NEW RESULTS IN EVOLUTION IN THE UPPER HRD

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SUMMARY. A theoretical interpretation of the observed upper luminosity limit is suggested here. Staritsin (1989) considered the core hydrogen and helium burning stages in a 64 $M_\odot$ star. Mixing in a semi-convection zone in a diffusion approximation (Staritsin, 1987) and mass loss by stellar wind (de Jager *et al.*, 1988) were taken into account. During MS evolution the star looses half of its initial envelope. After MS evolution an intermediate convective zone appears. The hydrogen content in the shell source increases. As a result, the star burns helium in its blue supergiant stage. After the hydrogen content in the envelope has decreased to 10% of its mass, the star looses mass with Wolf-Rayet mass loss rates according to de Jager *et al.* (1988). The star has a WR character during 5% of its full life time.

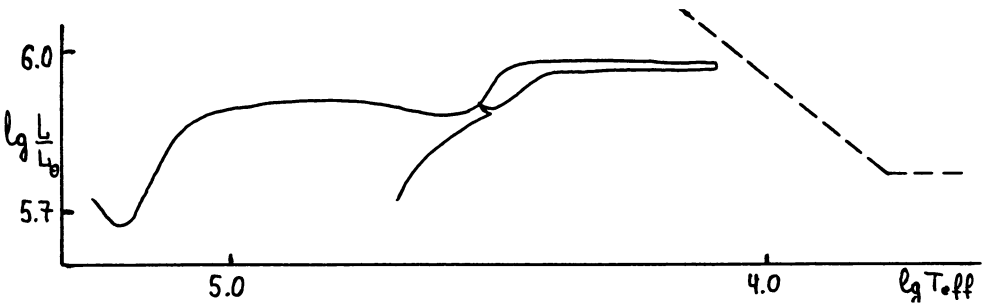

Figure 1. The evolution of a 64 $M_\odot$ star. The dashed line shows the upper luminosity limit according to Humphreys (1987).

References

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