

Abstract

The transition region and chromospheric emission line profiles are observed to have two Gaussian components: a main core and a smaller blended component covering 25% of the line profiles' total intensity. Understanding the exact mass-energy circulation between the TR and corona requires a detailed knowledge of the physical parameters of the plasma such as non-thermal velocity, temperature and density. Using the IRIS EUV spectrometer we investigated the systematic difference in the line profiles of the chromospheric network and internetwork regions. The results show there is no correlation between the intensities and the Doppler shifts along the line-of-sight. However, the intensities and thermal velocities of the network regions shows a high correlation of 0.83. This high correlation could be an indication of the presence of non-thermal horizontal flows in these regions.