

An Observational Evidence for Solar Atmospheric G-Mode Oscillations From 1600A UV Continuum Observations

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An identification and clarification of different modes of oscillations may eventually illuminate the solar neutrino problem. Particularly, the internal g-modes of the Sun are the most powerful tool for investigation of solar core, and a way to solve, for instance, the neutrino problem. We have used a high spatial and temporal resolution of long time sequence of images obtained under high spatial and temporal resolution with TRACE Space Mission in 1600A UV continuum. We derived the cumulative intensity values of the UV bright points. The light curves of the UV bright points have been generated. The FFT analysis of temporal variation of the UV bright points of the transition region indicates an evidence of longer periods of oscillations of the order of 45-min and 10-min. This confirms the results obtained from CaII H -line observations (Kariyappa, et al. 2005), and suggest that the longer period of oscillations may be related to solar atmospheric g-mode oscillations. The detailed results of this analysis will be discussed in this paper.