Posters abstracts

45
Author(s): P. Alpresa (Univ. Autonoma de Madrid, Spain), R. Domínguez-Tenreiro (Univ. Autonoma de Madrid), F. Martinez-Serrano (Univ. Miguel Hernández, Elche, Spain), J. Oñorbe (Univ. Autonoma de Madrid, Spain), A. Serna (Univ. Miguel Hernández, Elche, Spain)
Title: Isolated galaxies vs galaxies in groups: a study of their properties from cosmological simulations
Abstract: Galaxies formed in cosmological simulations have been identified at different environments, either isolated or in groups. We report on a study of massive galaxy properties at different redshifts, to try to understand how the environment affects them at different epochs of their assembly and/or evolution.

58
Author(s): B. Ascaso (Physics Department, University of Davis, USA / IAA-CSIC, Spain), J. A. L. Aguerri (IAC, Spain), M. Moles (IAA-CSIC, Spain), R. Sánchez-Janssen (IAC, Spain), D. Bettoni (INAF-Osservatorio Astronomico di Padova, Italy) and G. Fasano (INAF-Osservatorio Astronomico di Padova, Italy)
Title: The bright galaxy population of five medium redshift clusters. Quantitative Galaxy Morphology
Abstract: Following the study based on the Nordic Optical Telescope (NOT) sample, which consists on five clusters of galaxies within the redshift range 0.15<0.25, imaged within the central 0.5-2 Mpc in very good seeing conditions, we have studied the quantitative morphology of their bright galaxy population. The surface brightness profiles of the galaxies have been decomposed in the bulge and disc photometrical components. Previously, we have performed simulations in order to check the reliability of the fits. These data allow us to derive a quantitative morphological classification of the galaxies, which has been compared with the previous visual one. Galaxies in clusters at this range of redshift do not present appreciable evolution for the bulges scales. However, their disc scales are different from those galaxies placed in clusters at low redshift and more similar to the field galaxies at low redshift. This result suggests that the evolution of the disc component in galaxy clusters is faster than in field ones, especially for the smaller ones. We will also compare these results with deeper samples of galaxies from Deep Lens Survey (DLS). Fast galaxy-galaxy encounters or interactions with the global gravitational potential are pointing to be the mechanisms responsible of this evolution in the last 2.5 Gyr.

3
Author(s): G. Bergond (IAA-CSIC / Calar Alto Observatory, Spain), S. Verley (UNAM, Mexico / IAA-CSIC, Spain), L. Verdes-Montenegro (IAA-CSIC, Spain) and the AMIGA team
Title: The AMIGA Hα imaging survey of isolated spiral galaxies
Abstract: We present an imaging survey of the Hα emission in ~200 isolated spirals selected from the AMIGA sample of isolated galaxies. Most data have been obtained with the 1.5-m Sierra Nevada Observatory telescope. Data reduction and analysis are detailed, as well as preliminary results for a subsample of these galaxies, aimed at providing a local reference for star formation studies in denser environments.

4
Author(s): J. Blasco Herrera (Stockholm University, Sweden), K. Fathi, J. E. Beckman, L. Gutierrez, A. A. Lundgren, O. Hernandez, C. Carignan
Title: M83 through GHaFaS
Abstract: We analyze the integrated Hα line profile of 123 Hii regions in the central 3.4′ × 3.4′ of the nearby galaxy M 83. The analysis is applied to observations with the GHαFaS Fabry-Perot interferometer mounted on the 4.2m William Herschel Telescope on La Palma (Hernandez et al, 2008). The integrated profile of each one of the regions is calculated by adding the spectra of all the pixels within it. By fitting simple Gaussians and Gaussians convolved with the instrumental response, we find that it is important to account for the non-Gaussian instrumental response function, since approximating it with a Gaussian function result in artificially higher velocity dispersion (σ). We use the calculated velocity dispersions for 123 regions within the observed field (5 × 5 Kpc in the galaxy) to investigate the assumptions about the HII region thermal temperature, and derive fundamental relations between σ , luminosity (L),and equivalent width (E W) for the HII regions in the nuclear regions as well as in the bar in M 83.

21
Author(s): A. Bouchard (University of Cape Town, South Africa)
Title: Environmentally driven galaxy evolution in the Local Universe?
Abstract: Using results from recent HI and Halpha survey of dwarf galaxies in the Sculptor, Centaurus A and Local groups, the Local Volume morphology-density relation is quantitatively re-examined. This is done by exploring the correlation between current star formation rate (SFR) and interstellar medium (ISM) content with local 3D galaxy distribution. As anticipated, dwarf galaxies in high density regions have significantly lower SFR and less ISM than their low density counterparts, despite the fact that unaccounted parameters (e.g. internal processes) induce orders of magnitude variations. These results were obtained in relatively low density environments (compared to cluster centers), the Sculptor group is often considered a collection of non gravitationally bound galaxies, yet no dwarf from the sample can easily be identified as 'field' objects.

59
Author(s): M. den Brok (Kapteyn Astronomical Institute, the Netherlands), R.F. Peletier (Kapteyn Astronomical Institute, the Netherlands), M. Balcells (IAC, Spain), G. Verdoes Kleijn (Kapteyn Astronomical Institute, the Netherlands), E.A. Valentijn (Kapteyn Astronomical Institute, the Netherlands), D. Carter (Astrophysics Research Inst., Birkenhead, UK)
Title: Environmental influence on dwarf galaxies in the Coma cluster
Abstract: Since the Coma cluster is the nearest rich galaxy cluster, it is well suited for studying the evolution of galaxies in clusters, and in particular for studying the importance of environmental effects on galaxy evolution. In our poster we present results on stellar populations in dwarf galaxies in the Coma cluster, using data from the Hubble ACS Coma Legacy Survey. With these deep, high resolution data we determine, using radial colour gradients, where and when stars formed in galaxies, what the relation is between the scatter in the Colour-Magnitude relation and the environment of the galaxies and their structural properties.

37
Author(s): M. Brunetti (Geneva Observatory, Switzerland) and D. Pfenniger (University of Geneva, Switzerland)
Title: Multi-scale chaos in barred galaxies
Abstract: We study the evolution of isolated disk galaxies for investigating how the occurrence of global instabilities, like those which give rise to the formation of central bars or spiral arms, is related to the stochastic motion of stars and their rates of divergence. In particular, we study disk systems which develop long-range correlations during the formation of a central bar (which is a global macro-scale instability) and we analyse how the strength of the bar correlates with the distribution of chaotic and regular trajectories (the so called micro-scale chaos). For studying this problem, we integrate with a symplectic integrator full N-body models of galaxies, as well as the variational equations, allowing us to compute 6 exponential rates of divergence for each particle due to its interaction with all the other particles. We analyse the time evolution of the bar, disc and halo components of the galaxy models and we relate this evolution to the distribution of the rates of divergence of the stars.

19
Author(s): B. K. Bucklein (BYU, USA) and J. W. Moody (BYU, USA).
Title: Suitability of Using Galaxy Number Counts to Detect Voids in the SDSS and Beyond
Abstract: We present the results of our investigation into the suitability and limitations of using galaxy number counts and Wolff plots as a probe of voids in the Sloan Digital Sky Survey (SDSS). We look at the possibility of using these tools to search for voids in large surveys that do not provide galaxy redshift information.

53
Author(s): E. R. Carrasco (Gemini Observatory, Southern OperationsCenter, AURA, La Serena, Chile) and C. Mendes de Oliveira (Universidade de São Paulo, Brasil)
Title: Massive Compact group at z~0.2: Are they the precursors of today's fossil groups?
Abstract: Recent works suggest that fossil groups could be the cannibalized remains of compact groups that lost energy through tidal friction. However, in the nearby universe, compact groups that are close to the merging phase and display a wealth of interacting features have very low velocity dispersions and poor neighborhoods, unlike the massive, cluster-like fossil groups studied to date. In fact, known compact groups are very seldom embedded in massive enough structures that may have resembled the intergalactic medium of fossil groups. In this contribution, we present a study of the dynamical properties of massive compact groups at z~0.2 that have several properties in common with known fossil groups. We report on new g', r' and i' imaging and multi-slit spectroscopy performed with GMOS on the Gemini South telescope. The systems have more than 20 members within a radius of 1 Mpc, a velocity dispersions > 700 km/s, and masses > $2x10^{14}$ Msolar, similar to that of the most massive fossil groups known. The merging of the central galaxies in these groups would form a galaxy with magnitude Mr'~-24, typical for first-ranked galaxies of fossil groups. Although nearby compact groups with similar properties these groups are rare, we speculate that such systems occurred more frequently in the past and they may have been the precursors of fossil groups.

