

Abstract

N-body simulations of star clusters are an ideal tool to determine the initial condition of star clusters, their later dynamical evolution and to predict the present-day distribution of stars of different masses in the clusters. In my talk I will summarize recent efforts to model individual globular clusters using N-body simulations. So far I have determined the masses and mass-to-light ratios of 85 Galactic globular clusters by comparing their velocity dispersion and surface brightness profiles against a large grid of 900 N-body simulations of star clusters of varying initial concentration, size and central black hole mass fraction. I will also talk about the possible presence of intermediate-mass black holes and large numbers of stellar-mass black holes in the studied clusters.