

## ON THE LUMINOSITY FUNCTION OF OPEN CLUSTERS CONTAINING WOLF-RAYET STARS

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**SUMMARY.** It is generally accepted that mass loss and overshooting are the two main processes that play important roles in the formation of Wolf-Rayet stars (Chiosi & Maeder, 1986). Such mechanisms modify the interior of a star. We cannot, however, disregard the possibility that there are external factors, which can influence the formation and evolution of Wolf-Rayet stars.

In order to see how strong external factors (if any) influence the formation and evolution of WR stars, we would like to investigate stellar conglomerates, in which external factors can readily be discerned. In open clusters stars may be close enough to exert some influence on each other, thus producing the kind of external factors we are looking for.

We have investigated the luminosity function of young open clusters with  $\log t < 7$ , notably ten open clusters with WR 'members' or 'probable members' according to Lundström and Stenholm (1984). The clusters are Be 68, Be 87, Cr 228, NGC 3603, NGC 6231, NGC 6871, Ma 50, Ru 44, Tr 16 and Tr 27. Plots of absolute magnitude *vs.* number of stars in each cluster were generated. Subsequently, the luminosity functions of these clusters containing WR stars was compared with those of clusters in the same age range but without WR members (Burki, 1977).

We find marked differences between the two samples. The form of the luminosity function of the clusters without WR stars can be approximated by a power law, while the luminosity functions of the clusters with WR members are too irregular to be approximated by power laws. We propose that the differences may be attributed to differences in the initial mass functions. This project will be continued, also with a view to clusters containing CP stars.

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### References

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