

# Dynamical plasma processes near the Martian crustal magnetic fields

D. Ulusen, D. A. Brain  
UC Berkeley Space Sciences Laboratory (demet@ssl.berkeley.edu)

## Abstract

Lacking an internal magnetic field but having a substantial ionosphere, Mars exhibits characteristics of a typical unmagnetized body–solar wind interaction on a global scale. Interaction of strong crustal magnetic sources with the solar wind creates local deviations from this typical global interaction picture and leads to dynamical events having similarities with their counterparts at Earth. Several of these events are evident in spacecraft observations. Nighttime electron measurements over the crustal sources exhibit auroral-like distributions and imply field-aligned potentials that accelerate electrons down into the night side atmosphere. Measurements of electron angular distributions indicate trapped and conical distributions associated with the crustal sources. Localized electron enhancements observed over a specific region and associated field perturbations imply plasma transport from day to night along reconnected field lines. In this talk, we will review the above phenomena observed by Mars Global Surveyor and discuss their implications.

## 1. Introduction

This is the introduction section of your paper. All section headings are in a large bold font. All sections and subsections should be numbered, respectively. In order to guarantee the correct formatting of section and sub-section titles, please use the auto-formatting styles “Section\_heading” and “Subsection\_heading”, respectively, provided in this document.

### 1.1 Sub-section

This is the example of a sub-section. It should be numbered in the way as shown above in the heading. Use the auto-formatting style “Subsection\_heading” in order to have it correctly formatted.

## 2. An additional section

You will find an example of how to include your Reference list at the end of this file. You may cite all references with [1], [2], [3], etc. The reference list should be in an alphabetical order. All references in the bibliography list should start with the reference number being put in square brackets. Needless to say, the reference list should be put at the end of your paper. Please make sure to use the auto-formatting style “References” in order to guarantee the correct formatting of the list. For the section heading “References”, just use the regular “Section\_heading” auto-formatting style.

## 3. Figures

Below, you will find an example of an included figure. You should use the “Figure\_caption” auto-formatting style for the caption.



Figure 1: This is the example of an included figure.

## 4. Tables

You will find a sample of an included table below.

Table 1: This is the example of an included table

Column 1	Column 2	Column 3
Line 1	Line 1	Line 1
Line 2	Line 2	Line 2
Line 3	Line 3	Line 3
Line 4	Line 4	Line 4
Line 5	Line 5	Line 5
Line 6	Line 6	Line 6
Line 7	Line 7	Line 7
Line 8	Line 8	Line 8
Line 9	Line 9	Line 9
Line 10	Line 10	Line 10
Line 11	Line 11	Line 11

## 5. Equations

Below, you will find examples of two equations. You should use an equation editor of your word-processing program in order to include your equation(s). The equation number should be placed at the right side of the column and all equations should be consecutively numbered.

$$a^2 + b^2 = c^2 \quad (1)$$

$$E = m \cdot c^2 \quad (2)$$

## 6. Summary and Conclusions

After having finished your paper in your word-processing program, please create a respective pdf file out of the document. The correct page settings of 237 (height) x 180 (width) mm are included in the template document. **Please make sure that the generated pdf file actually has a page size of 237 x 180 mm.** This is the only way to guarantee the proper inclusion of your paper in the Copernicus Office database. Please note that you are asked to upload a pdf file during the abstract submission in Copernicus Office. No other file type than .pdf is accepted for the file upload. The actual citation header will be added automatically!

## Acknowledgements

The Acknowledgements section should not be numbered. Here, you may include all persons or institutions which you would like to thank. We recommend that the abstract is carefully compiled and thoroughly checked, in particular with regard to the list of authors, **before** submission.

## References

[1] Author, A., Author, B., and Author, C.: First example of a cited article title, First Example Journal, Vol. 1, pp. 1-100, 1999.

[2] Author, D. and Author, E.: Second example of a cited book, Example Publishing House, 2000.

[3] Author, F.: Third example of a cited conference paper, The Great Science Conference, 1-7 February 2001, Sciencetown, Sciencecountry, 2001.