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POSTERS

Stellar population synthesis of jellyfish galaxies

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Abstract. Jellyfish are the most extreme cases of galaxies undergoing ram-pressure stripping. In order to analyse the stellar populations distribution along these galaxies, we have performed stellar population synthesis in data cubes of jellyfish from the GASP programme, using both Starlight and FADO codes.

Keywords. galaxies: jellyfish, ram-pressure stripping, galaxies: stellar population galaxies:individual:JW108

1. Introduction

It is well known that galaxies are strongly affected by their environment. The morphology-density relation (Dressler 1980) shows that in dense groups and clusters there are more quiescent galaxies than "gas rich" ones. In those regions occur some phenomena that can change the physical properties of the galaxies. One of them is the ram-pressure stripping (RPS) (Gunn & Gott 1972): the loss of interstellar material (ISM) of a galaxy falling in a cluster or group, caused by the ram pressure with the intracluster material (ICM). The galaxies that are suffering the stripping are called jellyfish galaxies and have an unilateral asymmetry, forming "tails" with the escaping gas.

The RPS can enhance the star formation along all the galaxy (Vulcani *et al.* 2018; Roman Oliveira *et al.* 2019), even in the tails, that present HII regions (Poggianti *et al.* 2019), but it may end quenching the galaxy by removing most of its gas.

In order to study the stellar populations in galaxies we have performed spatially resolved stellar population synthesis (SPS) on public data cubes from MUSE. We are using public data from GASP (Poggianti *et al.* 2017), a large programme that observed jellyfish between redshifts 0.04 and 0.07 with the spectrograph MUSE in the Very Large Telescope (VLT). The field of view covers an area of 1' × 1', with spatial resolution 0.4" and spectral range from 4650 Å to 9300 Å.

2. Analysis and Results

To perform the SPS we used the Megacube code (Mallmann *et al.* 2017), that implements the Starlight code (Cid Fernandes *et al.* 2005) in datacubes. We have also used the FADO code (Gomes & Papaderos 2017) that performs the SPS using a differential evolutionary algorithm and takes into account the nebular emission, which is a greatly

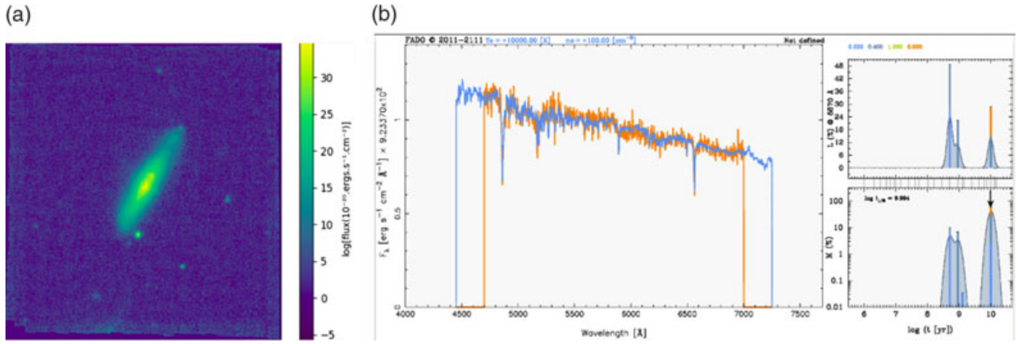

Figure 1. (a) Flux of Hα+NII emission lines in JW108. (b) In orange the spectrum of a region in the disk of JW108, in blue the spectrum fitted with FADO, in gray the stellar continuum and in red the nebular continuum. On the wright the bins of age weighted by mass and luminosity. It has an intermediate/old population (0.5−10 Gyr), and we see no nebular contribution, along with the lack of emission lines.

important constraint to synthesizing the spectra of star-forming regions, such as the tails of the jellyfish. In both codes we used a base from Bruzual & Charlot (2003) simple stellar populations.

During our analysis we found a galaxy, JW108, that seems to present star formation in the center, but not in the disk, and the cause of this is not fully understood. We speculate it lost part of the gas of its outskirts due to gravitational interaction with some nearby galaxy, but the second is not well understood yet. We intend to examine the causes of this problem in JW108, in addition to studying the profiles of the stellar populations along the different regions of the jellyfish.

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