A Comprehensive Spectroscopic Analysis of DB White Dwarfs

P. Bergeron, F. Wesemael, Pierre Dufour

Département de Physique, Université de Montréal, Montréal, Québec, Canada

We present a comprehensive spectroscopic survey of over 100 bright DB and DBA white dwarfs selected from the McCook & Sion catalog. Atmospheric parameters are derived for each star from a detailed comparaison of high signal-to-noise optical spectra with an updated version of our model atmosphere grid for DB stars. We discuss in particular the influence of the parameterization of the convective efficiency on the adopted atmospheric parameters. The luminosity function for the DB stars in the Palomar-Green survey is also derived and compared with that of the DA stars in the same survey. We discuss various topics related to our analysis, including the mass distribution of DB and DBA stars as a function of effective temperature, the increase of log g values at low temperatures, and the boundaries of the DB instability strip. We also compare our results with those of the SPY project.