Article Title:

The Dominant Role of Energetic Ions in Solar Wind Interaction with the Moon

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Total Data Size: 245 Mb

Brief Description of Data:

Data from 7 runs (#0-6) are included. Data from each run is in a separate directory containing 3-D data (magnetic field and plasma moments) at the end of the run and also 1-D data (representing spacecraft timeseries). Both the 3-D and 1-D data are in "Direct Access" (.gda) format (readable by visualization packages such as IDL). The dimensions of the 3-D data sets are 152x112x112 in X, Y and Z directions in Run #0 and 152x152x102 in Runs #1-6. The 3-D data corresponds to 1 time at the end of the run. The dimensions of the time series data is 135 in X directions at 50 different times during the run in Runs #1-6 but only at 1 time in Run #0.

Information on Units:

The 3-D data are in the following units:

Magnetic field is normalized to the magnetic field strength in the solar wind.

Density is normalized to solar wind density.

Temperature is normalized to the temperature of solar wind ions.

The 1-D data are in the following units:

Magnetic field is in nT.

Density is in cm^{-3}.

Velocity is in km/s

Temperature is in eV.

Generic Code for Reading 3-D Data (e.g. bx.gda):

```
RecordLength (in bits) = 4 x (size_in_X x size_in_Y x size_in_Z)

OPEN (10,file='bx.gda',form='unformatted',access='direct',status= &
        'unknown',recl= RecordLength)

Note: 10 is arbitrary I/O unit ID number chosen here for example. This number
is used when reading ‘bx.gda’ file as shown below.


READ (10,rec=1)  (((bx(i,j,k),i=1, size_in_X),j=1, size_in_Y),k=1, size_in_Z)

Note: Here rec=1 since 3-D data is shown at 1 time (end of the run)
```

Generic Code for Reading 1-D Data (e.g. bx.gda):

```
RecordLength (in bits) = 4 x (size_in_X)
```

```
OPEN (20,file='bx.gda',form='unformatted',access='direct',status= &
        'unknown',recl= RecordLength)


READ (20,rec=1-50)  (bx(i),i=1, size_in_X)
```

Note: Here rec=1-50 since 1-D data is shown at 50 times during the run in Runs #1-6. However, in Run #0 rec=1.