Geophysical Research Abstracts Vol. 18, EGU2016-3810, 2016 EGU General Assembly 2016 © Author(s) 2016. CC Attribution 3.0 License.



## The roll-over of heliospheric neutral hydrogen below 100 eV: observations and implications

André Galli (1), Peter Wurz (1), Nathan A. Schwadron (2), Eberhard Möbius (2), Harald Kucharek (2), Maciej Bzowski (3), Justyna M. Sokól (3), Marzena A. Kubiak (3), Herbert O. Funsten (4), Stephen A. Fuselier (5,6), David J. McComas (5,6)

(1) Physics Institute, University of Bern, Bern, Switzerland (andre.galli@space.unibe.ch), (2) University of New Hampshire, Durham, USA, (3) Space Research Centre, Polish Academy of Sciences, Warsaw, Poland, (4) Los Alamos National Laboratory, Intelligence and Space Research Division, Los Alamos, USA, (5) Southwest Research Institute, San Antonio, USA, (6) University of Texas, San Antonio, USA

We present an improved analysis of the energy spectrum of energetic neutral hydrogen from the heliosheath observed with the IBEX-Lo sensor on the Interstellar Boundary EXplorer from the years 2009 to 2012. This analysis allows us to study the lowest energies between 10 and 100 eV although various background sources are more intense than the targeted signal over wide areas of the sky. The results improve our knowledge on the interaction region between our heliosphere and the interstellar plasma because these neutral atoms are direct messengers from the low-energy plasma in the heliosheath. We find a roll-over of the energy spectrum below 100 eV, which has major implications on the pressure balance of the plasma in the heliosheath. The results can also be compared with in-situ observations of the Voyager 1 and 2 spacecraft.