Hénon-Heiles Error Convergence, 99.99% Confidence Weak/Hamiltonian Strong/Mean Square 10^{-4} 10⁻³ 10^{-6} $E[H(x_{exact})]|$ 10^{-5} $x_{approx}||_2^2]$ 10^{-8} 10^{-7} 10^{-10} $E[H(x_{approx})]$ $E[||x_{exact}||]$ 10^{-9} 10-12 10^{-11} 10^{-14} 10^{-13} 10^{-16} 10^{-15} 10^{-2} 10^{-3} 10^{-3} 10^{-2} Δt Δt Slope order 1 Slope order 5 Lobatto-HBVM(3,2) Lobatto-HBVM(4,3) Slope order 2 Lobatto-2 or HBVM(1,1) Lobatto-HBVM(4,2) Lobatto-HBVM(5,3) Slope order 3 Lobatto-HBVM(2,1) Lobatto-6 or HBVM(3,3) Lobatto-HBVM(6,3) Slope order 4 Lobatto-4 or HBVM(2,2)