lines. We show how these results are useful to interpret recent spectroscopic results of distant $z \sim 2-3$ star forming galaxies.

[1] Departamento de Física, Universidad de los Andes, Cra. 1 No. 18A-10, Edificio Ip, Bogotá, Colombia.
[2] Max Planck Institute for Astrophysics, Karl-Schwarzschild-Str. 1, 85741, Garching, Germany.

XIV Latin American Regional IAU Meeting (Florianópolis/SC, Brazil, 25-30 November 2013)
Editors: A. Mateus, J. Gregorio-Hetem & R. Cid Fernandes

PHOTOMETRY AND DYNAMICS OF THE MINOR MERGER AM 1219-430 WITH GEMINI GMOS-S

J. A. Hernandez-Jimenez[1], M. G. Pastoriza[1], I. Rodrigues[2], A. C. Krabbe[2], C. Winge[3], and C. Bonatto[1]

This work is based on r' and g' images and long-slit spectra obtained with the GMOS at the Gemini South Telescope. We detected a tidal tail in the main galaxy (AM 1219A) and a bridge of material connecting the galaxies. The surface brightness profile of AM 1219A was decomposed into bulge and disc components. The profile shows a light excess of $\sim$ 53% due to the contribution of star-forming regions. On the other hand, the surface brightness profile of the secondary galaxy shows a lens structure in addition to the bulge and disc. The rotation curve of AM 1219A is quite asymmetric, suggesting a gas perturbed by interaction. The overall best-fitting solution for the mass distribution of AM 1219A was found with M/L for bulge and disc of $\Upsilon_b = 2.8^{+0.4}_{-0.4}$ and $\Upsilon_d = 2.4^{+0.3}_{-0.2}$, respectively, and a NFW profile of $M_{200} = 2.0^{+0.5}_{-0.4} \times 10^{12}\, M_\odot$ and $c = 16.0^{+1.2}_{-1.1}$.

[1] Instituto de Física, Universidade Federal do Rio Grande do Sul, Av. Bento Gonçalves, 9500, Cep 91501-970, Porto Alegre, RS, Brazil.
[2] Universidade do Vale do Paraíba, Av. Shishima Hifumi, 2911, Cep 12244-000, São José dos Campos, SP, Brazil.
[3] Gemini Observatory, c/o AURA Inc., Casilla 603, La Serena, Chile.

PHYSICAL PROPERTIES OF GALAXIES IN THE SLOAN DIGITAL SKY SURVEY DETECTED IN INFRARED

F. R. Herpich[1,2], A. Mateus[2], R. Cid Fernandes[2], E. A. D. Lacerda[2], A. L. de Amorim[2], L. L. Rossi[3], M. M. Cendron[3], V. B. Klein[3], M. M. Parize[3], and F. J. Braz[3]

The extragalactic astrophysics is experiencing a golden age with the availability of an almost inconceivable amount of observational data and projects in different spectral regions. Our research group at UFSC, in collaboration with other researchers from Brazil and France, was successful in following these new challenges, especially with the spectroscopic analysis of the SDSS data. The result of this effort was to build a database of physical properties of galaxies to nearly 1 million objects, which is completely public. Recently we also started analyzing data from the GALEX ultraviolet, spectral broadening our coverage. In this work, we continue this expansion, focusing our attention in the infrared region of the electromagnetic spectrum with the inclusion of font catalogs obtained a recently mission, the WISE project. We increase our database with the data obtained from the WISE and made the match in the catalog of creating a subsample of SDSS galaxies about 300 000 objects. These objects are analyzed using a new computational tools in order to identify the properties in the infrared. This is done in conjunction with the Department of Computer Science of Santa Catarina Federal Institute. In the first analysis, we obtain a clear separation between star forming galaxies (SF) and "retired" galaxies (RT). In this work, we present the latest results of the analysis of this data.

[1] Centro de Ciêcias Físicas e Matemáticas - CFM, Universidade Federal de Santa Catarina – Bloco G – Sala 203 Campus Universitário Trindade, Cx. Postal 476 – CEP 88040–900, Florianópolis, SC, Brazil (herpich@astro.ufsc.br).
[2] Universidade Federal de Santa Catarina – UFSC.
[3] Instituto Federal Catarinense – IFC Campus Videira.

