



Figure 1 The evolutionary paths in the HRD of most stars of composition $Y = 0.25$ and $Z = 0.008$ and of initial mass $0.8M_{\odot}$, $5M_{\odot}$, $20M_{\odot}$, and $100M_{\odot}$. The models are calculated with the overshoot scheme for central convection. M_{HeF} and M_{up} are the masses separating low-mass stars from intermediate-mass stars, and the latter from the massive ones, respectively. For low- and intermediate-mass stars the tracks go from the zero-age main sequence (ZAMS) to the end of the asymptotic giant branch (AGB) phase, whereas for the massive stars they reach the stage of C-ignition in the core. Massive stars include the effect of mass loss by stellar wind. H-b and He-b stand for core H- and He-burning, respectively. He-flash indicates the stage of violent ignition of central He-burning in low-mass stars at the tip of the red giant branch (RGB). The main episodes of external mixing (1st and 2nd dredge-up) are indicated by 1st D-up and 2nd D-up, respectively. The AGB phase is separated into the early stages (EAGB) and thermally pulsing regime (TPAGB) of the He-burning shell. For low- and intermediate-mass stars we show the stage of planetary nebula (PN) ejection, the region where PN stars are observed, and the white dwarf (WD) cooling sequence. A horizontal line indicates the locus of the zero-age horizontal branch (ZAHB)—core He-burning models—of low-mass stars with composition typical of globular clusters. The shaded vertical band shows the instability strip of Cepheid and RR Lyrae stars. In the region of massive stars, we show the de Jager limit, the location of the blue luminous variables (LBVs) and Wolf-Rayet stars (WRs). Finally, the thick portions of the tracks indicate the stages of slow evolution, where the majority of stars are observed.