Abstract Submitted for the TSF13 Meeting of The American Physical Society

Globular Cluster Simulation by N-body code and MOCCA code DONGMING JIN, University of Texas at Brownsville — N-body6++ is a descendant of the family of NBODY codes initiated by Sverre Aarseth, which has been extended to be suitable for parallel computers. MOCCA is an improved code combines Monte Carlo method for simulations of star clusters evolution and Fewbody code to perform scattering experiments. I use the model NGC 6397 from Mirek Giersz's work to compare MOCCA code with N-body6 and N-body6++. I analyze the structure of these codes and figure out a way to calibrate to same initial conditions. With the newly-assembled Kepler Cluster in Germany, N-body6 code takes less than 3 days to reach 4000 N-body Time for NGC 6397 model with 1 knot. From my first run, N-body6 and MOCCA have a good agreement with the binary mass & radius distribution and eccentricity distribution, not with N-body6++. For semi-major axis, all the codes don't get a good match.

> Dongming Jin University of Texas at Brownsville

Date submitted: 13 Sep 2013

Electronic form version 1.4