

PARSEC V1.2s tracks

Please look at the following papers for a detailed description:

- Bressan A. et al. 2012, MNRAS, 427, 127 (V1.1)
- Chen Y. et al. 2014, MNRAS, 444, 2525 (very low mass stars down to 0.1 Msun)
- Tang J. et al. 2014, arXiv:1410.1745 (massive stars up to ~ 350 Msun or more)
- Chen Y. et al. 2014, to be submitted (new bolometric corrections for massive stars)

Stellar tracks are computed from pre-main sequence to

- 30 Gyr for very low mass stars
- He flash for low mass stars
- a few thermal pulses for intermediate mass stars
- C ignition for massive stars

The sets of tracks contains also the horizontal branch (HB) evolution of low mass stars

Some filenames may contain the 'ADD' word. Discard these files because they are used only to merge sections with different critical point numbers (see the variable PHASE below).

For each track we provide a small table containing:

- MODELL = model number
- MASS = stellar mass in M_{\odot}
- AGE = age in years
- LOG_L = stellar total luminosity in $\text{Log } L_{\odot}$
- LOG_TE = effective temperature in K
- LOG_R = stellar radius in $\text{Log } R_{\odot}$
- LOG_RAT = mass loss rate if not zero in $\text{Log } M_{\odot}/\text{yr}$
- M_CORE_HE = mass of H exhausted core in M_{\odot}
- M_CORE_C = mass of He exhausted core in M_{\odot}
- H_CEN = central hydrogen composition in mass fraction
- HE_CEN = central helium composition in mass fraction
- C_cen = central carbon composition in mass fraction
- O_cen = central oxygen composition in mass fraction
- LX = luminosity by hydrogen burning in L/L_{tot}
- LY = luminosity by helium burning in L/L_{tot}
- LC = luminosity by carbon burning in L/L_{tot}
- LNEUTR = luminosity by neutrinos in L/L_{tot}
- L_GRAV = gravitational luminosity in L/L_{tot}
- H_SUP = surface hydrogen composition in mass fraction
- HE_SUP = surface helium composition in mass fraction
- C_SUP = surface carbon composition in mass fraction
- N_SUP = surface nitrogen composition in mass fraction
- O_SUP = surface oxygen composition in mass fraction

- PHASE = stellar phase