Kepler Problem Error Convergence, 99.0% Confidence Weak/Hamiltonian Strong/Mean Square 10^{-1} 10^{-2} 10⁻³ 10^{-4} $E[H(x_{exact})]$ $x_{approx}||_2^2]$ 10^{-5} 10^{-6} 10^{-7} 10^{-8} $^{/}E[||x_{exact}||$ $E[H(x_{approx})]$ 10-10 10^{-9} 10-12 10^{-11} 10-13 - 10^{-14} 10^{-16} 10^{-15} 10⁻³ 10⁻³ Δt Δt Slope order 1 Lobatto-2 or HBVM(1,1) Lobatto-4 or HBVM(2,2) Lobatto-6 or HBVM(3,3) Slope order 2 Lobatto-HBVM(2,1) Lobatto-HBVM(3,2) Lobatto-HBVM(4,3) Slope order 3 Lobatto-HBVM(3,1) Lobatto-HBVM(4,2) Lobatto-HBVM(5,3) Slope order 4 Lobatto-HBVM(4,1) Lobatto-HBVM(5,2) Lobatto-HBVM(6,3) Slope order 5 Lobatto-HBVM(5,1) Lobatto-HBVM(6,2) Lobatto-HBVM(7,3) Slope order 6