ON THE ORIGIN OF SOLAR WIND. ALFVEN WAVES INDUCED JUMP OF CORONAL TEMPERATURE

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Absorbtion of Alfvén waves is considered as the main mechanism of heating in the solar corona. It is concluded that the sharp increase of the plasma temperature by two orders of magnitude is related to a self-induced opacity with respect to Alfvén waves. This temperature jump is due to absorption of high frequency Alfvén waves in a narrow layer above the solar surface. There is calculated the dissipated in this layer power per unit area due to damping of Alfvén waves, which blows up the plasma and gives birth to the solar wind. A model short wave-length (WKB) evaluation takes into account the $1/f^2$ frequency dependance of the transversal magnetic field and velocity spectral densities. Such spectral densities agree with an old magnetometer's data taken by Voyager 1 and recent theoretical calculations in the framework of Langevin-Burgers MHD. The present theory predicts existence of intensive high frequency MHD Alfvén waves in the cold layer beneath the corona. It is shortly discussed how this statement can be checked experimentally. It is demonstrated that the magnitude of the Alfvén waves generating random noise and the solar wind velocity can be expressed only in terms of satellite experimental data. It is advocated that investigation of properties of solar surface as random driver by optical methods is an important task for future solar physics.