MAVEN observations of ion escape from Mars
Yaxue Dong, LASP

Without the shielding by a strong intrinsic magnetic field as Earth, the Martian atmosphere is exposed to the solar wind. The Mars-solar wind interaction accelerates and transports planetary ions away from Mars through a number of processes, including pick-up by the electromagnetic field in the solar wind. The Mars Atmosphere and Volatile Evolution (MAVEN) spacecraft arrived at Mars in September 2014. Equipped with instruments to measure the solar wind, magnetic field, Extreme Ultraviolet (EUV) radiations, and planetary ions, MAVEN has provided further understanding of the planetary ion escape from Mars, and the dependence on solar wind, interplanetary magnetic field (IMF), and solar radiation conditions. I will present MAVEN observations of ion pickup and escape at Mars, discussing the escape rates, escape channels, spatial and velocity distributions with respect to the upstream electric field, and variations with upstream conditions.