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present so different morphological types is not well understood yet. A well accepted suggestion is that the binary central stars could be partially responsible for the bipolar shapes. Considering that there is only one 3D modeling of a bipolar PN (NGC 6302; Wright et al. 2011, MNRAS, 418, 370) and also because NGC 2346 has a binary system as central star, this PN seems to be an excellent candidate for a 3D detailed modeling. The code used for the modeling process was MOCASSIN (Ercolano, B. et al. 2003, MNRAS, 340, 1136). The density distribution we assumed for NGC 2346 has two components: torus and lobes. We considered the density constant in the torus (n_T) and three different cases in the lobes (n_L): (i) n_L = constant; (ii) $n_L \propto r^{-1}$; and (iii) $n_L \propto r^{-2}$. In our models we have observed that density stratification is essential in order to reproduce the higher ionization stages observed in this nebula. So far, the $n_L \propto r^{-1}$ distribution has given the best agreement between the observed and modeled spectrum.

[1] Observatório do Valongo - Universidade Federal do Rio de Janeiro, Ladeira Pedro Antônio, 43, 20080-090, Rio de Janeiro, Brazil (carol07@astro.ufrj.br).

G 126.1–0.8–14: A MOLECULAR SHELL RELATED TO SH2-187

S. Cichowolski[1], S. Pineault[2], R. Gamen[3,4], M. E. Ortega[1], E. M. Arnal[4,5], and L. A. Suad[5]

We present a multi-wavelength study of a region where a well defined molecular shell, named G 126.1–0.8–14, is observed. The distance of G 126.1–0.8–14 is about 1 kpc. Based on HI and CO data we analyze the atomic and molecular gas related to the structure and estimate its main physical properties. From the radio continuum and infrared data we analyze whether the emission associated with G 126.1–0.8–14 has a thermal origin. To disentangle the possible origin of the shell, and given the lack of catalogued O-type stars in the area, we observed with GEMINI the spectra of four OB stars located in projection inside the shell, to get their accurate spectral types and distances. The young HII region Sh2-187 is located onto the densest part of this molecular shell. A search for young stellar object candidates (cYSOs) was made using infrared point source catalogs. Several cYSOs are found spread out onto the shell. Based on all the available data, we discuss the possible origin of G 126.1–0.8–14 as well as its role in the formation of a new generation of stars.

[1] Instituto de Astronomía y Física del Espacio, Argentina.
[2] Département de physique, de génie physique et d'optique, Université Laval, Canada.
[3] Instituto de Astrofísica de La Plata, Argentina.
[4] Facultad de Ciencias Astronómicas y Geofísicas, Argentina.
[5] Instituto Argentino de Radioastronomía, Argentina.

THE BUBBLE N10

D. Gama[1], J. Lepine[1], Y. Wu[2], and J. Yuan[2]

We studied the environment surrounding the infrared bubble N10 in molecular and infrared emission. There is an HII region at the center of this bubble. We investigated J=1-0 transitions of molecules ^{12}CO, ^{13}CO and $C^{18}O$ towards N10. This object was detected by GLIMPSE, a survey carried out between 3.6 and 8.0 μm. We also analyzed the emission at 24 μm, corresponding to the emission of hot dust, with a contribution of small grains heated by nearby O stars. Besides, the contribution at 8 μm is dominated by PAHs (polycyclic aromatic hydrocarbons) excited by radiation from the PDRs of bubbles. In the case of N10, it is proposed that the excess at 4.5 μm IRAC band indicate an outflow, a signature of early stages of massive star formation. This object was the target of observations at the PMO 13.7 m radio telescope. The bubble N10 presents clumps, from which we can derive physical features through the observed parameters. We also intended to discuss the evolutionary stage of the clumps and their distribution. It can lead us to understand the triggered star formation scenario in this region.

[1] Departamento de Astronomia do IAG/USP, São Paulo, Brasil.
[2] Department of Astronomy, Peking University, Beijing, China.