46
Author(s): O. Cucciati (LAM, France), A. Iovino (INAF-OA Brera Milano, Italy), K. Kovac (ETH Zurich, Switzerland), S. Lilly (ETH Zurich, Switzerland), zCOSMOS Team
Title: The zCOSMOS 10K sample: galaxy spectrophotometric properties as a function of environment
Abstract: It is well known that galaxy properties correlate with the local environment in which galaxies reside. It's still matter of debate the reason why ("nature" or "nurture"?) and when these environmental dependences originate, and whether only one "main" property depends on environment, thus driving all the others environmental dependences thanks to the correlations among properties themselves. Using the zCOSMOS spectroscopic data (about 10000 galaxies), we analyze density effects on galaxy U-B colour, D4000 break and specific star formation rate up to z=1, with local environment ranging from very low densities up to the highest density peaks. We pay attention at the role of both luminosity and stellar mass in selecting galaxy populations for environmental studies, and in particular we focus on the triple colour-mass-density relation, disentangling density effects on the two properties.

38
Author(s): L. Darriba (Universitat de Barcelona, Spain), J. M. Solanes (Universitat de Barcelona, Spain)
Title: An analytical model of spiral galaxies
Abstract: We present a self-consistent analytical model of spiral galaxies in the LambdaCDM cosmogony that follows the spirit of Mo, Mao & White (MMW,1998) galaxy model. We have introduced modifications in the definition of the virial radius and the mass-concentration relation with respect to the MMW model. We have investigated scaling relations for three different halo density distributions that belong to the same family: NFW, Hernquist and Burkert, as well as for Sérsic halos. We also show the expected rotational curves at a redshift z=0.

54
Author(s): R. Dupke (University of Michigan, USA, Observatorio Nacional, Brasil)
Title: On the Nature of the Isolated Bright Central Galaxies in Fossil Groups
Abstract: Fossil groups are X-ray bright galaxy systems that present an unusual lack of luminous galaxies in the inner regions, except for a giant central galaxy. The standard explanation for their formation suggests that bright galaxies within half the virial radii of these systems were wiped out by cannibalism forming the central galaxy. Cosmological simulations indicate that these systems are old, given the high concentration parameters measured in the few fossil groups with enough X-ray counts, and also by the large magnitude gap between the 1st and 2nd rank galaxies, and from the apparently undisturbed X-ray morphologies. The standard explanation for their formation suggests that bright galaxies within half the virial radii of these systems were wiped out by cannibalism forming the central galaxy. Here, we present preliminary results of a test the type of merger that formed the central group galaxy, by measuring the expected change in the chemistry and energetic of the intergalactic gas associate to gasless (dry) and gaseous (wet) mergers. The results indicate that strong SN II-powered galactic winds resulting from galaxy merging would be trapped by their deep potential wells reducing the central enhancement of SN Ia/SN II iron mass fraction ratio within the cooling radius and would inject enough energy into the IGM preventing central gas cooling. The results are consistent with stellar population analysis for the central galaxies, where optical data is available.

39
Author(s): I. Ebrová (Astronomical Institute ASCR, Czech Republic)
Title: Formation of shell structure in galaxies
Abstract: Stellar shells are a feature that is commonly found around elliptical and lenticular galaxies in low galactic density regions. It is widely believed that the shells are a signature of a single merger experienced by the host galaxy. The model of a radial merger is quite successful in reproducing the regular kind of shell systems. We are trying to improve our semi-analytical simulations of the shell origin by including the dynamical friction and the gradual disruption. We used radial symmetry of our galaxies to include the dynamical friction by the means of an improved version of the Chandrasekhar formula. It seems that the dynamical friction and gradual disruption have significant influence on the shell structure.

5
Author(s): J. van Eymeren (JBCA, The University of Manchester, UK), B. Koribalski (ATNF, Australia), M. Marcelin (Laboratoire d'Astrophysique de Marseille, France), R.-J. Dettmar (AIRUB, Germany), D. J. Bomans (AIRUB, Germany)
Title: A kinematic study of the neutral and ionised gas in nearby irregular dwarf galaxies
Abstract: The low metal content of dwarf galaxies and the metal enrichment of the intergalactic medium both suggest that mass loss from galaxies is a significant factor for their chemical evolution history. However, no clear evidence of a blow-away in local dwarf galaxies has been found so far. Therefore, we performed a detailed kinematic study of the neutral and ionised gas components in a sample of four nearby star-forming irregular dwarf galaxies. We searched for expanding gas structures and compared their velocities to the escape velocity of their host galaxy in order to get an idea whether the gas can leave the gravitational potential by becoming a freely flowing wind or whether it is still gravitationally bound. The escape velocity was estimated using the pseudo-isothermal halo model. We detected expanding gas structures with velocities between 20 and 110 km/s in all sample galaxies, but they are all gravitationally bound

47
Author(s): M. Filho (Centro de Astrofisica da Universidade do Porto, Portugal), Bell (Max Planck Institute of Astronomy, Germany), Brinchmann (Leiden Observatory, Leiden University, the Netherlands), Afonso, Anton (Universidade de Lisboa, Portugal), Lobo (Universidade do Porto, Portugal)
Title: The Bulgeless Side of Galaxies
Abstract: We will present our plan and preliminary results of the study of bulgeless galaxies at intermediate redshift using the AEGIS, COSMOS, and GEMS surveys. Our study includes the host galaxy properties, AGN characterization and star formation properties.

6
Author(s): K. Foyle (MPIA, Germany) and H. W. Rix (MPIA, Germany)
Title: Determining the Mean Secular Evolution Rate in Present-Day Spirals
Abstract: Non-axisymmetric features like bars and spiral arms exert gravitational torques on the stellar distribution of spiral galaxies. The question remains as to whether such effects will reshape galaxies on a small enough timescale to be significant. We use a sample of low-redshift, relatively face-on galaxies to examine the significance of gravitational torques. Accurate mass maps are generated for the sample and are used to determine the instantaneous rate of change of angular momentum in a set of annuli throughout the disk. We use a set of self-consistent disk, bulge and halo simulated disk galaxies to verify that the torques exerted by the stellar spiral arms and bar exceed those of the gas and halo. A timescale is derived for the long-term secular evolution of angular momentum in observed galaxies. This is done (after scaling with disk scale length), by stacking the radial profiles of the mean torque for each galaxy.

40
Author(s): G. C. Gómez (CRyA-UNAM, Mexico), A. Manríquez (CRyA-UNAM, Mexico) and I. Fuentes-Carrera (ESFM-IPN, Mexico)
Title: Observing the rotation curves and measuring the properties of disk galaxies
Abstract: We generated MHD simulations of disk galaxies and performed synthetic observations of the models in order to simulate measurements of rotation curves for the Milky Way and external disk galaxies. The measured curves are then analyzed in a similar fashion to real observations. We found significant differences between the so obtained mass models and the galactic model originally imposed to the simulations.

48
Author(s): A.C. González-García (UAM, Spain), J. Oñorbe (UAM, Spain), R. Domínguez-Tenreiro (UAM, Spain), M. A. Gómez-Flechoso (UAM, Spain)
Title: Kinematic and morphological evolution of elliptical galaxies from simulations
Abstract: Present day elliptical galaxies, both isolated or in dense environments, are ideal benchmarks for current popular galaxy formation theories. Using results from several self-consistent cosmological and prepared simulations of galaxy evolution we will present results on the evolution in kinematics, shape and size of elliptical galaxies since z=1.5 to z=0. Our results present a picture where a few dry-mergers of pre-existing massive spheroids are key to explain the characteristics of present day observed elliptical galaxies.

