Orbits & Simulation Bibliography

Aarseth, S.J. et al., *A comparison of numerical methods for the study of star cluster dynamics*, 1974, A&A, 37.183A (Plummer spheres and clusters)

Aarseth, S. J., Makino, J., *On a Hermite Integrator with Ahmad-Cohen Scheme for Gravitational Many-Body Problems*, 1992, PASJ 44,141-151. (Detailed discussion of Hermite method)

Beckman, B., *Feynman Says: “Newton implies Kepler, No Calculus Needed!”*, 2006, Journal of Symbolic Geometry 1, (Use geometry to prove Kepler’s Laws).

Boulet, D., *Methods of Orbit Determination for the Micro Computer*, Willman-Bell, 1991. (Gravity, orbits, elements, numerical integration, programs in BASIC).

Hut, P., Makino, J., *Moving Around Stars*, 2003-2007, Preliminary draft of Vols 1-3 of The Art of Computational Science , <http://www.artcompsci.org/index.html> and <http://www.artcompsci.org/kali/index.html>. (detailed student directions for developing a simulator).

Meeus, J., *Astronomical Algorithms* *2nd Ed.,* 1998, Willmann-Bell Inc. (huge collection of algorithms).

Montenbruck, O., Pfleger, T., *Astronomy on the Personal Computer 4th Ed*., Springer, 2000. (coordinates, time, orbits, programs in C).

Nobili, A. M., Roxburgh, I. W., *Simulation of Relativistic Corrections in Long Term Numerical Integrations of Planetary Orbits*, 1986, IAUS. (relatavistic corrections).

Roy, A. E., Clarke, D., Astronomy *Principles and Practice* *4th Ed*., IoP, 2003 (coordinates, gravity, orbits).

Schytler, P., *How to compute planetary positions*, undated, <https://stjarnhimlen.se/comp/ppcomp.html>

Sparke, L.S., Gallagher III, J.S., *Galaxies in the Universe: An Introduction*, 2007, Cambridge University Press.

Vitagliano, A., *Numerical integration for the real time production of fundamental ephemerides over a wide time span*, 1997, Celestial Mechanics and Dynamical Astronomy, Volume 66, Number 3, 293-308.

Yoshida, H., *Construction of higher order symplectic integrators*, 1990, Physics Letters A, Vol 150.