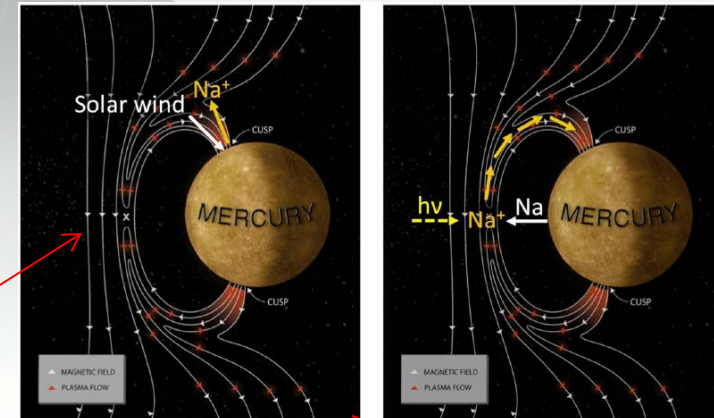


MESSENGER Detects Structure and Dynamics of Mercury's Magnetospheric Cusp

- MESSENGER FIPS instruments makes measurements of protons and planetary ions at Mercury.
- The FIPS observations were used to determine the origin of cusp Sodium (Na^+) ion sources: (1) locally produced planetary photo-ions and ions sputtered off the surface from solar wind impact; (2) flow of magnetosheath and magnetospheric plasma accelerated from dayside reconnection X-lines.
- These results indicate that high-energy Na^+ -group ions in the cusp are likely formed by ionization of escaping neutral Na in the outer dayside magnetosphere and the magnetosheath followed by acceleration and transport into the cusp.



Na^+ Group, 3 Jan 2012

