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spectroscopic data, we found no metallicity gradients for the tail of NGC92. The abundances in the tail are similar to the values displayed by the central regions of NGC92. This fact suggests that gas mixing triggered by the interaction produces a flattening in the metallicity distribution of this system. For the system NGC6845, we found that regions located in the tail have similar abundances to one source located in the inner region of this galaxy, also suggesting a flat metal distribution. For HCG 31 we found an inhomogeneous metal distribution for the central region. Apparently, each star forming complex keeps its metal abundance despite the strong gravitational interaction that this system suffered. In the case of the tidal tails, our results support the scenario in which gas mixing produces a flattening in the metal distribution. However, we suggest that the star formation is an important mechanism in enhancing the oxygen abundance of these structures.

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THE ANDROMEDA GALAXY M31 IN THE ERA OF PRECISION COSMOLOGY

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With the advent of precision cosmology, where predictions and measurements can be carried out to a precision level of a few percent, understanding galaxy formation and evolution to the same level of detail appears to be essential for further tests of the paradigm. Here we review recent attempts at (1) understanding the 3-dimensional structure of the satellite system around M31, where half of the dwarfs appear to be orbiting in a vast and thin disc; (2) anchoring M31 very accurately using three independent methods for measuring its distance and hence the Hubble constant; and (3) establishing the variations of star-formation histories across the galaxy through the analysis of the colour-magnitude diagrams of resolved stellar populations.

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FIR/RADIO CORRELATION IN COMPACT GROUPS OF GALAXIES

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We present preliminary results from the statistical analysis of the correlation between the radio and far infrared fluxes in samples of compact groups of galaxies, and isolated galaxies. We use 1.4 GHz fluxes from the NRAO VLA Sky Survey (NVSS) and infrared fluxes at 22 microns from the Wide-field Infrared Survey Explorer (WISE). We show variations on the behavior of this correlation for the different samples. This correlation has been studied by several authors for different samples of isolated galaxies and groups of galaxies.

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STELLAR POPULATION PROPERTIES OF POST-STARBURST GALAXIES

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Post-starburst (PSB) galaxies comprise a class of objects with strong traces of young stellar populations in their spectra, but no sign of ongoing star formation. Their star formation histories (SFH) indicate that over 70% of their flux is produced by stellar populations younger than 1.5 Gyr. Samples of PSB galaxies are usually generated by selecting spectra with strong Balmer absorption lines, but no detectable emission lines that characterize star formation (e.g. [OII]λ3727 and Hα). The usual criterion to limit star formation is to limit the equivalent width of the [OII]λ3727 absorption line (Goto el al. 2004). Post-starburst galaxies identified in the Sloan Digital Sky Survey (SDSS) only by requiring minimal [OII]λ3727 emission generally exhibit weak but nonzero emission lines with typical ratios of Active Galaxy Nuclei (AGN) hosts. This suggests that most PSB galaxies may harbor "low-ionization nuclear emission-line regions" (LINERs) and, more rarely, Seyferts (Yan et al. 2008). In this research, we use the STARLIGHT spectral synthesis code (Cid Fernandes et al. 2005) to compute

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the fraction of light coming from young stellar populations, here denoted by LFYS, in a volume-limited sample from the SDSS DR7 catalog. We then classify as PSB those galaxies with LFYS larger than 70%, log([NII]λ6584/Hα) higher than -0.4 and Hα equivalent width (EW Hα) smaller than 5 Å. These two last criteria select galaxies without current star formation (Cid Fernandes et al. 2011). When plotting this sample in the BPT diagram, we identify a high occurrence of LINER and Seyfert hosts, as found by Yan et al. (2008). However, using the WHAN diagram, we show that most of post-starburst galaxies with low emission lines are in fact passive galaxies, frequently misclassified as weak AGN hosts.

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ACTIVE GALACTIC NUCLEI

ACTIVE GALACTIC NUCLEI

P. Arévalo[1]

Accreting supermassive black holes have had a large impact in the evolution of their host galaxies, and even inject significant energy into their host cluster of galaxies. Although the black hole's influence in these large structures is evident, the central engine itself is remarkably difficult to observe. Their extremely compact nature makes it impossible to resolve the final source of fueling, the accretion disc, although interferometric observations have started to reveal important details of the material directly outside this region. In this work I review the techniques that have shed light into the structure and behavior of these central engines in the quest to find out how black hole grow.

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TESTING THE PHYSICAL PROPERTIES OF THE UNIFIED MODEL FOR AGN

A. Audibert[1], R. Riffel[1], M. G. Pastoriza[1], and D. A. Sales[1]

The Unified Model (UM) suggests that different AGN classes are due to the presence of a torus, which under different view angles can obscure the supermassive black hole and the broad line region. We analyze statistically the physical parameters of a sample of about 100 Seyfert galaxies using public data from Spitzer telescope in the mid infrared (5.2-38 μm) in order to verify the UM. We compare the spectral energy distributions (SEDs) with $\sim 10^6$ theoretical SEDs which consider that the torus is formed by dusty clouds and present the results for 8 CLUMPY parameters.

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TWO-DIMENSIONAL KINEMATICS OF THE CENTRAL REGION OF NGC4501 FROM GMOS/GEMINI INTEGRAL FIELD SPECTROSCOPY

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We present two-dimensional stellar and gas kinematics in the central region of the Seyfert 2 galaxy NGC 4501 from optical Integral Field Spectroscopy obtained with Gemini Multi-Object Spectrograph (GMOS) at Gemini-North telescope. The final data cube contains $\sim$16000 spectra covering the inner 7" $\times$ 15" at spatial resolution of $\sim$ 50 pc and covering the spectral region from 5600 Å to 7000 Å at a spectral resolution of 2.7 Å (FWHM). Two-dimensional maps for the flux, velocity and velocity dispersion (σ) were obtained from the fitting of the emission-line profiles of Hα, [N II] $\lambda\lambda$ 6548,6584 and [S II] $\lambda\lambda$ 6717,6731. All lines present extended emission to up to 5" the peak of flux of the nuclear at it. The gas velocity field for all lines are similar, being dominated by rotation in the plane of the galaxy with a velocity amplitude of 100 km^{-1}, although deviations from rotation are seen at some locations. On the far side of the galaxy we observed blueshifts and on the near side redshifts along spiral structures, being interpreted as inflows towards the nucleus of NGC 4501. The forbidden lines show σ values ranging from 50 to 150 km s^{-1} while the Hα shows overall smaller values, with the highest ones reaching $\sim$ 100 km s^{-1}. The highest σ values for all emission lines are observed at 2-3 arcsec northeast from the nucleus, being co-spatial with a distortion seen in the