

## NGC 6438. A TRIPLE SYSTEM?

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### ABSTRACT

We provide photographic and photoelectric information as well as CCD imaging and medium resolution spectroscopy on this system located at a distance of  $\sim 32$  Mpc.

The SO galaxy has twisted isophotes which also show changes in the ellipticity. Profiles toward the north of this galaxy are 0.1 and 0.2 magnitudes brighter in the B and V bands respectively, than in any other direction, probably due to the presence of dust in the Irregular system.

Several blue regions ( $B-V = 0.26 - 0.40$ ) are found in the Irregular object indicating ongoing star formation. One of these regions is located in an extreme of the northern arm, its luminosity being similar to that of the nucleus which is very close to it.

Analysis of the spectra shows typical absorption lines and a weak [NII] emission in the SO galaxy whereas  $H\alpha$ , [NII] and [SII] emission lines are observed both in the nucleus and in the blue region mentioned above. We determine a high reddening  $E(B-V) = 1.4$  in the nuclear region of this system.

Rotation curves show a different behavior for the nucleus and the blue region, which have  $V_{\max} \geq 180$  km/sec and  $V_{\max} = 80$  km/sec respectively.

All this evidence could support the idea that NGC 6438 is an interacting triplet, one SO galaxy and two disk galaxies undergoing a merger.

# STELLAR POPULATIONS IN DWARF ELLIPTICAL GALAXIES: A PHOTOMETRICAL APPROACH

## POBLACIONES ESTELARES EN GALAXIAS ELÍPTICAS ENANAS UN ENFOQUE FOTOMÉTRICO

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### ABSTRACT

Several constraints upon stellar populations in dwarf elliptical (dE) galaxies are derived from integrated Washington colors of a sample of 12 Fornax cluster dE's. To do so, the dE's colors are compared to observed colors of Galactic globular clusters and synthetic colors integrated from spectral energy distributions, both observed and theoretical, of simple stellar populations. The position of the dwarfs in a color - color plot ( $C - T$  vs  $M - T_1$ ) suggests metallicities comparable to those of moderately rich globulars. However, some galaxies depart from the sequence defined by the globulars; their color can only be reproduced by a mix of an old, moderately rich dominant population, plus a contribution from a younger population ( $\sim 5 \times 10^8$  yr). The fact that one galaxy with independent evidences for a recent star formation event lies at the blue end of this sequence, strongly supports our conclusion.

### RESUMEN

A partir de los colores integrados en el sistema de Washington de 12 galaxias elípticas enanas (dE) pertenecientes al cúmulo de Fornax, se establecen restricciones a las poblaciones estelares presentes en las mismas. Para ello se comparan los colores de las dE con los colores observados de cúmulos globulares galácticos y con colores sintéticos obtenidos a partir de las distribuciones espectrales de flujo, tanto teóricas como observadas, de poblaciones estelares simples. La ubicación de las enanas en el diagrama color - color ( $C - T_1$  contra  $M - T_1$ ) sugiere metalicidades comparables con las de los cúmulos globulares moderadamente ricos. Sin embargo, un grupo de galaxias se aparta de la secuencia definida por los cúmulos; sus colores sólo pueden reproducirse con una población dominante vieja y de metalicidad moderada, a la que se suman distintas contribuciones de una población más joven ( $\sim 5 \times 10^8$  años). El hecho de que la galaxia con evidencias independientes (morfológicas y espectroscópicas) de formación estelar reciente se ubique en el extremo azul de este grupo, respalda nuestra conclusión.