continued up to now, a blue plume corresponding to massive Main Sequence stars would be present in the CM diagram, contrary to the observational evidence. Similar results can be obtained with two long and distinct episodes of Star Formation, but short and separated bursts do not give a satisfactory agreement with the data, since the distribution of objects happens to be too clumpy around the corresponding isochrones.

Three types of IMF have been tested: the relatively steep IMF by Tinsley (1980), which is in good agreement with the solar neighbourhood data; the IMF suggested by Melnick (1987), which is very flat for the low metallicity appropriate for Sextans B; and Salpeter's IMF, which is intermediate between the other two. This latter, which turned out to be the only IMF consistent with the data on WLM (Ferraro et al. 1989), leads to a satisfactory agreement also in the case of Sextans B, although a further check has to be done, comparing the theoretically predicted with the observed luminosity function.

From Figure 3 it can be noticed that the two examined regions of Sextans B, and therefore all the galaxy, have undergone a similar history of Star Formation, as the distribution of stars in the CM diagram is virtually the same. This is not a trivial consequence of the small size ($R \lesssim 2$ Kpc) of this galaxy, though. Indeed WLM has a similar size, but one region shows the effect of a recent burst of star formation, unlike the rest of the galaxy. In both galaxies, however, an underlying population of stars up to 1 Gyr old is present in every examined region, and the differences appear to concern only the very recent SF activity. From the data relative to these two galaxies, it seems therefore that Star Formation in Dwarf Irregulars is generally a rather continuous process, a result which will be checked against the observations of the other galaxies in our sample. If this conclusion will be confirmed, we anticipate an impact on the current theoretical interpretation of the chemical evolution of Dwarf Irregular galaxies. A continuous SF, in fact, provides a large heavy element production, which would be incompatible with the observed low metallicities typical of these systems.

As a possible solution, strong galactic winds triggered by Supernovae explosion (Matteucci and Chiosi 1983) can be invoked to remove most of the enriched gas. Yet, from the results of model computations, a bursting mode of SF is preferable, even when the action of galactic winds is taken into account (cf. Matteucci and Tosi 1985).

4. Conclusions

The history of Star Formation in Dwarf Irregular galaxies can be studied in a very efficient way through the analysis of their Colour-Magnitude diagrams, yielding significant results for the general understanding of the evolution of galaxies, when data are collected for a number of cases. Unfortunately, the number of Dwarf Irregulars which can be studied in detail with ground-based telescopes is relatively small. We believe, however, that our sample of about ten regions in five galaxies will be significant enough to draw some general conclusion and will provide a useful base for further studies with the Hubble Space Telescope.

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References

Bertelli, G., Bressan, A., Chiosi, C., Angerer, K. 1986, *Astron. Astrophys. Suppl. Ser.* **66,** 191.

Buonanno, R. 1989, ESO-MIDAS User Manual.

Feast, M.W., Walker, A.R. 1987, *Ann. Rev. Astron. Astrophys.* **25,** 345.

Ferraro, F., Fusi Pecci, F., Tosi, M., Buonanno, R. 1989b, *Mon. Not. R. Astron. Soc.*, in press.

Gallagher, J.S., Hunter, D.A., Tutukov, A. 1984, *Astrophys. J.* **284,** 544.

Matteucci, F., Chiosi, C. 1983, *Astron. Astrophys.* **123,** 121.

Matteucci, F., Tosi, M. 1985, *Mon. Not. R. Astr. Soc.* **217,** 391.

Melnick, J. 1987, in *Stellar Evolution and Dynamics of the Outer Halo of the Galaxy*, M. Azzopardi and F. Matteucci eds (ESO Garching FRG), p. 589.

Renzini, A. 1984, in *Observational Tests of the Stellar Evolution Theory*, IAU Symp. 105, A. Maeder and A. Renzini eds (Dordrecht: Reidel), p. 21.

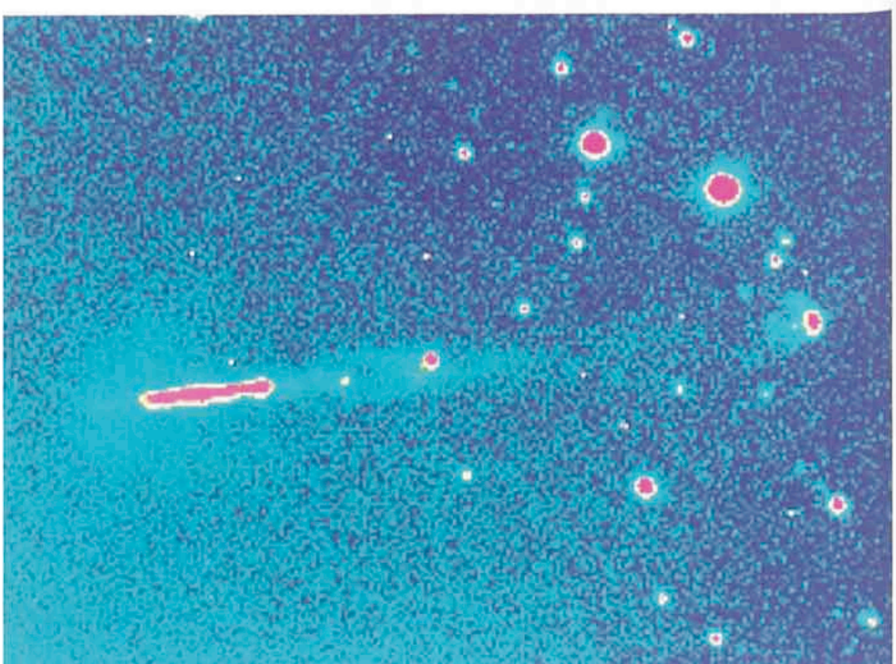
Sandage, A.R., Carlson, G. 1985, *Astron. J.* **90,** 1019.

Stetson, P.B. 1987, *Pub. Astron. Soc. Pacific* **99,** 191.

Terlevich, R., Melnick, J. 1983, ESO Preprint No. 264.

Tinsley, B.M. 1980, *Fund. Cosmic Phys.* **5,** 287.

Viallefond, F. 1988, in *Galactic and Extragalactic Star Formation*, R.E. Pudritz and M. Fichs eds (Dordrecht: Kluwer), p. 439.



The Large Jet in the HH-111 Complex

This false-colour picture shows a newly discovered large jet in the HH-111 complex, just north of the celestial equator in Orion.

The straight jet emerges from the surrounding interstellar cloud in the left part of the picture. The outline of the cloud is vaguely visible by the brighter background near the lower edge of the picture. Also seen is a diffuse reflection nebula where the jet emerges. This nebula is illuminated by the light from a newborn star, hidden deep within the cloud. Because of the heavy obscuration, the star itself is not visible on this photo. The jet produces a "bow-shock" nebula; this is the bright, mushroom-shaped nebula in the right part of the picture. The round points are background stars in the Milky Way.

The picture was produced as a composite of four 1-hour CCD exposures, obtained with the Danish 1.5-m telescope at La Silla through a narrow optical filter. The light seen here from the jet is emitted by singly ionized sulphur atoms.

This new object was discussed in detail at the recent ESO Workshop on "Low mass star formation and pre-main sequence objects".