Geophysical Research Abstracts, Vol. 7, 04080, 2005
SRef-ID: 1607-7962/gra/EGU05-A-04080

Neutral solar wind: A tool for studying the solar atmosphere?

M. Hilchenbach (1) and K. Bamert (2)

(1) Max-Planck-Institut fuer Sonnensystemforschung, 37191 Katlenburg-Lindau, Germany

(2) Institut für Experimentelle und Angewandte Physik, University of Kiel, Leibnizstrasse 19, D-24098 Kiel, Germany

Neutral hydrogen atoms are closely coupled to the emerging solar wind plasma. They give rise to the prominent solar Ly-alpha corona. The ratio of the densities of neutral hydrogen and protons is very small, some parts per million, and the neutral atoms are therefore a trace particle population in the solar wind plasma. In-situ observations of the neutral atoms, their flight paths (imaging), densities and velocity distributions might help to redefine the understanding of the Ly-alpha corona, i.e. setting limits on the plasma velocity distribution along the solar magnetic field lines. We will discuss the gain and limitations of such observations.