



Solar cycle variations of the interstellar hydrogen in the interplanetary medium

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We employ our recently developed "advanced hot model" (Katushkina and Izmodenov, *Astron. Let.* 2010) for studying time-dependent and spatial distribution of the interstellar H atoms in the interplanetary medium. The model takes into account time variations of the radiation pressure acting on H-atoms, photoionization and charge-exchange rates. To calculate the rates and the radiation pressure we use the OMNI-2 and Solar2000 databases. At the outer boundary for our model (90 AU) we have special boundary conditions for the velocity distribution function that include all zero, first and second moments of the H atom velocity distribution obtained on the base of the global self-consistent models of the heliospheric interface (Baranov-Malama type model). We analyze solar-cycle variations of the number density, velocity and temperature of hydrogen atoms as well as the velocity distribution of H atoms. Then the time variation of the solar backscattered Lyman-alpha profiles will be studied and compared with available observations.