CURVES OF GROWTH AND LINE PROFILES FOR NEUTRAL HELIUM LINES IN EARLY TYPE STARS

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SUMMARY

Curves of growth are presented for those He I lines which are considered most useful in a helium abundance analysis. Line profiles are also presented for the three strongest lines—4471 Å, 4026 Å and 4388 Å. The results are given for line blanketed model atmospheres with \( \theta \) in the range 0.176 to 0.4 and \( \log g = 3.5, 4.0 \). For the weak lines the curves are tabulated for the two values of microturbulent velocity—\( \xi = 5, 10 \) km s\(^{-1}\). The value \( \xi = 5 \) km s\(^{-1}\) is used for the strong lines. Electron scattering effects, the L.T.E. assumption, and the profile of the line absorption coefficient are discussed in some detail.

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