

Astronomy Seminar

March 1, 2017 Wednesday

Speaker: Mark Peacock, MSU

Title: The IMF and globular clusters of local early-type galaxies

Abstract:

I'll discuss the stellar populations and globular clusters of local early-type galaxies. Using HST and Chandra observations, we can help to answer key questions about the formation of these galaxies and their star clusters. An important property of these galaxies is the initial mass function (IMF) of their stellar population. Recent studies have proposed that the IMF might vary systematically with galaxy mass. I'll present constraints on variations in the critical high mass end of the IMF, based on using a galaxy's LMXB population as a probe of their stellar remnant fraction. I'll also discuss the stellar haloes of these galaxies, based on resolved HST photometry. Due to their long relaxation times, such observations provide important constraints on a galaxy's assembly history. Finally, I'll discuss the globular clusters in these galaxies, focusing on evidence that they may host multiple populations. This phenomenon is known in the Galactic globular clusters, but our work suggests that it may be a ubiquitous feature of globular clusters.