STAR FORMATION RATES OF DS GALAXIES

A. M. Hidalgo-Gámez[1], I. Vega-Acevedo[1], and M. A. Magaña-Serrano[1]

The Star Formation Rate of a sample of nine dwarf spiral galaxies and ten late-type Sm is determined from the Hα luminosity. The main interest was to check if these two kind of late-type galaxies have similar SFR or not. The images were acquired at the 1.5m telescope of the SPM-OAN and they were reduced with the software MIDAS. The values of the SFR are very similar for both type of galaxies and also similar to other Sm galaxies. The main result is that the dwarf spiral galaxies are more efficient when forming stars than the Sm galaxies because the SFR

per are are lower for the latter with the same gas density than for dwarf spirals. However, the SFRs are larger in the Sm galaxies. In addition, the SFR per area were compared with global properties of the galaxies. There is only a relationship between the SFR and the surface brightness as well as with the absolute blue magnitude, but no relationship with the optical radius. A larger sample is needed in order to obtain a more conclusive answer.

[1] Escuela Superior de Física y Matemáticas, Instituto Politécnico Nacional.

THE EFFECTS OF DARK MATTER HALO ON THE MASS LOSS PROCESS IN DWARF GALAXIES: RESULTS FROM 3D HYDRODYNAMICAL SIMULATIONS

G. A. Lanfranchi[1], L. O. Ruiz[1], D. Falceta-Goncalves[2], and A. Caproni[1]

Theoretical Λ CDM cosmological models predict a much larger number of low mass dark matter haloes than has been observed in the Local Group of galaxies. One possible explanation is the increased difficulty of detecting these haloes if most of the visible matter is lost at early evolutionary phases through galactic winds. In this work we study the current models of triggering galactic winds in dwarf spheroidal galaxies (dSph) from supernovae, and study, based on 3D hydrodynamic numerical simulations, the correlation of the mass loss rates and important physical parameters as the dark matter halo mass and the star formation rate. We find that the existence of winds is ubiquitous, independent on the gravitational potential, as would be expected. This because our simulations revealed that the Rayleigh-Taylor Instability (RTI) may play a major role on pushing matter out of these systems, even for very massive haloes. However, as already reported in previous works we have found a correlation between the mass loss rate and both the halo mass and the rate of supernovae. Besides, the epoch in which most of the baryon galactic matter is removed from the galaxy varies depends on those quantities. This result, combined to the importance of the RTI in each model, may change our understanding about the chemical evolution of dwarf galaxies, as well as in the heavy element contamination of the intergalactic medium at high redshifts.

[1] NAT - Universidade Cruzeiro do Sul, SP, Brasil.

[2] EACH/USP, SP, Brasil.

GALAXY AND MASS ASSEMBLY (GAMA): THE CONNECTION BETWEEN METALS, SPECIFIC SFR AND H I GAS IN GALAXIES: THE Z-SSFR RELATION

M. A. Lara-Lopez[1], A. M. Hopkins[1], and GAMA team

We study the interplay between gas phase metallicity (Z), specific star formation rate (SSFR) and neutral hydrogen gas (HI) for galaxies of different stellar masses. Our study uses spectroscopic data from Galaxy and Mass Assembly (GAMA) and Sloan Digital Sky Survey (SDSS) star-forming galaxies, as well as HI detection from the Arecibo Legacy Fast Arecibo L-band Feed Array (ALFALFA) and Galex Arecibo SDSS Survey (GASS) public catalogues. We present a model based on the Z-SSFR relation that shows that at a given stellar mass, depending on the amount of gas, galaxies will follow opposite behaviours. Low-mass galaxies with a large amount of gas will show high SSFR and low metallicities, while low-mass galaxies with small amounts of gas will show lower SSFR and high metallicities. In contrast, massive galaxies with a large amount of gas will show moderate SSFR and high metallicities, while massive galaxies with small amounts of gas will show low SSFR and low metallicities. Using ALFALFA and GASS counterparts, we find that the amount of gas is related to those drastic differences in Z and SSFR for galaxies of a similar stellar mass. The results of this study were publish recently in a "letter to the editor" (Lara-Lopez, M. A. et al. 2013, MNRAS, 433, L35).

[1] Australian Astronomical Observatory, PO Box 915, North Ryde, NSW 1670, Australia.

E+A GALAXIES IN THE SDSS. STELLAR POPULATION AND MORPHOLOGY

R. Leiva[1] and G. Galaz[1]

Galaxies with E+A spectrum have deep Balmer absorption and no H_α and $[OII]$ emission. This suggest recent star formation and the lack of ongoing star formation. With an E+A sample from the SDSS DR 7 (Aihara et al. 2011) we study the morphology

XIV Latin American Regional IAU Meeting (Florianópolis/SC, Brazil, 25-30 November 2013)
Editors: A. Mateus, J. Gregorio-Hetem & R. Cid Fernandes