

## STELLAR POPULATIONS IN MIXED PAIRS OF GALAXIES

D.F. DE MELLO, W.C. KEEL AND J.W. SULENTIC  
*University of Alabama, Tuscaloosa USA*

AND

R. RAMPAZZO  
*Osservatorio Astronomico di Brera Milano, Italy*

The interpretation of the interaction in galaxies is simplified in mixed pairs (E+S) because most or all of the cold gas can be traced to an origin in a single galaxy (S). We used spectroscopy, imaging, far-IR, and stellar population synthesis to study the stellar content and history of star formation in the nuclear region of the early-type galaxy in the mixed pair AM0327–285. We used the procedure for stellar population synthesis developed by Bica (1988) to estimate the star-formation history of the nucleus of the elliptical galaxy. The method uses a library of star clusters, and estimates the chemical evolution in a test population with two parameters: age and metallicity; no assumptions on gravity or details of stellar evolution are necessary, and the IMF is implicit in the cluster spectra. The procedure allows one to both determine the chemical enrichment and date successive generations of star formation. The result indicates that the dominant population is old and metal-rich ( $[Z/Z]_{\odot}=0.3$ ), while  $\sim 10\%$  of the flux at  $5870 \text{ \AA}$  arises from a young stellar population (age  $\leq 5 \times 10^8 \text{ yr}$ ), confirming that this early-type galaxy had recent star formation as suggested also by photometry and far-IR data (de Mello et al 1994). This age is close to several estimates of the characteristic timescale of the interaction, suggesting that the mass influx associated with this star formation occurred as a result of an earlier phase of the interaction and not as a result of the present geometry of the pair.

## References

- Bica, E., 1988, *Astron. Astrophys.* 195, 76.  
de Mello, D.F., Keel, W.C., Sulentic, J.W., Rampazzo, R., Bica, E., White III, R.E., 1994, *Astron. Astrophys.* in press.