55
Author(s): R. Grützbauch (School of Physics and Astronomy, University of Nottingham, UK)
Title: E+S galaxy pairs: are they the precursors of fossil groups?
Abstract: Galaxy pairs may represent a way station on the evolutionary path from poor groups to giant isolated ellipticals (or fossil groups). To test this evolutionary scenario, we investigated the environment of 4 galaxy pairs composed of a giant elliptical galaxy and its spiral companion. The pairs are very similar from the optical and dynamical point of view, but have very different X-ray properties. Two of them show extended diffuse X-ray emission from a hot Intra Group Medium (IGM), whereas the other two seem to be deficient in hot gas. The observations of a candidate faint galaxy population around the pairs show that the presence of extended diffuse X-ray emission from an IGM is not necessarily connected to the presence of a numerous faint galaxy population. A possible explanation for this is that the X-ray emission is not dependent on the group environment but on the dynamical age of the central elliptical. This is also supported by the finding that the dynamical quantities of the newly defined groups are not correlated with the group X-ray luminosity, but with the large-scale environment of the pairs. The study of luminosity functions (LFs) indicate that our X-ray luminous pairs are more dynamically evolved than a sample of poor groups with comparable X-ray luminosities from the literature. However, our X-ray faint pairs resemble the LF of those X-ray bright groups and may represent a phase in the dynamical evolution of these groups, where the recent or ongoing interaction, in which the pair E is involved, has destroyed or at least decreased the luminosity of the IGM. The X-ray faint groups' LF is also consitent with their evolution into a fossil group.

7
Author(s): K. A. Herrmann (Lowell Observatory, USA), R. Ciardullo (Pennsylvania State University, USA), S. Sigurdsson (Pennsylvania State University, USA)
Title: Kinematic Evidence for Halo Substructure in Spiral Galaxies
Abstract: Our knowledge of the structure and kinematics of galactic disks is quite limited. While integrated light spectroscopy has provided a large amount of information on inner disks, once outside ~1.5 disk scale lengths, almost nothing is known. Does the mass-to-light ratio (M/L) stay constant in the outer regions? Do disks flare due to interactions with satellite galaxies or galactic subhalos? Do stars form the same way in the outskirts as in the inner regions? Does the starlight fall off in the same way in both regions? We have been using planetary nebulae (PNe) to probe the kinematic structure of face-on spiral disks by identifying large (~100) samples of these objects via narrow-band imaging, and then measuring their radial velocities with follow-up, high-precision (~5 km/s) spectroscopy. Our results for IC 342, M74, M83, M94, and M101 are quite interesting. With one exception (M101) the z-velocity dispersion (sigma_z) of galactic disks declines exponentially with the light out to ~3 disk scale lengths. This is exactly as expected for a constant M/L, constant thickness disk. However, in the two galaxies with significant data past this radius, the values of sigma_z asymptote out at roughly 20 km/s. Moreover, our analysis finds kinematic evidence for significant flaring in the outer regions as well, especially in M94. These observations are in excellent agreement with predictions derived from models of disk heating by halo substructure, and demonstrate how kinematic surveys in the outer disks of spirals can be used to test hierarchical models of galaxy formation.

22
Author(s): A. Huxor (University of Bristol, UK), S. Phillipps (University of Bristol, UK), J. Price (University of Bristol, UK) & R. Harmiman (University of Bristol, UK)
Title: TBD
Abstract: Compact elliptical (cE) galaxies are a rare morphological type exemplified by M32, which been suspected to be the victims of tidal truncation or similar processes driven by interactions with near neighbours. In addition to M32 as a very close satellite of M31, the other known similar objects also occur close to massive galaxies in groups (e.g NGC5846A) or to giant ellipticals in clusters - NGC4486B close to M87 in Virgo, two objects in Abell 1689 and one in Abell 496. In this poster we present work in progress, in which the seventh SDSS Data Release (DR7) is used to explore the region of the surface-brightness/effective-radius parameter space that is occupied by known cEs. DR7 offers a very large and homogeneous database, covering a wide area of contiguous space, enabling the identification of members of this unusual galaxy type. We identify compact galaxies in a wide range of environments to investigate the relation between the size of early-type galaxies and the local density. In many cases additional archive material is available for more detailed study of the candidate galaxies. We present early results in which we find relatively compact galaxies in a variety of environments: from dense clusters, through compact groups to isolated environments. We present our results so far, the properties of the galaxies, and comment on the implications for the truncation theory of cE formation.

60
Author(s): N. Jiménez (FCAG, UNLP, Argentina) , A. V. Smith-Castelli (CCT La Plata, CONICET, Argentina), S. A. Cora (CONICET, Argentina), L. P. Bassino (CONICET, Argentina)
Title: Modeling the Color-Magnitude relation for groups and cluster galaxies
Abstract: We investigate the origin of the color-magnitude relation (CMR) observed in cluster galaxies by using a combination of cosmological N-body simulations of cluster of galaxies and a semi-analytic model of galaxy formation (Lagos, Cora & Padilla 2008). Simulated results are compared with the photometric properties of early-type galaxies in the Antlia cluster (Smith Castelli et al. 2008). The good agreement obtained between observations and simulations allows us to use the information provided by the model for unveiling the physical processes that yield the tight observed CMR for clusters and groups of galaxies.

8
Author(s): H. Lee (Gemini Observatory, Chile), L. van Zee (Indiana University, USA), E. Skillman (University of Minnesota, USA), J. Lee (Carnegie Observatories, USA), R. Kennicutt (University of Cambridge, UK).
Title: Spitzer LVL Luminosity- and Mass-Metallicity Relations for Star-Forming Dwarf Galaxies in the Local Volume
Abstract: Galaxy mass-metallicity (M-Z) relations can provide important diagnostics to evaluate galaxy evolution over a wide range in masses to help discriminate among various models for the histories of galaxy assembly. While a variety of observational and theoretical studies have focused on M-Z relations for nearby and distant massive galaxies, the shapes of these relations can be anchored by similar M-Z relations for dwarf galaxies in the nearby universe, which provide "zero-points" at low-mass and low-redshift. The Spitzer Local Volume Legacy (LVL) survey has gathered homogeneous near- and mid-infrared fluxes of 258 galaxies in a volume-complete sample within 11 Mpc. For a subsample of 50 star-forming dwarf galaxies with well-measured gas-phase metallicities, we construct and examine optical and near-infrared luminosity-metallicity relations. We subsequently derive stellar mass-metallicity relations, and we compare the shape and dispersion of these relations against our earlier results obtained with a smaller sample of galaxies. We show that the slope of the luminosity-metallicity relation varies little from the optical to near-infrared wavelengths, and the dispersion generally decreases with increasing wavelength. While the M-Z relation for dwarfs is consistent with our previous result, the slope is shallower than the slope for the M-Z relation derived for more massive galaxies. Further implications of our results will be presented.

9
Author(s): U. Lisenfeld (Univ. Granada, Spain)
Title: Molecular gas properties of the most isolated galaxies
Abstract: The role of nature vs. nurture for the properties and evolution of galaxies is still an open question. In order to find answers, it is crucial to have a well-selected sample of isolated galaxies as a baseline and comparison. We built, refined and analised such a sample in the project AMIGA ("Analysis of the Interstellar Medium of Isolated GAlaxies"). The sample is based on the Catalogue of Isolated Galaxies (CIG) by Karanchenseva (1978) and the database (containing optical magnitude, Hα, far-infrared, radio continuum, HI and CO) enables us to characterize the properties of the star formation and instellar medium. The data are almost entirely published and made available on the AMIGA Web site (http://www.iaa.es/AMIGA.html). For a velocity restricted subsample of 200 galaxies of this sample we possess CO data. I will describe the properties of the molecular gas and compare it to the galaxy properties at other wavelengths, and to the results obtained with different samples.

