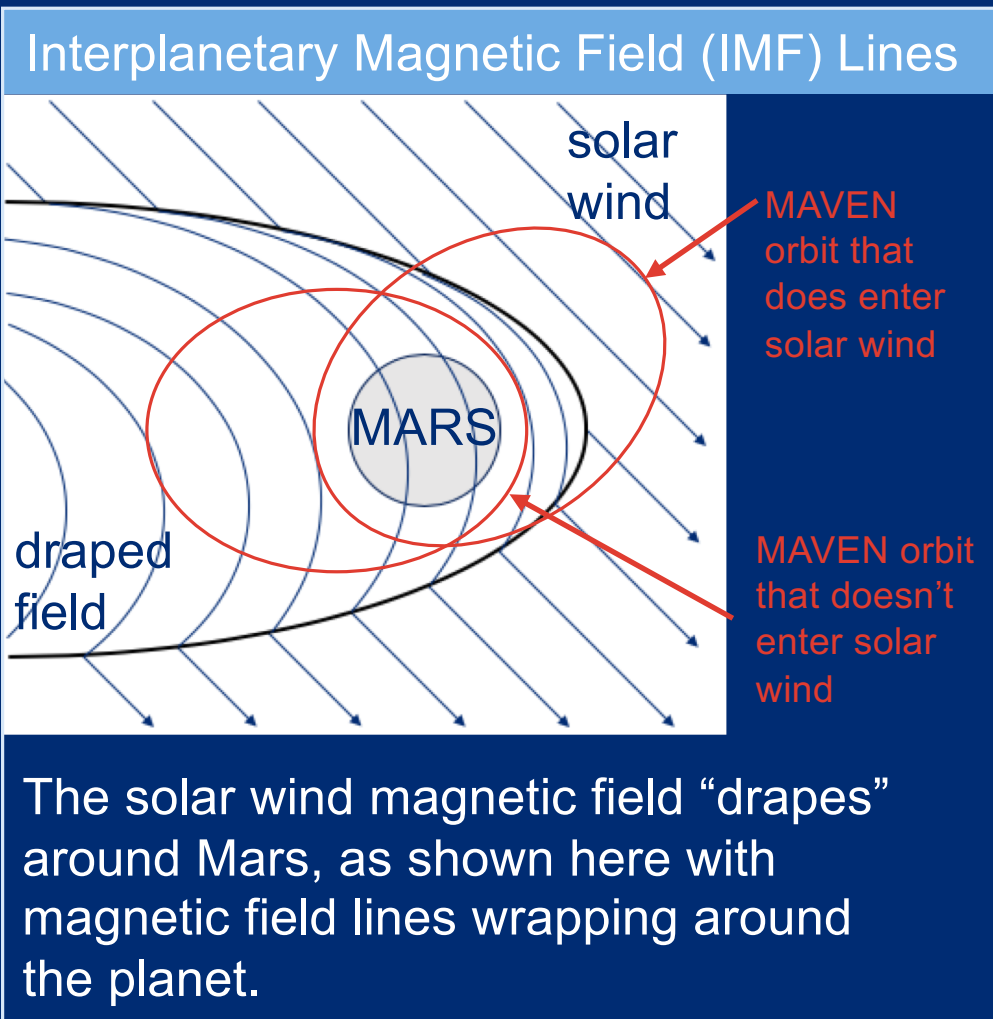
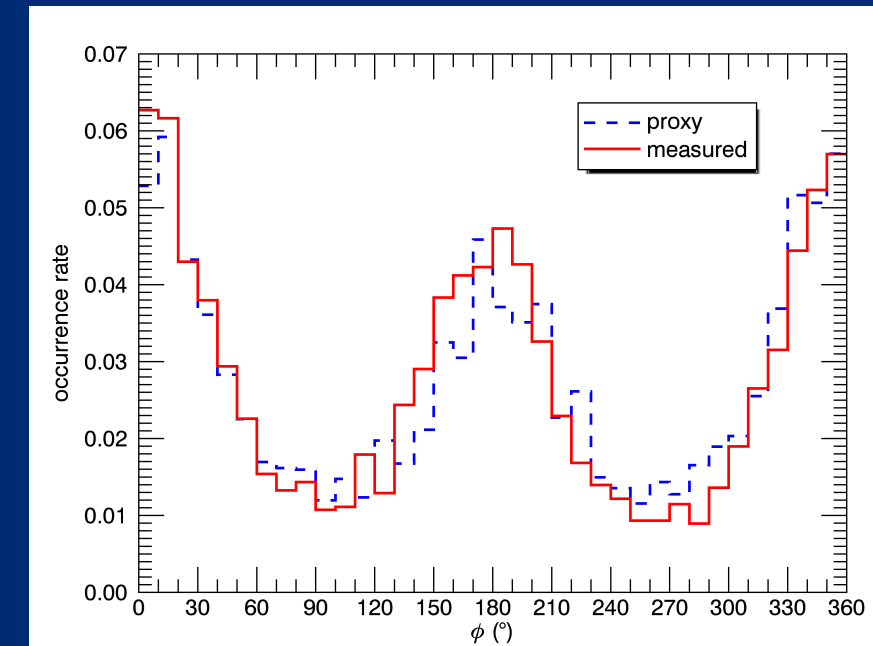


A proxy for solar wind conditions near Mars



- The IMF varies on very short timescales yet knowledge of its direction is critical for ion escape rates at Mars. MAVEN moves between the undisturbed IMF and the “draped” field closer to Mars. At these latter times, it is important to have a proxy for the undisturbed IMF.
- Using the known configuration of the “draping” of magnetic fields in the martian magnetosheath, we can infer the direction of the magnetic field upstream in the solar wind.
- We find excellent agreement between the “predicted” and measured fields.



The distribution of magnetic field directions using the proxy agrees with the distribution measured upstream, showing that the proxy works.

The proxy we derive for magnetic field direction upstream of Mars will be useful when MAVEN's orbit gets lowered such that it goes into the solar wind less often.