KINEMATIC PROFILES OF NGC 3918 AND NGC 6302 FORM HIGH DISPERSION SPECTRA

P. J. A. Lago[1] and R. D. D. Costa[1]

Planetary nebulae have typical expansion velocities between 20 and 40 km/s. Using high dispersion, long slit spectroscopy obtained with the 1.60m telescope and the Coudé spectrograph at Pico dos Dias Observatory (MCT/LNA) in Brazil, we derived the kinematic profiles from forbidden lines for different

angular positions along the slit for a sample of southern PNe. Results allowed us to derive velocity profiles for the nebulae, and, for some of them, parameters such as distance and kinematic age. For NGC6302 we estimate a distance of 805 ± 143pc, in good agreement with other results from the literature. For NGC3918, the velocity profiles were used to estimate its kinematic age, assuming expansion with uniform velocity; the result was 3111 years for the external shell. Hereafter we intend to use the kinematic profiles to model these planetary nebulae with the SHAPE code, and apply this technique for a large number of southern planetary nebulae.

[1] Instituto de Astronomia, Geofísica e Ciências Atmosféricas, Universidade de São Paulo, Rua do Matão, 1226 - Cidade Universitária São Paulo-SP - Brasil - CEP 05508-090.

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3MDB: THE MEXICAN MILLION MODELS DATABASE

C. Morisset[1] and G. Delgado-Inglada[1]

The 3MdB is an original effort to construct a large multipurpose database of photoionization models. This is a more modern version of a previous attempt based on Cloudy3D and IDL tools. It is accessed by MySQL requests. The models are obtained using the well known and widely used Cloudy photoionization code (Ferland et al, 2013). The database is aimed to host grids of models with different references to identify each project and to facilitate the extraction of the desired data. We present here a description of the way the database is managed and some of the projects that use 3MdB. Anybody can ask for a grid to be run and stored in 3MdB, to increase the visibility of the grid and the potential side applications of it.

[1] Instituto de Astronomia, Universidad Nacional Autonoma de Mexico. (Chris.Morisset@gmail.com).

STRUCTURE OF BUBBLES IN THE SOUTH-EAST REGION OF THE LARGE MAGELLANIC CLOUD

M. A. Oddone[1], P. Ambrocio-Cruz[2], E. LeCoarer[3], and G. V. Goldes[4]

In this work we report the kinematical results of the structure located in the South-East region of the Large Magellanic Cloud, the Supershell LMC 9. The observations have been carried out in the frame of a Hα survey of the Magellanic Clouds and the Milky Way, carried out at ESO with a 36cm diameter telescope, equipped with a focal reducer, a scanning Fabry-Perot interferometer and a photon counting camera. The Supershell LMC 9 is composed of four giant shells DEM L 164 and DEM L 165, DEM L 208, DEM L 221, and several HII regions being the most notorious DEM L 202, DEM L206 and DEM L 207. By means of energy balance we determine the characteristics parameters of these structures (superficial brightness, electronic density, emission measure, mass, luminosity, ambient density, age), that would allow us to distinguish which is the origin (stellar wind, supernova explosion or other mechanism) of the different bubbles that compose the Supershell LMC 9. In this way we try to discern if the studied objects have kinematically some identity as an ensemble, or if they are relatively isolated objects over the diffuse general background to which they belong.

[1] Observatorio Astronómico de la Universidad Nacional de Córdoba, Laprida 854, X500BGR, Córdoba, Argentina (mao @oac.uncor.edu).
[2] Instituto de Ciencias Básicas e Ingeniería, Universidad Autónoma del Estado de Hidalgo, México.
[3] Laboratoire d'Astrophysique, Universit'e Joseph Fourier, Grenoble, Francia.
[4] Facultad de Matemática, Astronomía y Física, Córdoba, Argentina.

SPECTROSCOPIC STUDIES OF TWO SUPERNOVA REMNANTS IN THE LARGE MAGELLANIC CLOUD

D. Pauletti[1] and M. V. F. Copetti[1]

This work presents a study of two supernova remnants belonging to the Large Magellanic Cloud, N49 and N11L, based on the spectroscopic mapping of their physical properties. Long slit spectroscopy was used to collect data from a grid of different positions covering the whole nebula by positioning the slit on different and equally spaced declinations. The data were obtained with the 4.1 m SOAR telescope (Southern Astrophysical Research Telescope), in Chile. The spectral coverage was about 3500-8000 Å. For each object, about 50 emission lines were measured on the spectra, allowing