

Evolution of a Star of $7 M_{\odot}$ With Mass Loss

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The evolution of a Population I star of $7 M_{\odot}$ with mass loss has been followed. The mass-loss rates of the star are calculated by using the empirical relation of Waldron (1984) and the formula introduced in this paper. In the red supergiant stage there occur thermal pulses of the He-burning shell source either for the evolution with constant mass or for the evolution with the mass loss rate calculated by Waldron's relation. The rate of mass loss will become very large before the occurrence of thermal pulses of He-burning shell source and the envelope of the star can be lost in a short period of time, if the introduced formula of the mass loss rate is used. The effects of mass loss on the internal structure and the evolution of the star, especially on the He-burning shell source are considered in detail.