Discrepancy in energy after simulation for different values of θ Barnes-Hut method dt = 0.02, N = 1000, k = 20000.5 Discrepancy in energy between U_0 and U_k 8 0.4 0.3 0 0.2 8 0.1 0.0 -0.1-0.20 -0.3-0.40.010.0250.05 0.1 0.2 0.3 0.4 0.5 0.6 0.7 8.0 0.9 1.0 2.0 3.0 5.0 10.0 θ