56
Author(s): R. Lopes de Oliveira (Instituto de Astronomia, Geofísica e Ciências Atmosféricas, Universidade de São Paulo, Brasil), C. Mendes de Oliveira (Instituto de Astronomia, Geofísica e Ciências Atmosféricas, Universidade de São Paulo, Brasil), R. Dupke (Dept. of Astronomy, Univ. of Michigan, USA), L. Sodré Jr. (Instituto de Astronomia, Geofísica e Ciências Atmosféricas, Universidade de São Paulo, Brasil), E. Cypriano (Instituto de Astronomia, Geofísica e Ciências Atmosféricas, Universidade de São Paulo, Brasil)
Title: The luminosity function of galaxies in elliptical-dominated galaxy groups: clues to the nature of fossil groups
Abstract: There is a growing number of groups of galaxies optically dominated by an elliptical galaxy and immersed in an extended and luminous X-ray halo in the literature. They are classified as Fossil Groups if the gap in magnitude between the two brightest galaxies within one-half of the virial radius is greater than 2 in the r-band, and the X-ray luminosity is greater than 1E42 erg/s. Recent studies pointed out that the central galaxies in Fossil Groups are most likely formed by mergers of galaxies that had lost energy by dynamical friction, and that the velocity dispersion and X-rays properties of these systems are reminiscent of those of cluster of galaxies and not groups of galaxies. We have started a study of luminosity functions of Fossil Groups and candidates to Fossil Groups from photometry available in the SDSS database in order to characterize the faint-end of the galaxy distribution. Here we report on results of about a dozen of them. A Schechter function describes well the individual luminosity functions, with an alpha parameter ranging from 0.5 to -1.5. On the other hand, two separate Schechter functions are needed to describe the composite luminosity function, which is characterized by a decreasing in number of galaxies around -20 < R < -18.5. A comparison of the luminosity function of Fossil Groups to that of other systems such as clusters and compact groups is shown and a discussion about the nature of fossil groups is presented.

10
Author(s): M. Maier (University of Oxford, UK), R.L. Davies (University of Oxford, UK), D. Krajnovic (University of Oxford, UK), M. Cappellari (University of Oxford, UK), R. McDermid (Gemini Observatory, USA), M. Sarzi (University of Hertforshire, UK), H. Kuntchshner (ESO, Germany), J. Falcon-Barosso (ESA, the Netherlands), P.T. de Zeeuw (Leiden, the Netherlands and ESO, Germany)
Title: An Integral-Field Study of the Cores of Low-Mass Early-Type Galaxies
Abstract: We present the results of a high spatial resolution optical integral-field study of the cores (sub 1 kpc) of 5 low-mass early-type galaxies. The derived stellar kinematics reveals kinematic substructures like kinematically distinct cores (KDCs) in varying degrees of dynamical equilibrium. The stellar population analysis suggests that the central regions have undergone recent star formation which are spatially correlated with kinematic substructures. We further compare our results with those of the SAURON survey and find good agreement. Both of the field galaxies in this sample, NGC 2865 and NGC 4550 show significant evidence for recent mergers and young stellar populations in the center.

23
Author(s): D. Makarov (Special Astrophysical Observatory, Russia), I. Karachentsev (Special Astrophysical Observatory, Russia)
Title: Galaxies and Groups in Local Supercluster
Abstract: An all-sky catalog of 1072 groups in the Local Supercluster is presented. Multiple systems are identified among 10403 nearby galaxies with radial velocities V_LG<3500 km/s. The percentage of the multiple galaxies is 53 of the total sample. The catalog contains data on galaxy velocities, K-magnitudes, and morphological types. Groups with population greater then 4 members are characterized by velocity dispersion of 75 km/s, harmonic radius of 200 kpc and mass-to-light ratio of 31 in solar units. We discuss and compare basic properties of the galaxies in the groups and in the field of the Local Supercluster.

11
Author(s): L. Makarova (Special Astrophysical Observatory, Russia), D. Makarov (Special Astrophysical Observatory, Russia)
Title: Isolated nearby dwarf galaxies and their stellar populations
Abstract: We have selected several isolated dwarf galaxies at the distances in the range from about 2 to 6 Mpc. We consider stellar populations of the dwarf galaxies, which were observed within our HST/ACS projects number 9771 and 10235. These nearby dwarf galaxies are well resolved into individual stars including old red giant branch stars up to 10 - 13 Gyr. We model color-magnitude diagrams of the galaxies under consideration and measure star formation rate and metallicity dependence on time. Star formation properties and evolution of these highly isolated dwarfs are under consideration.

24
Author(s): V. Martínez-Badenes (IAA-CSIC, Spain), U. Lisenfeld (Univ. Granada, Spain), L. Verdes-Montenegro (IAA-CSIC, Spain)
Title: Molecular gas content in Hickson Compact Groups
Abstract: In this poster we present the results of our research on the molecular gas content of galaxies in Hickson Compact Groups (HCG's). We want to shed light on the lack of star formation enhancement in these galaxies and check whether it is causally connected with deficiency in the gas content. We are using data of CO emission obtained with the 30m IRAM radiotelescope together with CO data from the literature, yielding a sample of 94 galaxies.Together with data for the atomic gas, far-infrared emission as star formation tracer and optical luminosity we are carrying out a multiwavelength study in order to stablish whether the lack of star formation enhancement can be related to a deficiency in the gas content.

41
Author(s): I. Martínez-Valpuesta (Instituto de Astrofísica de Canarias, Spain)
Title: Appearance of Barred Galaxies at early and late stages of its evolution
Abstract: Barred galaxies represent more than 2/3 among disk galaxies. The evolution of barred galaxies is deeply influenced by the dynamics of the bar. Moreover, the evolution of the bar it self determines the morphology of the rest of the galaxy. In this work, and by means of numerical simulations we will show the evolution of isolated barred galaxies from two points of view, face-on and edge-on. In the face-on view we will show how the shape of the bar changes from a typical bar at early stages to ansae at later times of evolution. In the edge-on view we will show how the morphology of the bar changes with time to form a peanut/boxy shaped bulge and how these bulges are related to the bar itself.

12
Author(s): J. Masegosa (IAA-CSIC, Spain), I. Márquez (IAA-CSIC, Spain), J. Varela (IAA-CSIC, Spain), A. del Olmo (IAA-CSIC, Spain)
Title: AGN activity in isolated and interacting galaxies in the Palomar spectroscopic survey
Abstract: One of the main issues concerning Nuclear Activity in Galaxies is to understand the triggering mechanisms on the onset of non-thermal nuclear activity in their nuclei. In this paper we revise the relations between activity, morphology and environment for the BGC (Ho et al 2007), with an special emphasis in a strict application of an isolation definition.

1
Author(s): A. Mateus (LAM, France / IAG-USP, Brasil) and L. Tresse (LAM, France)
Title: Evolution of the fraction of isolated galaxies since z ~ 1
Abstract: We investigate the evolution of the fraction of isolated galaxies since z ~ 1 for a volume-limited sample of galaxies extracted from the CFHTLS deep survey. Galaxies in isolation are selected in the range $0.2 < z < 1.2$, with i-band magnitude $i < 24.0$, from the photometric redshift catalog provided by the CFTHLS survey. The adopted isolation criteria include the i-band absolute magnitude, radial velocity and a projected radius to exclude galaxies with close neighbors. The observed fractions are compared with similar estimates obtained from the mock galaxy catalogs generated by a semi-analytical galaxy formation model implemented on the Millennium Simulation. We find an excellent match between the isolated galaxy fractions for $z > 0.7$. Below this redshift, the observed fractions are higher than the predict ones, which can be associated to a higher clustering at low redshifts predicted by the particular galaxy formation model adopted in our analysis.

25

Author(s): J. Méndez-Abreu (Instituto de Astrofisica de Canarias, Spain), J. Alfonso López Aguerri (Instituto de Astrofisica de Canarias, Spain), E. M. Corsini (Dipartimento di Astronomia, Universita di Padova, Italy)

Title: The influence of the environment in the bar formation

Abstract: According to numerical simulations, galaxy mergers and interactions are mechanisms which should drive the formation of bars. Therefore, we could expect that fraction of barred galaxies increases with the local density. However, the observational proofs about the influence of the environment on bar formation and evolution are still rare. We investigate a volume-limited sample of 2106 disc galaxies in the nearby universe to derive the bar fraction as a function of the local galaxy density, and other galaxy properties. Our selection criteria exclude all the strongly disturbed/interacting galaxies. Nevertheless, we calculated for each sample galaxy the local density using the fifth nearest neighbor method obtaining that 80% of the sample galaxies are located in very low-density environments (Sigma_5 < 1 Mpc^-2). The local density of the remaining 20% (corresponding to more than 400 galaxies) covers mostly typical values measured for loose (Sigma_5 > 1 Mpc^-2) and compact galaxy groups (Sigma_5 ~ 10 Mpc^-2). We did not find any difference between the local galaxy density of barred and unbarred galaxies in our range of densities. Besides, neither the length nor strength of the bars are correlated with the local density of the galaxy neighbourhoods. For our lowest local density bin the fraction of barred galaxies is even smaller than the 60% found by Verley et al. 2007 by analysing the optical images of 45 isolated galaxies. Recently, Marinova 2009 (private communication), using the Abell 901/902 supercluster and Mendez-Abreu 2009 (in preparation), using the Coma cluster have shown that the cluster environment does not strongly affect to the bar fraction. The results presented in this talk indicate that formation and evolution of the bars in the studied sample depend mostly on internal galaxy processes rather than external ones. However, we can not infer that close interactions do not affect bar formation and evolution, because we selected only non-strongly disturbed/interacting galaxies.

