

## Self-Induced Formation of Metal-Rich Globulars in Bulges?

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**Abstract.** Taken together, the latest key observations assume that (i) old metal-rich globular cluster populations (MRGCPs) in bulges were able to form due to an increased self-induced star formation rate (SFR) in their host galaxies, while galaxy merging played an additional role; (ii) massive star cluster populations (MSCPs) in irregulars may be young, less prominent counterparts of the old MRGCPs in spheroids.

### 1. Formation of MRGCPs in spheroids and MSCPs in irregulars

Data on high redshift galaxies and QSOs, super-massive black holes, redshift evolution of QSO emissivity, elemental abundances, etc. assume that more massive spheroids have shorter formation time scales (e.g., Granato et al. 2001). The metallicity distribution functions (MDFs) for the disk stars of the LMC and for the old red giants in the halos of the elliptical NGC 5128 and spiral M31 are virtually identical (Harris & Harris 2001). Surprisingly, the most probable metallicities of the MSCPs in the LMC and other irregulars lie between  $0.004 < z < 0.008$  (as do metallicities of MRGCPs and metal-rich components of the MDFs), irrespective of the presence or absence of signs of interaction (Billett et al. 2002; de Grijs et al. 2003, among others). In addition, for a sample of BCD galaxies Hopkins et al. (2002) find a positive correlation between galaxy metallicity (oxygen abundance) and SFR. These findings imply that the formation of both the MRGCPs in spheroids and MSCPs in irregulars may be preferentially related to a certain stage of the host's (chemical?) evolution, during which there is an increase in the host galaxy SFR.

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### References

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