

Research Title A Study of Atmospheric Gas Pressure in Main Sequence Stars

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Abstract

The gas pressure in the stellar atmosphere is one of physical properties of stars including main sequence stars. In analysing this property, the effective temperature and surface gravity obtained from astronomical observations are used. The observations were done by using the photon counting photoelectric photometer in B and V bands of spectra with the 16-inch reflecting telescope at the Chiang Mai University Observatory. The conditions in main sequence stars can be considered as in hydrostatic equilibrium which pressure and gravity are typically balanced. Moreover, the gas pressure is significantly much more than the radiative pressure such that the total gas pressure can be assumed to be equal to the gas pressure in the main sequence star. From these hypothesis with physical theories, the gas pressure in various atmospheric layers can be evaluated.