26

Author(s): L. Michel-Dansac (IATE-CONICET, Argentina), P. Tissera (IAFE-CONICET, Argentina), M.S. Alonso (Casleo-CONICET, Argentina), D.G. Lambas (IATE-CONICET, Argentina)

Title: Effects of interactions and mergers on the chemical evolution of galaxies

Abstract: We present some recent results on the effects of interactions and mergers on the chemical abundances of galaxies. We study the mass-metallicity relation of galaxies in pairs and in isolation taken from the SDSS. Close galaxy pairs are morphologically classified according to the strength of the interaction signs. We find that only for pairs showing signs of strong interactions, the mass-metallicity relation differs significantly from that of galaxies in isolation. In minor interactions, we find that the less massive member is systematically enriched, while a galaxy in interaction with a comparable stellar mass companion shows a metallicity decrement with respect to galaxies in isolation. We argue that metal-rich starbursts triggered by a more massive component, and inflows of low metallicity gas induced by comparable or less massive companion galaxies, provide a natural scenario to explain our findings. We also explore the effects of recent mergers on the chemical abundances of high stellar mass galaxies, by analysing high resolution B-band images of massive star-forming galaxies from the Millennium Galaxy Catalogue together with spectroscopic and photometric properties derived from the SDSS. We explore the relation between morphology and oxygen abundance finding that the fraction of highly disturbed galaxies, characteristics of a merger remnant, steadily increases when lower metallicity objects are considered. Our analysis suggest that, at least in part, the scatter in the mass-metallicity relation at high stellar mass may be due to the effects of interactions and mergers. We interpret our results in terms of star formation fuelled by low metallicity gas inflow from the external regions of galaxies induced by a recent merger event. Finally, we also present some recent results of chemodynamical simulations, where we compare the chemical evolution of isolated and interacting galaxies. We bring some constraints on the role of low metallicity gas inflows induced by interactions.

13

Author(s): J. Moultaka et al. (LATT-Observatoire Midi-Pyrenées, France)

Title: Stellar populations of isolated galaxies

Abstract: We will present the first results of our stellar population analysis of isolated galaxies from the AMIGA sample. This analysis uses the galactic spectra taken from the SDSS database and an inverse method of stellar population synthesis that provides an error analysis and that we developed previously.

43
Author(s): J. C. Muzzio (FCAG-UNLP and IALP (CCT La Plata - CONICET UNLP), La Plata, Argentina), H. D. Navone, (IFIR (CONICET-UNR), OAM de Rosario and FCEIA, Rosario, Argentina) and A. F. Zorzi (IFIR (CONICET-UNR), OAM de Rosario and FCEIA, Rosario, Argentina)
Title: Orbital structure of isolated cuspy triaxial galaxies
Abstract: We used N-body experiments to create self-consistent models of isolated cuspy triaxial galaxies of about one million bodies each. The models are highly stable, and the very small evolution that they exhibit (central density and semiaxes changes of the order of 1% or 2% over intervals of one Hubble time) are probably due to relaxation effects of the N-body code. The models rotate although their total angular momentum is zero, i.e., they display figure rotation. Several thousands of orbits were randomly selected from each model to investigate their orbital structure. Lyapunov exponents were used to classify those orbits as regular (no positive exponent), partially (only one positive exponent) and fully chaotic (two positive exponents). Chaotic orbits are even more abundant than in the triaxial, not cuspy, galaxies we had investigated before; less than 30% of the orbits are regular in the most triaxial of our cuspy models. Regular orbits were classified via frequency analysis of their orbits: tubes (either short axis or long axis ones, depending on the system) are very frequent and most of the boxes are resonant (boxlets) as could be expected in cuspy systems.

27
Author(s): G. Natale (Max Planck Institute for Nuclear Physics, Germany) and R. Tuffs (Max Planck Institute for Nuclear Physics, Germany)
Title: Spitzer Far-Infrared imaging of Stephan's Quintet compact group of galaxies
Abstract: Stephan's Quintet (SQ) is probably the most studied compact group of galaxies. The results of the past interaction hystory and of an on-going galaxy-IGM collsion are multifold and clearly observable: tidal deformation,ISM stripping, star formation suppression within the galaxies, star formation sites in stripped debris, morphological transformations, creation of a common halo of stripped stars, intergalactic shocks and, possibly, AGN ignition. Therefore SQ is an excellent laboratory to understand what happens to galaxies when their mutual distances become really small (that is of order of galaxy sizes). We present our analysis of the Spitzer FIR maps at 70 and 160 microns of SQ. Using a novel fitting procedure, we managed to fit the emission coming from all the FIR sources at the same time. This method allows a more precise photometry of the several sources. Having our new FIR measurements, we addressed the problem of understanding which is the dust heating mechanism and, therefore, determining the amount of star formation actually happening in SQ.

2
Author(s): P. Nurmi (University of Turku, Tuorla Observatory, Finland)
Title: Cosmological simulations, evolution and formation mechanisms of isolated field elliptical galaxies
Abstract: We study numerically properties, evolution and formation mechanisms of isolated field elliptical galaxies. For this purpose we create a 'mock' catalogue of isolated field elliptical galaxies from the Millennium Simulation Galaxy Catalogue and trace their merging histories. Especially, formation and assembly times of isolated and non-isolated elliptical galaxies are studied and compared. Our results show that ~3 per cent of elliptical galaxies brighter than 19 mag in B-band can be classified as isolated field elliptical galaxies. They show bluer colours than non-isolated elliptical galaxies and they are younger according to their mass weighted age. They also form and assemble at lower redshifts compared to non-isolated elliptical galaxies. From all isolated field elliptical galaxies ~46 per cent has undergone at least one major merging event in their formation history. Only ~2 per cent of isolated elliptical galaxies show insignificant merging activity during their evolution, pointing towards the importance of merging events in the formation mechanism. Formation trees of simulated isolated field elliptical galaxies show that there are three different formation mechanisms: alone, 'equal' size merging and cannibalism.

14
Author(s): B. Ocaña Flaquer (IRAM, Spain), S. Leon (IRAM, Spain), D. Espada (CfA, USA), U Lisenfeld (UGR, Spain), S. Martín Ruiz (CfA, USA), J. Sabater Montes (IAA-CSIC, Spain), L. Verdes-Montenegro (IAA-CSIC, Spain), S. Verley (UNAM, Mexico)
Title: HCN-FIR relationship in a sample of very isolated galaxies
Abstract: A recent HCN(1-0) survey that focused on FIR-luminous (Lfir < 10^10 Lsun) galaxies has shown a tight correlation between Lhcn, Lco and Lfir. We study here the relationship between the (dense) molecular gas and SF activity for a well defined sample of low FIR well isolated galaxies, from AMIGA project (http://www.iaa.es/AMIGA.html), by measuring their HCN luminosity and comparing it with the expected one from an extrapolated Lfir-Lhcn correlation. A deviation from that correlation in our sample would reveal that the Star Formation - dust interplay is different for high- and low- FIR galaxies coming from a different Star Formation efficiency at low- and high- SF rate. Indeed we found a deviation from that relationship, but we think it may be due to an undersampling of the HCN observations. An on-going project is mapping the detected galaxies in HCN.

44
Author(s): J. Oñorbe (Universidad Autónoma de Madrid, Spain), R. Domínguez-Tenreiro (Universidad Autónoma de Madrid, Spain)
Title: The role of gravitational shock heating in isolated galaxies from cosmological simulations
Abstract: Using a sample of elliptical-like objects (ELOs) obtained from self-consistent hydrodynamical simulations, we have studied the role of gravitational shock heating in the stellar, gas and dark matter structural and kinematical properties from galaxy scale up to the halo scale. We have found a systematic decrease of baryonic fraction with increasing ELO mass at all these scales. We have follow the ELO sample up to higher redshifts to study the origin of this effect, that can have an important role in explaining the tilt of the Fundamental Plane at the galaxy scale and the lack of baryons observed at halo scales.

