 周飞, 李强, 信太林, 韦锡峰 and 张华. ‘空间辐射环境引起在轨卫星故障分析与加固对策—Analyses and countermeasures of in-orbit satellite failures caused by space radiation environment’. In: 航天器环境工程—*Spacecraft Environment Engineering* 29.4 (2012), pp. 392–396.
DOI: 10.3969/j.issn.1673-1379.2012.04.006.
CNKI: HTHJ201204009.