attained in ZEUS-3D and are all stable. Furthermore, there is a very good agreement with the velocity and density fields from ZEUS-3D and our code, having differences between the terminal velocities lower than 3%.

In addition, we found that ZEUS-3D is very sensitive to the boundary conditions (base density and velocity profile), in some cases we obtain *kinks* in the velocity profiles, similar to the ones obtained by Madura et al. (2007) for stars with high rotation. Such kinks are most likely the result of the wind being mass overloaded, but further investigation is needed to understand its nature better.

Currently, we are exploring the effects of small perturbation at the base of the wind in order to study possible transitions or oscillations between δ–slow and fast solutions.

[1] Instituto de Física y Astronomía, Universidad de Valparaíso, Chile (ignacio.araya@uv.cl).
[2] Penn State Worthington Scranton, Dunmore, USA.
[3] DGTIC, Universidad Nacional Autónoma de México, Mexico City, Mexico.

EFFECTS OF NON-STANDARD NEUTRINO EMISSION ON THE EVOLUTION OF LOW-MASS STARS

S. Arceo-Díaz[1], K-P. Schröder[1], D. Jack[1], and K. Zuber[2]

Using the Pools et al. (1995) version of the STARS code with updated numerical tables for neutrino plasmon decay (Kantor et al. 2007), along with the reinterpretation of the Reimers mass-loss prescription by Schröder et al. (2005), we analyze the consequences of enhanced neutrino emission on the internal structure and late evolution of the degenerated cores in low-mass stars, the non-standard increase in tip-RGB luminosity and the impact on the calibration of the Reimers mass-loss mechanism and the changes driven in post-RGB phases. With synthetic spectra generated with the PHOENIX code Baron & Hauschildt et al. (1997), we also study the dependence of the non-standard increase in brightness on the selected NIR photometric band. By comparing our stellar evolutionary models with the synthetic spectra and the photometric data base of $\omega-$Cen by Sollima et al. (2004), we find the limit value $\mu_\nu \leq 2.2 \times 10^{-12} \mu_B$.

[1] Departamento de Astronomía, UGTO, Campus Guanajuato, apartado postal 36240, Guanajuato, México (santiago@astro.ugto.mx).
[2] Institut fur Kern- und Teilchenphysik, Technische Universitat Dresden, Zellescher Weg 19, D-01069 Dresden, Germany.

WIND STUDY OF B SGS STARS

C. Arcos[1], M. Curé[1], S. Kanaan[1], L. S. Cidale[2], and M. Haucke[2]

The estimation of the stellar and wind parameters of B SG stars, give us important information to understand their evolution. It is known from previous studies that the A type non-rotating (or slow rotator) SGs stars can have two types of solution: one fast and one slow. Here we study the two types of solutions for eight B SGs stars (HD41117, HD42087, HD79186, HD52382, HD80077, HD52382, HD75149, HD53138) using the hydrodynamics to calculate the velocity profile and using the modified version of FASTWIND to reproduce the H_α line profile. Finally, we compare these results with the β Law using FASTWIND and HDUST code. We obtained less mass loss values using FASTWIND than hydrodynamic ones (in a factor between 2-3). The Wind-Luminosity Relation agrees with Kudritzki et al. (1999) for the velocity profiles β type, but for the values found with hydrodynamics the relation has a negative slope. For the ratio v_∞/v_{esc}, we obtained as the v_{esc} increases the v_∞ decreases, like it was found by Curé et al. (2011) for δ-slow solutions.

[1] Departamento de Física y Astronomía, Universidad de Valparaíso, Valparaíso, Chile. (katalina.arcos@uv.cl).
[2] Instituto de Geofísica y Astronomía, Universidad Nacional de La Plata, La Plata, Argentina.

ON MAGNETIC FIELDS IN BAROTROPIC STARS

C. Armaza[1,*], A. Reisenegger[1], J. A. Valdivia[2], and P. Marchant[1,3]

Although barotropic matter does not constitute a realistic model for magnetic stars on short timescales, it would be interesting to confirm a recent conjecture that states that magnetized stars with a barotropic equation of state would be dynamically unstable (Reisenegger 2009). In this work we construct a set of barotropic equilibria, which can eventually be tested using a stability criterion. A general description of the ideal MHD equations governing these equilibria is summarized, allowing for both poloidal and toroidal magnetic field components. A new