

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  $805 \pm 143$  pc, 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.

---

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

---

### 3MDB: THE MEXICAN MILLION MODELS DATABASE

C. Morisset<sup>1</sup> and G. Delgado-Inglada<sup>1</sup>

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.

---

<sup>1</sup> Instituto de Astronomia, Universidad Nacional Autónoma de México. (Chris.Morisset@gmail.com).

---

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

M. A. Oddone<sup>1</sup>, P. Ambrocio-Cruz<sup>2</sup>, E. LeCoarer<sup>3</sup>, and G. V. Goltes<sup>4</sup>

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 H $\alpha$  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 L 206 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.

---

<sup>1</sup> Observatorio Astronómico de la Universidad Nacional de Córdoba, Laprida 854, X500BGR, Córdoba, Argentina (mao@oac.uncor.edu).

<sup>2</sup> Instituto de Ciencias Básicas e Ingeniería, Universidad Autónoma del Estado de Hidalgo, México.

<sup>3</sup> Laboratoire d'Astrophysique, Université Joseph Fourier, Grenoble, Francia.

<sup>4</sup> Facultad de Matemática, Astronomía y Física, Córdoba, Argentina.

---

### SPECTROSCOPIC STUDIES OF TWO SUPERNOVA REMNANTS IN THE LARGE MAGELLANIC CLOUD

D. Pauletti<sup>1</sup> and M. V. F. Copetti<sup>1</sup>

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 4.1m 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