

[JGR Space Physics]

Supporting Information for

[Shocklet structure of very high- β Earth bow shocks]

[A. A. Petrukovich and O. M. Chugunova]

[Space Research Institute of Russian Academy of Sciences, Moscow, Russia]

Contents of this file

1. Captions to Tables S1 to S4
2. Caption to Dataset

Additional Supporting Information (Files uploaded separately)

Tables S1 to S4 in a single TableS1234.xls file
Dataset of Interball-tail data in a single Table_IBT.xlsx file

Introduction

Supporting information includes

1. four tables with the lists of bow shock crossings. Tables are included as a single separate Excel file, with four sheets, named Table S1 to Table S4.
2. Dataset for Interball-Tail shock crossing (see table S1) as Table_IBT.xlsx file. Dataset will be uploaded to public repository after acceptance.

CAPTIONS

Table S1.

List of shock crossings with very high $\beta > 30$

Table caption

| | |
|---|---|
| A | Spacecraft name |
| B | Code of observation type (see sec 4) |
| C | year |
| D | month |
| E | date |
| F | UT interval |
| G | Crossing UT |
| H | Spacecraft coordinates, R_E |
| I | OMNI β , var 1 (nearest to crossing time 1-min value) |
| J | OMNI β , var 2 (12-min average around crossing time) |
| K | local β |
| L | OMNI magnetic magnitude, var 1 |
| M | OMNI magnetic magnitude, var 2 |
| N | local magnetic magnitude |
| O | OMNI magnetic vector, var 1 |
| P | local magnetic vector |
| Q | UT interval for local values calculation |
| R | OMNI V_x component of solar wind speed |
| S | OMNI ion density |
| T | OMNI ion temperature |
| U | Model shock normal |
| V | Angle between OMNI magnetic field and shock normal |
| W | Spacecraft separation vector for C2-C1 (MMS2-MMS1, THE-THD) |
| X | Spacecraft separation vector for C3-C1 (MMS3-MMS1, THA-THD) |
| Y | Spacecraft separation vector for C4-C1 (MMS4-MMS1) |

Table S2.

List of shock crossings by MMS spacecraft

Table caption

| | |
|---|---|
| A | Spacecraft name |
| B | Code of observation type (see sec 4) |
| C | year |
| D | month |
| E | date |
| F | UT interval |
| G | Crossing UT |
| H | Spacecraft coordinates, R_E |
| I | OMNI β , var 1 (nearest to crossing time 1-min value) |
| J | OMNI magnetic magnitude, var 1 |
| K | OMNI magnetic vector, var 1 |

| | |
|---|--|
| L | OMNI Vx component of solar wind speed |
| M | OMNI ion density |
| N | OMNI ion temperature |
| O | Model shock normal |
| P | Angle between OMNI magnetic field and shock normal |
| Q | Spacecraft separation vector for MMS2-MMS1 |
| R | Spacecraft separation vector for MMS3-MMS1 |
| S | Spacecraft separation vector for MMS4-MMS1 |

Table S3.

List of shock crossings by Geotail spacecraft

Table caption

| | |
|---|---|
| A | Spacecraft name |
| B | Code of observation type (see sec 4) |
| C | year |
| D | month |
| E | date |
| F | UT interval |
| G | Crossing UT |
| H | Spacecraft coordinates, R_E |
| I | OMNI β , var 1 (nearest to crossing time 1-min value) |
| J | OMNI magnetic magnitude, var 1 |
| K | OMNI magnetic vector, var 1 |
| L | OMNI Vx component of solar wind speed |
| M | OMNI ion density |
| N | OMNI ion temperature |
| O | Model shock normal |
| P | Angle between OMNI magnetic field and shock normal |

Table S3.

List of shock crossings by Cluster spacecraft from PCS19

Table caption

| | |
|---|---|
| A | Spacecraft name |
| B | Code of observation type (see sec 4) |
| C | year |
| D | month |
| E | date |
| F | UT interval |
| G | Crossing UT |
| H | Spacecraft coordinates, R_E |
| I | OMNI β , var 1 (nearest to crossing time 1-min value) |
| J | OMNI magnetic magnitude, var 1 |

| | |
|---|--|
| K | OMNI magnetic vector, var 1 |
| L | OMNI Vx component of solar wind speed |
| M | OMNI ion density |
| N | OMNI ion temperature |
| O | Model shock normal |
| P | Angle between OMNI magnetic field and shock normal |
| Q | Spacecraft separation vector for C2-C1 |
| R | Spacecraft separation vector for C3-C1 |
| S | Spacecraft separation vector for C4-C1 |

Table IBT

Magnetic field for Interball-Tail shock crossing

Table caption

| | |
|---|-------------|
| A | year |
| B | month |
| C | date |
| D | hour |
| E | min |
| F | sec |
| G | Bx GSE , nT |
| H | By GSE , nT |
| I | Bz GSE , nT |