

**FIRST RESULTS FROM THE MAVEN MAGNETIC FIELD INVESTIGATION** J. E. P. Connerney<sup>1</sup>, J. Espley<sup>1</sup>, R. Oliverson<sup>1</sup>, D. Sheppard<sup>1</sup>, and G. Dibraccio<sup>2</sup>, <sup>1</sup>NASA Goddard Space Flight Center, Planetary Magnetospheres Laboratory, Code 695, Greenbelt, MD 20771, [jack.connerney@nasa.gov](mailto:jack.connerney@nasa.gov), <sup>2</sup>Oak Ridge Associated Universities, NASA Goddard Space Flight Center, Code 695, Greenbelt, MD 20771.

**Introduction:** The MAVEN spacecraft successfully executed orbit insertion at Mars on September 22, 2014, after a 10 month cruise en route to the red planet. The magnetic field instruments [1], along with other sensors in the Particles and Fields Package, operated flawlessly throughout cruise to Mars, instrument commissioning, and transition orbit phase, and began routine science operations in November, 2014. MAVEN was initially placed into a high-inclination (75°) elliptical orbit with a period of 35 hours. After a series of maneuvers, the orbit period was reduced to 4.5 hours and periapsis lowered to approximately 150 km altitude.

The serendipitous arrival of comet Siding Spring provided a unique opportunity to augment MAVEN's science objectives with in-situ observations of the comet and its effects on the Mars atmosphere. In this paper we present observations of the comet encounter and the first results of observations acquired during the first few months in orbit about Mars.

**References:** [1] Connerney, J. E. P., J. Espley, P. Lawton, S. Murphy, J. Odom, R. Oliverson, and D. Sheppard, (2015) *Space Science Reviews*, in press.

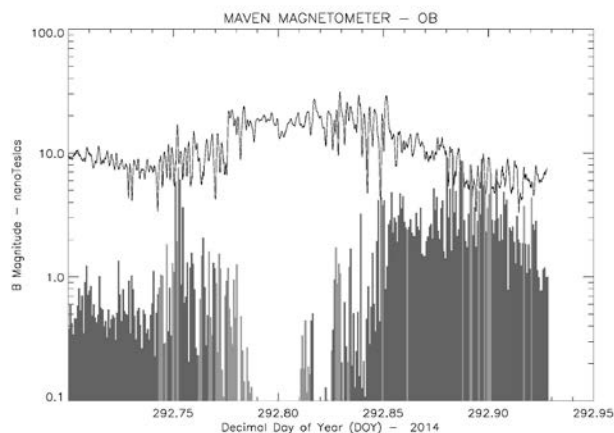


Figure 1: Magnetic field observations obtained during the comet Siding Spring closest approach on October 19, 2014 (DOY 292). The magnetic field magnitude (solid line) and root-mean-squared (RMS) magnitude of magnetic field fluctuations (plotted as a histogram) shown as a function of time. The encounter was characterized by a weak magnetic field and large amplitude fluctuations with a period of a few minutes.