49
Author(s): J. Pérez (Instituto de Astronomía y Física del Espacio - Facultad de Ciencias Astronómicas y Geofísicas, Univ. Nacional de La Plata - CONICET, Argentina), P. Tissera (Facultad de Ciencias Astronómicas y Geofísicas, Univ. Nacional de La Plata - CONICET, Argentina), J. Blaizot (Centre de Recherche Astrophysique de Lyon, France)
Title: An observer's guide to build a control sample for galaxy pairs
Abstract: Several attempts have been made in order to isolate the effect of galaxy interactions by comparing galaxy in pairs with isolated galaxies. However, different authors have proposed different ways to build these control samples (CS). By using mock galaxy catalogues built up from the Millennium Simulation, we show that the set of constrains used to define a CS might introduce biases which could affect the interpretation of results. In this analysis, we make use of the fact that the physics of interactions is not included in the semi-analytic model, so that any difference between the mock control and pair samples can be attributed to selection biases. Thus, we suggest how to build a unique and unbiased CS in order to individualize the effect of interactions. Based on these theoretical findings and using the SDSS-DR4 data, we revise some previous observational results of galaxy in pairs in order to evaluate any possible disagreement. We also find that contrary to simulations, the local density environment is responsible for introducing the largest bias effect in the observational CS, giving to a dark matter halo mass a less significant role in the CS definition. This in fact, contributes to show the exacerbated environmental treatment of satellite galaxies in the SAM.

50
Author(s): S. Pilipenko (AstroSpace Center of the Lebedev Physical Institute, Russia) and A. G. Doroshkevich (AstroSpace Center of the Lebedev Physical Institute, Russia)
Title: Isolated galaxies in observations and simulations
Abstract: A comparison of observed and simulated isolated galaxies allows us to check their evolution in a wide range of redshifts and to reveal and evaluate a possible impact of their environment. Using the Minimal Spanning Tree (MST) technique we select samples of isolated galaxies, pairs and groups in the SDSS and in the high resolution dark matter simulation which is a part of the Marenostrum Universe Project. The evolution of isolated simulated halos is described as a function of redshift and selection parameters. Internal properties of halos such as the density profiles and the links between the circular velocity and virial mass ("Tully-Fisher relation") are found to be similar for samples of isolated and all halos. The analysis of samples of isolated objects is complemented by the study of environment such as walls and filaments which are also selected with the MST.

28
Author(s): E. Pompei (European Southern Observatory, Chile), A. Iovino (INAF - Osservatorio astronomico di Brera, Italy)
Title: Compact groups of galaxies: small, dense, elusive
Abstract: Compact groups of galaxies became widely known to astronomers during the 80's, thanks to eyeball searches of photographic plates and the subsequent creation of extended catalogues, followed by multiwavelength observations. Their high surface density and their low velocity dispersion, coupled with isolation on the sky made groups objects so peculiar that very few scientists believed in their physical reality. Today compact groups have been proved to be physically bound objects, with a variety of structures; however the three fundamental questions about them remain still open: a) when and how do groups form? b) how do they evolve? c) what is their relation with larger scale structures on the sky? Attempting to find an answer to these questions, we performed two extended surveys of compact groups in the southern hemisphere, one in the nearby Universe (z< 0.03, the Southern Compact Groups Survey) and another at higher redshift (=0.12, The DPOSS II Compact Groups Survey), the farthest so far where compact groups can be identified beyond doubt. During the talk we will present the results obtained so far in these surveys; how these results can help answering the open questions about compact groups and...some unexpected surprises which came up during the analysis.

29
Author(s): V. Presotto (INAF-OA Brera Università dell'Insubria, Italy), G. Temporin (Institute fur Astrophysik, Innsbruck, Austria), E. Pompei (ESO, Chile), A. Iovino (INAF-OA Brera, Italy)
Title: SCG0018-4854: a young and dynamic group
Abstract: It is widely recognized in the literature that processes taking place inside group environment are among the main drivers of galaxy evolution. Group SCG0018-4854 is a remarkably high galaxy density and low velocity dispersion group and we present spectroscopic and photometric evidence of how dramatically galaxy interactions have affected each of the four member galaxies.

30
Author(s): R. de Propris (CTIO, Chile)
Title: TBD
Abstract: I measure the merger rate for galaxies in the MGC ($0.02 < z < 0.12$) and 2SLAQ ($0.45 < z < 0.65$) surveys, using the dynamically close pair technique. For MGC, I compare the properties of galaxies in pairs to the general population and find that galaxies in pairs tend to have increased star formation, but no starbursts, while paired galaxies have an excess of early and late type galaxies but a deficit of intermediate types. I also critically compare merger rates from close pairs and asymmetries. For 2SLAQ I report on a stringent upper limit to the dry merger rate at $z < 0.7$. The results show that the red sequence is not formed by dry mergers.

51
Author(s): M. Puech (GEPI, Observatoire de Paris, France), F. Hammer (GEPI, Observatoire de Paris, France), H. Flores (GEPI, Observatoire de Paris, France) et al.
Title: The evolution of the Near-Infrared Tully-Fisher relation over the last 6 Gyr
Abstract: Using the multi-integral field spectrograph GIRAFFE at VLT, we have derived the K-band Tully-Fisher relation (TFR) at z~0.6 for a representative sample of 65 emission line galaxies. We confirm that the scatter in the z~0.6 TFR is caused by galaxies with anomalous kinematics, and find a positive and strong correlation between the complexity of the kinematics and the scatter that they contribute to the TFR. Considering only relaxed-rotating disks, the scatter, and possibly also the slope, of the TFR, do not appear to evolve with redshift. We detect an evolution of the K-band TFR zero point between z~0.6 and z=0, which, if interpreted as an evolution of the K-band luminosity of rotating disks, would imply that a brightening of 0.66+/-0.14 mag occurs between z~0.6 and z=0. Because most rotating disks at z~0.6 are unlikely to experience further merging events, one may assume that their rotational velocity, which is taken as a proxy of the total mass, does not evolve dramatically. If true, our result implies that rotating disks observed at z~0.6 are rapidly transforming their gas into stars, to be able to double their stellar masses and be observed on the TFR at z=0. The rotating disks observed are indeed emission-line galaxies that are either starbursts or LIRGs, which implies that they are forming stars at a high rate. Thus, a significant fraction of the rotating disks are forming the bulk of their stars within 6 to 8 Gyr, in good agreement with former studies of the evolution of the mass-metallicity relationship.

61
Author(s): M. Puech (GEPI, Observatoire de Paris, France)
Title: Simulating observations of distant galaxies with the E-ELT
Abstract: Understanding the physics and mass assembly of galaxies out to very high redshifts is among the most important science goals of the future E-ELT. Obtaining a complete census of galaxy evolution as a function of time will require spatially resolved spectroscopy of a sample of a thousand galaxies out to z~6. In the frame of the E-ELT Design Reference Mission and the EAGLE Phase A study, we have conducted a very large number of simulations in order to assess in details how a multi-object integral field spectrograph on the E-ELT will be able to address these key scientific questions. We will present the conclusions of these simulations and discuss the scientific capabilities of the EAGLE instrument.

62
Author(s): I. Puerari (INAOE, Mexico) and M. Valdez-Gutiérrez (INAOE, Mexico)
Title: A Fabry-Perot study of some selected areas of M33
Abstract: We present PUMA Scanning Fabry-Perot observations of the Triangulum Galaxy M33. We analyze the structure and velocity dispersion of some selected HII regions.

42
Author(s): Y. Qu (GEPI, Observatoire de Paris, France), P. Di Matteo (GEPI, Observatoire de Paris, France), M. D. Lehnert (GEPI, Observatoire de Paris, France) and W. Van Driel (GEPI, Observatoire de Paris, France)
Title: On the redistribution of the angular momentum in minor mergers
Abstract: We studied how the angular momentum is redistributed during minor mergers, by running a set of Nbody simulations of dissipationless mergers of galaxies with a mass ratio 10:1. During the interaction, the internal and the orbital angular momentum are redistributed, depending on the initial orbital parameters as well as on the relative orientation of the galaxy spins with the orbital angular momentum (direct or retrograde orbits). As we discuss, the angular momentum redistribution affects also the evolution of the surface density profile of the interacting galaxies, as well as their line-of-sight velocities.

