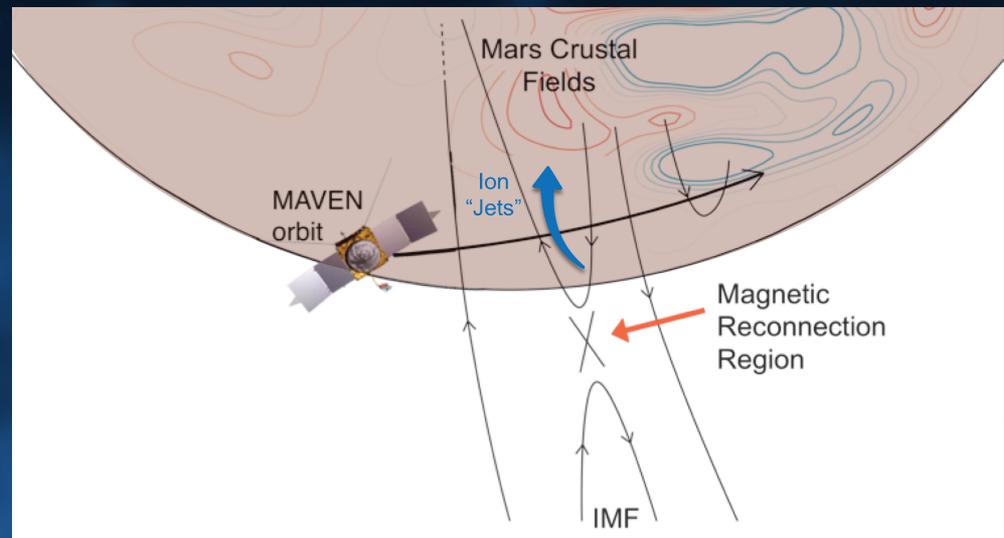


MAVEN Provides First Look at Mars Dayside Magnetic Reconnection

How does the interplanetary magnetic field (IMF) from the Sun interact with the crustal magnetic fields at Mars?

- MAVEN plasma and fields observations have provided the first comprehensive evidence of magnetic reconnection occurring on the dayside of Mars between the IMF and planetary crustal fields.
- Fast “jets” of planetary ions, accelerated northward by reconnection, are observed at speeds of 2 km/s and greater.



- Magnetic reconnection joins together the IMF and planetary fields, and magnetically connects the Sun and Mars. Post-reconnection adjustments of the fields enable rapid transfer of mass, momentum, and energy, and facilitate particle exchange between the planetary ionosphere and the solar wind.
- Dayside reconnection may control the global configuration of the Martian magnetosphere while altering ion escape patterns from the dayside ionosphere.