

composition shows He and N enrichment, typical of PNe with massive progenitors. We found a nebular expansion velocity of  $28 \text{ km s}^{-1}$ . From these parameters we derived a distance of  $1.0 \pm 0.2 \text{ kpc}$  and we estimate a stellar luminosity of  $L/L_{\odot} \cong 20$  and a radius of  $R/R_{\odot} \cong 0.01$ . From the theoretical evolutionary tracks in the H-R diagram (Shaw & Kaler 1989, ApJS, 69, 495) we obtain a mass of about  $1 M_{\odot}$  and  $\log g = 8.4$  for this star. These parameters correspond to one of the most evolved central stars of PNe indicating that this object is already in the white dwarf cooling sequence. Only a few objects have been reported with these characteristics, among them NGC 7293, A 21 and A 31. These rare objects are very important in the study of the link between white dwarfs and their precursors.

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#### LUMINOSITY FUNCTION OF THE STARS IN THE GALACTIC BULGE

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We construct the observed Luminosity Function (LF) of a sample of stars in the low obscuration region known as Baade's Window (BW). This LF is shifted by  $\sim 1.5 \text{ mag}$  towards brighter bolometric magnitudes with respect to that published by Frogel & Whitford (1987, ApJ, 320, 199). This has been interpreted as produced by observations of slightly different stellar populations in the same area due to the way the stars have been selected. The observed LF may be separated into two Gaussian components; they are respectively associated with the bulge and disc contributions. The component which we claim represents the disc contribution in BW may be reproduced reasonably well by projection and integration of the M giants' LF in the solar neighborhood. This fact lends support to our associating the wide component of the observed LF with a disc-like stellar population. Values for the characteristic radii for the bulge ( $\sim 1.1 \text{ kpc}$ ) and for the disc ( $\sim 2.3 \text{ kpc}$ ) are derived.

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#### A CODE TO COMPUTE STELLAR MASSES ONTO THE H-R DIAGRAM

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We have written a code to determine the initial and present mass of a star located on the H-R diagram. The code is based on an interpolation procedure between the two adjacent evolutionary tracks where the star is located according to its luminosity and temperature ( $M_V$  and color index). With just a few modifications the code may be used with any set of evolutionary tracks, be they computed with or without mass loss. Considering that several evolutionary tracks may pass by the same locus on the H-R diagram, the stellar mass obtained from the star's position may be rather ambiguous. Our code takes into account all possible solutions.

#### RECENT ADVANCES IN THE DEVELOPMENT OF THE UNAM SCANNING FABRY-PEROT INTERFEROMETER (PUMA) FOR THE STUDY OF INTERSTELLAR MEDIUM

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"PUMA" is an instrument for the study of the kinematics of the gas in cosmic nebulae. It is being developed for the 2-m F/7.9 Ritchey-Chretien telescope of the National Astronomical Observatory (OAN-SPM) at San Pedro Mártir.

The system is an instrument consisting of a focal reducer coupled to a Queensgate scanning Fabry-Perot interferometer (SFPI). The images or interference patterns of a sky region obtained at different wavelengths will be focused by an objective or an optoelectronic detector, a CCD or a Mepsicon depending on the spectral range used.

It has a set of interference filters, a calibration system and field diaphragms to isolate regions of interest. The SFPI can be moved out of the optical path in order to acquire direct images, or to allow the integration of another optical elements.

"PUMA" will provide: a) Direct imagery with or without interference filters. b) Interferograms at H $\alpha$  ( $\lambda 6563 \text{ \AA}$ ), [N II] ( $\lambda 6589 \text{ \AA}$ ), [O III] ( $\lambda 5007 \text{ \AA}$ ), and [S II] ( $\lambda 6717 \text{ \AA}$ ).

The selection of optical materials was based on a design made at Marseilles Observatory to achieve an apochromatic system, covering the desired wide