63
Author(s): A. Ramírez (IAA-CSIC, Spain), J. Masegosa (IAA-CSIC, Spain), I. Márquez (IAA-CSIC, Spain)
Title: LINERs: Optical morphology of the emission-lines regions
Abstract: It has been suggested that LINERs are the low brightness queue of the AGNs family. However the dominant mechanism acting in them is still undiscovered (AGN versus stellar mechanisms). A point-like morphology at the nucleus position could indicate an AGN nature. We present here partial results of our investigation about morphology of the emission-line gas in the circumnuclear region and the associated host galaxy, performed on archival narrow bands HST images of the nuclear region of several LINERs. These results show an agreement with a previous X-ray analysis (González-Martin et al. 2009, MNRAS in the press), pointing to the compact nature of the nuclear emission in most of the galaxies reported. Essentially, all these galaxies have circumnuclear structures, with 50% showing point-like sources. Implications for the importance of low brightness AGNs will be briefly discussed.

57
Author(s): R. Rampazzo (INAF, Osservatorio Astronomico di Padova, Italy)
Title: Tracing rejuvenation events in nearby early-type galaxies
Abstract: Local early-type galaxies (ETGs) can be considered the fossil record of the process of galaxy formation. At the same time, there is growing evidence that the concept of passive evolution of ETGs may be too simplified, especially for the ETG population in low density environment (LDE). Indeed, some form of external influence, such as minor merger or accretion, may have induced rejuvenation episodes of the stellar population in ETGs. We present new results about rejuvenation episodes in ETGs in low density environments coming from our, GALEX, SPITZER-IRS and optical observations.

31
Author(s): P. Repetto (UNAM, Mexico), M. Rosado (UNAM, Mexico), I. Fuentes Carrera (ESFM-IPN, Mexico) and R. Gabbasov (UNAM, Mexico).
Title: The interacting galaxy pair NGC 5278/79 (KPG 390, Arp 239): Ha kinematics
Abstract: In this work we present Ha observations of the interacting galaxy pair NGC 5278/79 obtained with the PUMA interferometer. We derived velocity fields, various kinematic parameters and rotation curves for both galaxies. We also obtained the residual velocity maps of each galaxy to investigate the non-circular motions in this system. We fit the rotation curve of NGC 5278 with pseudo-isothermal halo and Hernquist halo to find the total mass and the mass components of this galaxy. The orbital mass of this pair of galaxies was derived from the apparent relative motion of the members. Finally we present an analysis of the interaction process.

15
Author(s): R. Sánchez-Janssen (IAC, Spain) & the ITP collaboration
Title: The origin and evolution of fossil galaxy groups
Abstract: Fossil galaxy groups (FGs) are extreme environments devoid of intermediate-luminosity L* galaxies, while simultaneously being home to the brightest and most massive galaxies in the Universe. Thus, FGs provide unique clues on the history of cosmic mass assembly and the relationship between baryons and their host haloes. However, despite their aforementioned importance, little is still known of FGs from an observational point of view. We present an international project aimed at carrying out a systematic and comprehensive study of FGs through deep optical imaging, multi-object spectroscopy and integral-field spectroscopy of the central galaxy in order to characterize the brightest galaxy properties, the abundance of satellite systems, the presence of extended diffuse light and the groups' internal dynamics.

32

Author(s): W. A. Santos (IAG - University of Sao Paulo, Brasil), P. M. de Novais (IAG - University of Sao Paulo, Brasil), L. Sodré Jr. (IAG - University of Sao Paulo, Brasil), C. Mendes de Oliveira (IAG - University of Sao Paulo, Brasil)

Title: Isolated pairs of galaxies in SDSS

Abstract: A search for galaxy pairs, up to redshift z = 0.1, was performed in the Sloan Digital Sky Survey, Data Release 6 (SDSS-DR6), using the SQL language, with a method similar to that of Karachentsev (1972). We have analyzed the environment of these pairs, in a 0.5 h_70^-1 Mpc radius, taking into account redshifts of nearby galaxies (photometric and spectroscopic, when available) and magnitudes in the r band. Then, we further searched for only isolated pairs, similarly to the fossil group criterion, when the difference in the r-band magnitude between the brightest galaxy of the pair and the next brightest galaxy, that is not in the pair, is larger than 2. Our results show that around 14% of all the pairs found in SDSS can be considered isolated, according to the r-band magnitude criterion. We also analyzed properties of the galaxies in the pair, such as their colors, classifying them in early or late types. In the whole sample of galaxy pairs, 32% of them have both galaxies early-type, 46% of them are mixed (one early + one late) and, in 22%, both of the galaxies are late-type. If you consider only the isolated pairs sample, 30% of the pairs are formed by only early-type galaxies, 49% of them are mixed and 21% have late-type galaxies. Therefore, those preliminary results do not show meaningful statistical differences in their types, when you compare the isolated pairs sample and the general sample. Karachentsev, I. 1972, Soob. Spet. Astrofis. Obs., 7, 1

52

Author(s): M. T. Sargent (MPIA, Heidelberg, Germany / Inst. of Astronomy, ETH Zurich, Switzerland), C. M. Carollo (Inst. of Astronomy, ETH Zurich, Switzerland), S. J. Lilly (Inst. of Astronomy, ETH Zurich, Switzerland), P. Oesch (Inst. of Astronomy, ETH Zurich, Switzerland), C. Scarlata (Spitzer Science Centre, Caltech, Pasadena, USA / Inst. of Astronomy, ETH Zurich, Switzerland), O. Hahn (Inst. of Astronomy, ETH Zurich, Switzerland), P. Kampczyk (Inst. of Astronomy, ETH Zurich, Switzerland), the COSMOS collaboration.

Title: The role of environment in the growth of disk galaxies

Abstract: At low redshift, SDSS observations have shown that at fixed morphology the average colours of galaxies, as well as their structural properties and star formation rate are nearly independent of environment. How this observation is linked to the evolving morphology-density and star formation-density relations and the interplay between these two at high redshift is still not entirely clear. Using a complete sample of more than 27,000 disk galaxies with IAB<22.5 in the HST COSMOS field, we have studied the role of environment in the growth of disk galaxies since redshift 1. Thanks to the high resolution imaging and very precise photometric redshifts from multi-wavelength imaging in up to 30 bands we are able to follow the evolution of different categories of disk galaxies which we select according to the prominence of their bulge component. Studying these populations individually is of particular interest since it has the potential to reveal how environment affects both the evolution of global disk galaxy properties and also their internal dynamic evolution. In this contribution we describe how the relative abundance of bulged and pure disk galaxies in different environments evolves as a function of redshift. We also show how the average physical properties (e.g. surface brightness, colour and Sérsic index) of these different disk galaxy categories evolve during the past 8 billion years depending on their location in the cosmic density field.

33

Author(s): J. M. Solanes (University of Barcelona, Spain), L. Darriba (University of Barcelona, Spain), E. Athanassoula (Laboratoire d'Astrophysique de Marseille, France), A. Bosma (Laboratoire d'Astrophysique de Marseille, France), C. García-Gómez (Universitat Rovira i Virgili, Spain), J.-C. Lambert (Laboratoire d'Astrophysique de Marseille, France), J. Perea (IAA-CSIC, Spain), M. C. Toribio (University of Barcelona, Spain)

Title: An N-body tool to study the properties of groups and their member galaxies

Abstract: We have elaborated a dissipationless N-body model of a galaxy group to explore the formation of these structures within the framework of the standard 'concordance' flat Lambda cold dark matter (LCDM) cosmology. The group can contain as many live relaxed galactic halos of different mass as desired, embedded on a background of dark matter. To model the galaxies, we employ an updated version of the self-consistent multicomponent MaGaLie grid code by Boily et al. (2001) that allows to construct both spheroidal and exponential stellar distributions and incorporates the NFW spherical halo profile. Tests of the quality of the derived equilibrium show that N-body realizations with a few hundred thousand luminous particles are enough to maintain the structural integrity of the simulated galaxies over a Hubble time. This numerical model provides a powerful tool to investigate some of the most important nurturing effects of the group environment on galaxies.

