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EXPLORING THE STAR FORMING REGIONS IN VIGOROUS STAR FORMING GALAXIES AT $Z = 0.84$

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We analyze the properties of star forming regions in a sample of star forming galaxies at $z = 0.84$. Star forming regions are extracted from B band ACS-HST images. Previously we have substracted a model of the galaxy, fitting a bulge+disk model to the whole galaxy. Special care has been taken masking the star forming regions in the model fitting procedure, yielding more reliable results. We present here the properties of these star forming regions.

We use an Hα selected sample of galaxies at $z = 0.84$. The objects are selected by their emission in the Hα+[NII] line and are thus selected due to intense star formation. The sample was first analysed in Villar et al. (2008) where we derived the luminosity function. star formation rates and Properties where studied on Villar et al. (2011). This sample is very well suited to study SFR process as its been selected by this property.

We select all the galaxies within our sample observed in b,v,i and z ACS bands. A 2D disk+bulge model is fitted and substracted from the original images, independently in each band. The modelling and fittintg are carried out by Galfit (Peng et al. 2002, 2010). The b band restframe central wavelength is, at this redshift ($z \sim 0.84$), ∼2400 Å. Thus, the residuals in this band indicates us where are the most intense star forming regions. To select these regions we use Sextractor (Bertin & Arnouts 1996) with appropriate parameters. However, these star forming regions are influencing the fitting process, so we repeat it iteratively, masking each time the previously detected star forming regions till the method converges (see Figure 1). This process is repeated in all bands available, always using the star forming regions detected in the b band. This allows us to get rid of the underlying population in each band. A detailed analysis of each star forming region will be carried out, taking into account the information in all four bands.

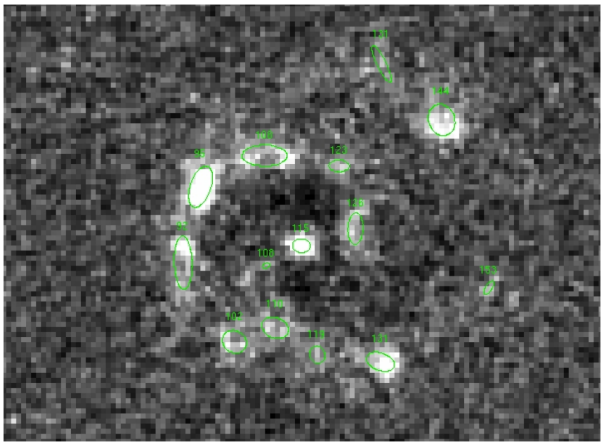

Fig. 1. Example of selected regions in a galaxy within our sample. The Star Formation Regions have been selected in the b band.

Low mass high specific star formation rate galaxies tend to be small blue galaxies. Their morphologies are predominantly irregular. The number of star formation regions is small though they represent a large fraction of the galaxys emission.

Intermediate mass high specific star formation rate galaxies tend to be large evolved galaxies, being most of them disks. The number of star formation regions is high, being them very bright and actively forming stars.

High mass low specific star formation rate tend to be large evolved galaxies, mainly disks with a formed bulge. The number of star formation regions could be high, though their total Star Formation is quite low compared to their high mass.

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