

ENA Observations in the Eclipse of Mars

M. HOLMSTROM^{1,2}, K. BRINKFELDT², S. BARABASH² and THE ASPERA-3 TEAM

¹*Currently at NASA Goddard Space Flight Center, Greenbelt, MD 20771, USA*

²*Swedish Institute of Space Physics, Box 812, SE-98128 Kiruna, Sweden*

We present observations of energetic neutral atoms (ENAs) in the eclipse of Mars by the neutral particle imager (NPI), part of the ASPERA-3 experiment on-board Mars Express. The observations are well into the eclipse, where the count rates are low. Therefore we present statistics over all available observations, from the 2004 and 2005 eclipse seasons. We investigate the different origins of the observed fluxes: instrumental effects, ENAs from Mars and its interaction with the solar wind, and ENAs of heliospheric origin.

The neutral particle imager (NPI) measure the integral ENA flux (0.1-60keV) with no mass or energy resolution, but with high angular resolution (5×11 degrees).

Keywords: Solar wind interaction; Energetic neutral atoms; Heliosphere