

3819 and its companions are due to bound Keplerian orbital motion, we estimated a lower limit to NGC 3819's mass of $5 \times 10^{10} M_{\odot}$. The companions are approximately 10 times less massive than NGC 3819.

PAINEL 121

ULTRAVIOLET SPECTRA OF METAL-POOR STARBURST GALAXIES

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Sets of ultraviolet spectra of metal-poor starbursting galaxies are calculated using the STARBURST99 code. We employ a new spectral library of O-type stars in the Small and Large Magellanic Clouds observed with the Hubble Space Telescope. The synthetic spectra cover the range 1200Å to 1600Å with 1Å resolution and have a mean metallicity of $1/4 Z_{\odot}$. We compare sets of model spectra (standard IMF and SFR) calculated with the new sub-solar metallicity library with those obtained with the old solar metallicity library. We find that the lines are correspondingly weaker at lower metallicity due to the expected lower metal abundances. However wind-lines do not correlate monotonically with metallicity. Finally we compare our new synthetic model spectra to the ultraviolet spectra of NGC5253 and MS 1512-cB58 (two star-forming galaxies with $1/4 Z_{\odot}$ metallicity at high and low redshift respectively) and find a better fitting than using the previous solar metallicity models.

PAINEL 122

INITIAL CONDITIONS FOR A REALISTIC DOUBLE RADIO SOURCE
EVOLUTION MODEL USING NUMERICAL SIMULATIONS

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In a realistic model for the evolution of powerful double radio sources one must consider a non-uniform pressure distribution over the cocoon volume. To properly study how the shape and pressure of the cocoon evolves with time we must solve the equations of energy and motion for the jet head, the cocoon, and the bow shock. Besides, the advance of the jet head through the ambient medium is a function of the area of the head. In this work, we investigate what are the initial conditions for these

equations based on the results of a large number of numerical hydrodynamic simulations performed for a broad range of jet parameters. We present the relations we found between initial head pressure and expansion speed as a function of the jet Mach number and contrast density as well as how the head radius increases with time. These can then be used to solve the equations of a detailed analytical model which is in close agreement with the numerical simulations.

PAINEL 123

NEW OBSERVATIONS IN X-RAYS OF THE CLUSTER OF GALAXIES
ABELL 85

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Early observations of the bright X-ray cluster Abell 85, made with the ROSAT satellite, have shown a number of particular features: (I) an X-ray emission excess in the south region associated with a group of galaxies (the “south blob”) falling towards the main cluster structure; (II) a filament of groups of galaxies and diffuse matter with at least 4 Mpc; (III) an X-ray excess in the west region co-spatial with synchrotron radio emission suggesting an inverse Compton origin. We present here preliminary results obtained with the recent observations by the satellites Chandra (august/2001) and XMM-Newton (january/2002). We emphasize the morphological analysis, based on the adaptative kernel smoothing technique, and the high-resolution spatially resolved spectral fits. We present new temperature and metallicity maps, showing evidence for a cool and metal rich central region; we have also detected a possible “hole” in the X-ray emission near the center, showing that even the inner parts of Abell 85 may not be as relaxed as previously thought. The existence of a filament reaching Abell 85 at its south region is confirmed with deep XMM-Newton imaging, while high-resolution Chandra imaging shows the discrete, unrelaxed nature of the “south blob”.

PAINEL 124

DYNAMICAL EVOLUTION OF THE CLUSTER OF GALAXIES A970

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We report on new results on the X-ray emission of the cluster of galaxies A970, based on observations made by BeppoSAX detectors MECS and LECS in the

range [0.15 – 10] keV. Previous work (Sodré et al. 2001, A&A, 377,428) , based on the analysis of the galaxy radial velocity distribution, suggested that A970 may be just reaching its dynamical equilibrium. The scarce available X-ray data (Einstein IPC and ROSAT All-Sky Survey) also suggested a recent merged cluster scenario, with a weak cooling-flow and an offset between X-ray isophotes and galaxy distribution. The new data presented here allowed us to obtain low resolution spatial profiles for the temperature, the abundances and N_H . We have also been able to derive the global α -elements/iron ratio of the cluster. The combined X-ray and velocity analysis suggests that Abell 970 is between two meals: a recent merger event, which occurred some $\sim 3 - 4$ Gyr ago and another one which will happen in the next $\sim 4 - 6$ Gyrs.

PAINEL 125

PROPERTIES OF AGNs IN THE LOCAL UNIVERSE

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Considering the Southern Sky Redshift Survey - SSRS2 - as representative of the general galaxy distribution of the nearby Universe, we characterize some of the properties of the hosts of Seyfert types 1 and 2. The Sey identification in the SSRS2, is based on the ratio of optical emission lines for about 70% of the SSRS2 galaxies. The literature and NED was also used in the process of Sey identification. Among the properties examined we find that: **a)** the percentage of Sey galaxies is at least 3% of the one for the general population (162/5399); **b)** the ratio of Sey-2/Sey-1 is $\approx 3:1$; **c)** by means of the Luminosity Function estimate of SSRS2 and Seyferts, we conclude that the AGNs represent 1% of the galaxy population, and are distributed preferentially in hosts with absolute magnitude brighter than M^*+1 ; **d)** Seyferts are hosted preferentially by early-spirals (S0a-Sb), and 11% are hosted in systems presenting clear evidence of strong interaction (twice the value found for SSRS2); **e)** Sey-1 and Sey-2 show similar distribution among the different morphological types; **f)** Seyferts contain 2 times more barred hosts than the SSRS2 galaxies; **g)** in general, Seyferts are less frequent in isolated galaxies, prefer binary systems, and show a slight tendency for not being in groups of galaxies, when compared to the SSRS2 sample.

PAINEL 126

THE ENVIRONMENTAL DEPENDENCE OF STAR FORMATION IN THE NEARBY UNIVERSE

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We investigate the environmental dependence of galaxies with star formation from a volume-limited sample of nearby galaxy spectra extracted from the 2dF Galaxy Redshift Survey. The environment is characterized by the local number density of galaxies. We discriminate the star-forming galaxies in distinct spectral classes by the use of a set of equivalent widths. We also determine galaxy spectral types through a Principal Component Analysis of their spectra. The frequency of galaxies of different classes and types are then evaluated as a function of the environment. We show that the fraction (relative to star-forming galaxies) of short starburst galaxies seems to increase with their local density, and we then argue that this is an indication that morphological transformations, although stronger in clusters, occurs in all environments.

PAINEL 127

STELLAR POPULATIONS AND ENVIRONMENT OF GALAXIES IN THE LOCAL UNIVERSE

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We investigate the environmental dependence of galaxies with different stellar populations using a volume-limited sample of nearby galaxy spectra extracted from the 2dF Galaxy Redshift Survey. The environment is characterized by the local number density of galaxies. The stellar populations are obtained with empirical population synthesis techniques, with the maximum entropy method. Using numerical simulations, we show that some parameters, like the mean age of a galaxy stellar population and the fraction of its young stars, can be robustly estimated from the spectra. We will also present preliminary results regarding the frequency of galaxies with different populations and parameters as a function of the environment.