

# IDENTIFICATION OPTICA DE LA RADIOGALAXIA 0409-752

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Hemos identificado la radiofuente 0409-752 con una galaxia de magnitud aparente  $V = 21.6$ . El espectro óptico muestra líneas de emisión [O II] 227, [O III] 4959, 5007 intensas y [Ne III] 3869 débil, todas consistentes con un corrimiento al rojo  $z = 0.694$ . Suponiendo que este corrimiento es cosmológico y adoptando  $q_0 = 1$ ,  $H_0 = 50 \text{ km s}^{-1} \text{ Mpc}^{-1}$  hemos calculado la magnitud visual absoluta,  $-23.1$ , y la luminosidad absoluta entre 45 MHz y 4.8 GHz,  $10^{45.19} \text{ erg s}^{-1}$ . Dos radiogalaxias muy potentes cuyos espectros están bien determinados en ese rango de frecuencias son Cyg A y 3C295. Esta comparación indica que 0409-752 las supera y, aunque, aún cuando hay algunas radiogalaxias de alto corrimiento al rojo que son aún más luminosas, ella está entre los objetos más luminosos de su clase.

# CCD IMAGERY OF NGC 4861. DYNAMICAL AND EVOLUTIVE IMPLICATIONS

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In this work we study the galaxy NGC 4861 through imaging on the lines  $H\alpha$ ,  $H\beta$ , [O III] $\lambda 5007$  and corresponding continua. We present a morphological description of structures formed by the ionized gas and stellar population. We measured calibrated fluxes of 28 H II regions and the region known as *bright knot*, and found correlations among equivalent widths of  $H\beta$  and excitation. We detected an excitation gradient along the chain of H II regions, from the *bright knot* to the North-East direction. Continuum fluxes of 8 emissionless associations and the continuum colors of the companion galaxy IC 3961 have been measured. We have estimated the age and mass of the stellar population and ionizing stars of the *bright knot*. We have found that the *bright knot* has a double nuclei structure and a counter-tail to the well known NE chain of H II regions. The mean value of lines and continua fluxes for NGC 4861 main body brightness distribution is  $R^{-2.04 \pm 0.35}$ , comparable to theubble-Reynolds law  $R^{-2}$ . The three mentioned characteristics indicate that NGC 4861 might have

suffered a merger process. A detailed morphological comparison with NGC 7252 is carried out. The elapsed time from the beginning of the phenomenon is set to be smaller than three crossing times.

# HOW DO GIANT GALAXIES EAT DWARFS?

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We present numerical experiments of encounters between giant and dwarf galaxies, in order to test the suggestion of Zinnecker et al. (1988, IAU Symposium 126, 603) and Freeman (1990, in Dynamics and Interactions of Galaxies, Springer-Verlag, 36) that the nuclei of dwarf ellipticals can become globular clusters after the dwarfs are cannibalized by giant ellipticals.

We model the giant galaxy as a singular isothermal sphere, whose parameters are estimated according to the mass distribution of M87, up to 230 kpc from the center. Dwarf galaxies are represented as 5000-body King models. These profiles are modified to simulate nucleated dwarfs, redistributing 5% of the particles within 1/20 of the tidal radius.

The simulations are computed with the N-body code of L. Aguilar, that uses a multipole expansion to compute the potential of the dwarf galaxy. This code has been modified to include the effects of Chandrasekhar's dynamical friction (Binney & Tremaine 1987, in Galactic Dynamics, Princeton University Press, 420).

Two type of encounters are analyzed: with pericentric distances of 5 kpc and of 25 kpc, and for each case both kinds of dwarfs are also considered: nucleated and non-nucleated.

We find that, while non-nucleated dwarfs can be completely destroyed by tidal forces, the nuclei of nucleated dwarfs help to avoid destruction and might well survive as suggested, although it is not yet possible to guarantee as long a lifetime as the characteristic one of a globular cluster.

# THE RADIOGALAXY CENTAURUS A

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We have observed the radiogalaxy Centaurus A at 22 and 43 GHz for twelve years. The radio