20
Author(s): K. Stanonik (Columbia University, USA), E. Platen (Kapteyn Institute, the Netherlands), M. A. Aragón-Calvo (JHU, USA), J. H. van Gorkom (Columbia University, USA), R. van de Weygaert (Kapteyn Institute, the Netherlands), J. M. van der Hulst (Kapteyn, the Netherlands), K. Kovac (Institute of Astronomy, ETH Zurich, Switzerland), C. W. Yip (JHU, USA), P. J. E. Peebles (Princeton university, USA)
Title: HI Imaging of Void Galaxies
Abstract: We have completed a pilot survey imaging 15 void galaxies in HI in local (d=50 to 100 Mpc) voids. HI masses range from 2.2x10^8 to 3.7x10^9 M_sun, with one nondetection. This small sample makes up a surprisingly interesting collection of galaxies, consisting of galaxies with asymmetric and perturbed HI disks, previously unidentified companions, and ongoing interactions. One was found to have a polar HI disk with no stellar counterpart. While our small number statistics so far are limiting, results support past findings that most void galaxies are typical late type galaxies with gas rich disks and small scale clustering similar to field galaxies despite their large scale underdense environment. Investigation of the full 600 kpc x 600 kpc x 2000 km/s data cube to a mass detection limit of 10^8 M_sun does not reveal the missing dwarf galaxy population described by Peebles (2001) as the void phenomenon.

16
Author(s): I. Stoklasova (Astronomical Institute of the Academy of Sciences, Czech Republic), B. Jungwiert (Astronomical Institute of the Academy of Sciences, Czech Republic), P. Ferruit (Centre de Recherche Astrophysique de Lyon, France), E. Emsellem (Centre de Recherche Astrophysique de Lyon, France), E. Pecontal (Centre de Recherche Astrophysique de Lyon, France), S. F. Sanchez (Calar Alto Observatory, Spain)
Title: Kinematics of the central kpc in 16 nearby Seyfert galaxies observed with the integral-field spectrograph OASIS
Abstract: We study the central kpc of 16 nearby Seyfert galaxies using the optical integral-field spectrograph OASIS. We address the kinematic properties of stars and of ionized gas in narrow-line regions. Most of the observed gas velocity fields show S-shaped isocontours indicating non-circular motions due to non-axisymmetric gravitational potential such as bars or warps, or due to radial outflows associated with the active galactic nucleus. We find signatures of young stellar populations, with their relative contribution changing with galactocentric radius. We wish to discuss the relevance of the observed phenomena for the galactic activity and the evolution of galaxies. See also Stoklasova et al. (2009), A&A accepted.

34
Author(s): S. Torres-Flores (Universidade de Sao Paulo, Brasil / Laboratoire d'Astrophysique de Marseille, France), C. Mendes de Oliveira (Universidade de Sao Paulo, Brasil), P. Amram (Laboratoire d'Astrophysique de Marseille, France), B. Epinat (Laboratoire d'Astrophysique de Marseille, France), H. Plana (Laboratorio de Astrofisica Teorica e Observacional, Universidade Estadual de Santa Cruz, Brasil), Chantal Balkowski (GEPI, Observatoire de Paris-Meudon, Universite Paris VII, France)
Title: The Tully-Fisher relation for galaxies in Compact Groups
Abstract: We present results on the Tully Fisher relation of galaxies in dense environments as compared to galaxies in the field. The study is based on new Fabry Perot 2-D velocity maps combined with B and H photometry of 11 compact group galaxies. A comparison with field galaxies using both Fabry Perot maps and long slit observations is shown. Our main result is that galaxies in compact groups lie on the Tully-Fisher relation defined by galaxies in less dense environments, in agreement with previous results, but now confirmed for a larger sample of galaxies and in the near infrared band.

35
Author(s): J. Vennik (Tartu Observatory, Estonia) and U. Hopp (University Observatory, Munich, Germany)
Title: Properties of galaxies in isolated groups of galaxies
Abstract: Most galaxies reside in poor groups which provide a common reference sample of field (i.e. non-clustered) galaxies. Compact groups of galaxies (CGs) are often surrounded with a sparse halo (or in-fall region) of galaxies. Thus the poor groups of galaxies and their surroundings within a few Mpc provide a proper sample in which we can study and compare the properties of galaxies, which could have experienced a few encounters in the dense group core (nurture), to those which have evolved in relative isolation (nature) and are entering the group environment for the first time. Dwarf galaxies in groups are expected to reflect the environmental influence most prominently. We have searched for dwarf galaxies in a sample of fairly isolated groups in and near the Local Supercluster, based on photometric and morphological criteria. Redshifts of several group member candidates have been measured with the Hobby-Eberly Telescope (HET). The main aim of our project is to investigate the impact of the group environment on the evolution of its members by means of measuring and comparing their structural, dynamical and star-forming properties, conditioned by the local environment both in the dense core/subgroup as well as in the sparse halo of the group. To this purpose we have combined our own CCD imaging (Calar Alto) and spectral (HET) data with archival data from SDSS and 2MASS, and supplemented with available HI data from the literature. We discuss the properties of galaxies in two groups (LGG 16, WBL 666) and attempt to evaluate the evolutionary status of these groups.

17
Author(s): S. Verley (UNAM, Mexico / IAA-CSIC, Spain), M. Rosado (UNAM, Mexico), P. Repetto (UNAM, Mexico), R. Gabasov (UNAM, Mexico), L. Verdes-Montenegro (IAA-CSIC, Psain), G. Bergond (IAA-CSIC / Calar Alto Observatory, Spain), A. Durbala (Univ. of Alabama, USA)
Title: Dynamics of the isolated galaxy CIG 0314
Abstract: In the context of the AMIGA project, we used Fabry-Perot observations in order to study the dynamics of the ionised gas in the isolated galaxy CIG 0314. From the Halpha observations, we could obtain the velocity field and rotation curve of the galaxy. A detail analysis of the velocity field is done in order to understand the kinematics of the gas to gather clues on the mechanisms which favour or inhibit star formation, in particular along the bar. The visible and dark matter content can be reach, as well as an estimation of the mass of the galaxy.

64
Author(s): J. M. Vílchez (IAA-CSIC, Spain), E. Pérez-Montero (IAA-CSIC, Spain)
Title: A hardening of the ionising radiation across spiral discs?
Abstract: In this contribution, we study the effective temperature of ionising clusters of HII regions by means of the so-called "softness parameters", as defined using some bright emission lines in the optical and the mid-infrared part of the spectrum. We then explore the galactocentric variation of these parameters across the star-forming regions of the discs of spiral galaxies. We find that the existence of a gradient is not universal, but that its presence and strength is unexpectedly correlated with other properties of the host galaxy.

36
Author(s): C. Winge (Gemini Observatory, Chile)
Title: Gemini/GMOS-S spectroscopy of minor merger systems from the Arp-Madore Catalogue
Abstract: This poster presents the initial results of a study of "minor merger" systems (mass ratio > 5:1) from the Arp-Madore catalogue, aiming to obtain a more comprehensive picture of the effects of the interaction in the kinematics, stellar population and gas enrichment of these systems. The first part of this study presents single position, lower resolution spectroscopy of 14 systems with no know redshift or not confirmed as physical pairs, and the resulting characteristics of the gas emission and stellar population spectra in the inner ~5arcsec. In parallel, we have obtained spectra at different position angles for both galaxies in selected systems, using the gas kinematics and morphological information to constraint numerical N-body simulations of the encounter. The effects of the interaction are more clearly seen in the (lower mass) companion galaxies, which besides the morphological distortions show enhanced star-formation and smoother [O/H] distributions, indicating the presence of radial gas inflows driven by the tidal effects.

18
Author(s): Anna Wolter (INAF-OABrera), Daniela Vergani (INAF-OABo), Ginevra Trinchieri (INAF-OABrera)
Title: Cold Gas in Isolated elliptical galaxies
Abstract: Isolated elliptical galaxies are thought to be the end product of mergers of galaxies, most of which happened a significant fraction of Hubble time ago. Compact groups, which represent a highly dynamic and dense environment in which merging could be more likely, might be the progenitors of field ellipticals. Between similar end products, however, some ellipticals decided to be more original, by showing a diffuse and strong X-ray halo. In this view, ellipticals which bear signs of merging should have less hot gas (detectable in X-rays) but a significant amount of cold (HI) gas, possibly of low surface brightness, left over from late type galaxies or intragroup gas from earlier epochs. We will present radio 21cm data for a few ellipticals chosen to be very isolated, for which we also have acquired X-ray information.