http://ibex.swri.edu/ibexpublicdata/Data_Release_6/

The IBEX sixth data release contains data and related information connected with the publication of Schwadron et al., 2014, "SOLAR RADIATION PRESSURE AND LOCAL INTERSTELLAR MEDIUM FLOW PARAMETERS FROM INTERSTELLAR BOUNDARY EXPLORER LOW ENERGY HYDROGEN MEASUREMENTS".

Publication: SOLAR RADIATION PRESSURE AND LOCAL INTERSTELLAR MEDIUM FLOW PARAMETERS FROM INTERSTELLAR BOUNDARY EXPLORER LOW ENERGY HYDROGEN MEASUREMENTS

ABSTRACT
Neutral hydrogen atoms that travel into the heliosphere from the local interstellar medium (LISM) experience strong effects due to charge exchange and radiation pressure from resonant absorption and re-emission of Lyα. The radiation pressure roughly compensates for the solar gravity. As a result, interstellar hydrogen atoms move along trajectories that are quite different than those of heavier interstellar species such as helium and oxygen, which experience relatively weak radiation pressure. Charge exchange leads to the loss of primary neutrals from the LISM and the addition of new secondary neutrals from the heliosheath. IBEX observations show clear effects of radiation pressure in a large longitudinal shift in the peak of interstellar hydrogen compared with that of interstellar helium. Here, we compare results from the Lee et al. interstellar neutral model with IBEX-Lo hydrogen observations to describe the distribution of hydrogen near 1 AU and provide new estimates of the solar radiation pressure. We find over the period analyzed from 2009 to 2011 that radiation pressure divided by the gravitational force (μ) has increased slightly from $\mu = 0.94 \pm 0.04$ in 2009 to $\mu = 1.01 \pm 0.05$ in 2011. We have also derived the speed, temperature, source longitude, and latitude of the neutral H atoms and find that these parameters are roughly consistent with those of interstellar He, particularly when considering the filtration effects that act on H in the outer heliosheath. Thus, our analysis shows that over the period from 2009 to 2011, we observe signatures of neutral H consistent with the primary distribution of atoms from the LISM and a radiation pressure that increases in the early rise of solar activity.