

different stages of evolution observed in NGC 6553 for the solar metallicity.

We have fitted two convolved composite spectra to the globular cluster G1, Bica (1988, A&A, 195, 76), spectrum. The G1 spectrum represents a sum of the spectra of the galactic globular clusters NGC 6528 (50%), NGC 6440 (40%) and NGC 6553 (10%). The fit of our composite spectra to the G1 integrated spectrum is not very clear because of the low resolution of the spectra. The fit to NGC 4936 is satisfactory, the corresponding velocity dispersion of this elliptical galaxy is  $170 \text{ km s}^{-1}$ .

The calculations and reductions were carried out with the VAX 8530 of the IAG-USP. Financial support by FAPESP is acknowledged.

#### A NEW DDO CALIBRATION OF EFFECTIVE TEMPERATURE FOR EVOLVED LATE-TYPE STARS

A. Piatti and J.J. Clariá

Observatorio Astronómico de Córdoba, Argentina

The necessity is shown of establishing a new DDO calibration of effective temperature for evolved G and K stars. After a previous careful selection of objects according to different criteria and reddening corrections, the DDO two-color diagrams are redefined with normal lines for dwarfs, giants, and supergiants. Mean values of the DDO indices for every spectral type and luminosity class are derived. It is shown that the DDO system allows us to assign MK types to late-type stars with an error of less than a spectral subclass and half a luminosity class, even to objects with abnormal cyanogen content. Using the Bell & Gustafsson (1989, MNRAS, 236, 653) scale as a reference—determined for G and K stars through the infrared flux method and synthetic infrared colors—a new DDO calibration of effective temperature is presented. This calibration reproduces satisfactorily the infrared scale, whereas the original Osborn's scale underestimates by about 170 K the temperatures of the K giants.

#### A CATALOGUE OF NEARBY WIDE BINARY AND MULTIPLE STARS

A. Poveda, M.A. Herrera, C. Allen,  
G. Cordero, and C. Lavalley

Instituto de Astronomía,  
Universidad Nacional Autónoma de México

No modern catalogue of wide binary and multiple systems (WBMS) exists for the region of the solar vicinity (stars nearer than  $\sim 22 \text{ pc}$ ) that includes up-

dated information on their membership to moving clusters and age classification. With the aim of filling this gap, and also because of its importance in the investigation of the dynamical evolution of double and multiple systems, we have compiled a WBMS list extracted from the catalogue of nearby stars of Gliese et al., as well as from Luyten's LDS and NLTT.

By comparing the transverse velocities of WBMS with those expected for members of the Hyades and Sirius superclusters, possible membership of some WBMS to these superclusters has been established.

With regard to age classification, we have classified as *probably young systems* (PYS) those systems with one component satisfying at least one of various criteria of youth (such as being a flare star, showing H $\alpha$  emission, being a probable member of a moving cluster younger than the sun, etc.). A system that is not a PYS has been classified as *probably old* (POS).

At this writing, the catalogue contains 301 binaries and 31 systems of higher multiplicity with semi-major axes larger than 25 AU, but these numbers could vary slightly in the final version—to be published soon—if, meanwhile, new last-minute information becomes available.

#### GLOBULAR CLUSTER SYSTEMS IN ELLIPTICAL GALAXIES

M. Rabolli, R. Madejsky, G. Marani,  
I. Vega, and L. Bassino

Instituto de Astronomía y Física del Espacio  
Fac. de Ciencias Astronómicas y Geofísicas, Argentina  
Landessternwarte, Germany

We are carrying out a study of globular cluster systems of elliptical galaxies placed in different positions within clusters of galaxies, with the aim of comparing the observations with the results obtained with numerical simulations (Muzzio et al. 1984, ApJ, 285, 7; Rabolli, 1990, MNRAS, 244, 322).

We present four elliptical galaxies in the Fornax cluster ( $d = 22.9 \text{ Mpc}$ ): NGC 1379 and NGC 1399, which are known to have abundant globular cluster systems (Harris, 1988, IAU Symp. 126, 237), and NGC 1351 and NGC 1427, which are located at larger distances from the core of the cluster.

We used the ESO Faint Object Spectrograph and Camera (EFOSC) attached to the ESO 3.6-m telescope, La Silla, Chile. All the fields were observed in three colours ( $B$ ,  $V$  and  $R$ ) and the total integration time was 60 min per field and colour.

We determine the luminosity function of globular clusters. Taking into account an average luminosity function of faint galaxies we find a clear turnover for NGC 1399 at  $m(B) = 24.8 \text{ mag}$ ,  $m(V) = 24.0 \text{ mag}$ , and  $m(R) = 23.4 \text{ mag}$ .