A Unified Formula For Mass Loss Rate of O to M Stars and its Effect on Stellar Evolution

S.P. Tarafdar
Tata Institute of Fundamental Research
Homi Bhabha Road, Bombay 400 005, India

A formula for stellar mass-loss rate has been derived using conservation equations of mass and momentum for coronal and continuous radiation driven wind. The derived mass-loss rate formula has been found to be consistent with the observed mass-loss rates for stars from O to M spectral type. Two constant parameters appearing in the mass-loss rate formula have been found to have values for special groups of stars like Be-stars and Wolf-Rayet stars different from each other and from the majority of stars. The effect of mass-loss according to the formula for the majority of stars on stellar evolution has been examined.

https://doi.org/10.1017/S0252921100063375 Published online by Cambridge University Press