Article Title:

Solar Wind Deflection in the Foreshock: Model-Data Comparison

Authors:

O. Gutynska, N. Omidi, D. G. Sibeck, Z. Nemecek, J. Safrankova, and A. Lynnyk

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Total Data Size: 38 Mb for 2-D data, 80 Mb for 1-D data, 21 MB for videos

Brief Description of Data:

Data from 1 run is included in both 2-D and 1-D versions. The 2-D data includes the X, Y and Z components of the magnetic field, plasma density and the Y component of solar wind velocity. The 1-D Time series data (representing spacecraft time series) show the same parameters as a function of time at four different locations. Both the 2-D and 1-D data are in “Direct Access” (.gda) format (readable by visualization packages such as IDL). The dimensions of the 2-D data sets are 1502x1502 in X and Y directions and corresponds to 1 time at the end of the run. The dimensions of the time series data is 1000 in X direction which in this case corresponds to time.

Information on Units:

The 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.

Velocity is normalized to the Alfvén velocity in the solar wind.

Generic Code for Reading 2-D Data (e.g. bx.gda):

```
RecordLength (in bytes) = 4 x (size_in_X x size_in_Y)

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),i=1, size_in_X),j=1, size_in_Y)
```

Note: Here rec=1 since 2-D data is shown at 1 time (end of the run). Also `size_in_X = size_in_Y = 1502`

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

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

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


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

Note: Here rec=1 since 1-D data shows quantities in time with `size_in_X = 1000 .`