

STARBURSTS IN CLUMPY IRREGULAR GALAXIES

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Bright Clumpy Irregular galaxies (CI) are characterized by intense star formation activity. At the present time, a few objects of this type is known; to search for new candidates, and to investigate the causes of this intense star formation, we observe a sample of galaxies selected mainly from Kiso Schmidt survey. We use:

- CCD photometry (2m telescope of the Observatoire du Pic du Midi, with a F/10 focal reducer) in BRI passbands: wavelet analysis of the frames enables to obtain sizes and brightness of the clumps, and detailed morphology.

- HI observations (Nancay) which provide velocities and HI masses.

- Optical spectra (1.93 m telescope of the Observatoire de Haute Provence) giving physical properties of the gas and masses deduced from velocity curves. Preliminary results concern VV523 = NGC 3991 = IRAS 11549 + 3237. It appears a double object on our spectra. Wavelet analysis shows many clumps, the brightest of them are resolved on H α isophotes as one can see below.

Masses M_T of the two components deduced from optical data, (roughly equal to 0.5 and 1.3 $10^{10} M_\odot$), ratios $M_{HI}/M_T = 0.4$ and $M_{HI}/L_B = 0.41 M_\odot/L_\odot$ are typical of irregular galaxies. The whole M_{HI} ($7.8 10^9 M_\odot$) is 2.8 times normal value for late type; this high value agrees with the hypothesis of two objects.

Measures of line intensities and CCD photometry show that the southern component is dustier and that the northern is brighter and bluer. Preliminary estimations based on FIR fluxes allow us to assume that VV523 belongs to CI's class, according to the criteria of Huchra (1987).

ISOPHOTES H α 1pha



Wavelet analysis of CCD frame in R band

