

that the $z=0.3$ and the $z=0.5$ clusters have overall masses statistically consistent with each other: $6.3^{(+3.9)}_{(-2.1)}$ and $8.6^{(+5.2)}_{(-1.6)} \times 10^{14} M_{\odot}$ respectively.

¹ Instituto de Astronomia, Geofísica e Ciências Atmosféricas, Universidade de São Paulo.

² Centro Brasileiro de Pesquisas Físicas.

THE CONNECTION BETWEEN THE ORIGINS OF GLOBULAR CLUSTERS (GCS) AND THE EVOLUTION OF THEIR HOST GALAXY

A. Cortesi¹, C. Mendes de Oliveira¹, A. Chies-Santos², S. Bamford², M. Merrifield², A. Romanowsky³, J. Arnold³, V. Pota⁴, D. Forbes⁴, L. Coccato⁵, J. Brodie³, C. Usher⁴, J. Strader⁶, and C. Foster⁶

Star kinematics is directly connected to the evolution history of their host galaxy. To recover the correct kinematics, though, it is necessary to assign each star to the galaxy component it belongs to: the disk (thin or thick) or the spheroid. Performing a multi-band decomposition of infrared images of NGC 3115, and planetary nebulae (PNe) as tracers of the overall stellar populations, we recovered the velocity and velocity dispersion of the thick disk and of the spheroid. We then studied the GCs population in NGC 3115. Given a GC position and velocity we can estimate its probability of belonging to the disk, to the spheroid and in general to the system. We find that most GCs are consistent of being drawn from the light weighted velocity distribution of NGC 3115 stars. Nearly half of the GCs belongs to the disk and half to the spheroid, but we don't find any trend between their colour (b-r) or calcium triplet abundances and their kinematics.

¹ IAG, USP, Sao Paulo, Brasil.

² School of Physics and Astronomy, University of Nottingham, University Park, Nottingham.

³ University of California Observatories, Santa Cruz, USA.

⁴ Centre for Astrophysics & Supercomputing, Swinburne University, Hawthorn, Australia.

⁵ European Southern Observatory, Garching, Germany.

⁶ Michigan State University.

⁷ Australian Astronomical Observatory.

STAR FORMING, AGN AND PASSIVE PHASES OF GALAXY EVOLUTION SINCE $Z=0.5$ AS TOLD BY SDSS DATA

M. V. Costa-Duarte^{1,2}, G. Stasińska², N. V. Asari³, R. Cid Fernandes³, and L. Sodré Jr.¹

Our goal is to study the interplay between star forming, AGN and passive phases of galaxy evolution. For that we need a wide database of galaxy spectra, binning the sample into stellar mass and redshift bins to deal with mass-dependent evolution and completeness. We extracted our galaxy sample from de SDSS/DR7 between $0.05 < z < 0.50$. The stellar mass and the emission line measurements were taken from the STARLIGHT database and average values of galaxy properties were obtained for each bin. In order to distinguish star forming and AGN hosts, we first considered the BPT diagram as it is generally used. Higher stellar mass migrates to the right wing as redshift decreases and one can erroneously infer that the importance of AGN versus star formation increases with time for these objects. However the BPT diagram cannot distinguish retired galaxies from AGN hosts. For that purpose, the WHAN diagram can be used. Purely star forming galaxies dominates at low stellar mass bins while as the mass increases the AGN becomes more significant. Retired and lineless galaxies dominate the galaxy population at the highest stellar mass bins.

¹ Instituto de Astronomia, Geofísica e Ciências Atmosféricas - Universidade de São Paulo.

² LUTH- L'Observatoire de Paris.

³ Universidade Federal de Santa Catarina.

GALAXY CONCENTRATION INDEX IN LOW X-RAY LUMINOSITY GALAXY CLUSTERS

H. Cuevas¹, J. L. Nilo Castellón¹, and M. V. Alonso²

Using a sample of 10 low x-ray luminosity galaxy clusters (Nilo Castellón et al. 2013B), we studied the properties of 146 galaxies classified as members in a redshift range of $0.185 < z < 0.701$.

Following Concelice et al. 2000, we define the galaxy concentration index (C), as the ratio of two circular radii which contain 80 and 20 percent of the total Petrosian flux. Mainly, we observed an increment of C for early-type and lenticular galaxies at redshifts lower than 0.3, that can be related to the presence of giant galaxies in these low redshift clusters ($C > 4$). Contrary to these results, for late-type galaxies we found smaller C values for the lower redshift clusters.