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Data Access

- [FTPS from the MMS SDC \(not with most browsers\)](#)
- [HTTPS from the MMS SDC](#)
- [FTPS from SPDF \(not with most browsers\)](#)
- [HTTPS from SPDF](#)
- [CDAWeb](#)
- [HAPI: CDAWeb HAPI Server](#)

MMS 1 Magnetic Ephemeris and Coordinates (MEC) and Support (Tsyganenko 2004 model, Dynamic conditions), Level 2 (L2), Burst Mode, 30 ms Data

Henderson, M.G., Morley, S.K., and Burch, J.L. (2022). MMS 1 Magnetic Ephemeris and Coordinates (MEC) and Support (Tsyganenko 2004 model, Dynamic conditions), Level 2 (L2), Burst Mode, 30 ms Data [Data set]. NASA Space Physics Data Facility. <https://doi.org/10.48322/v963-m344>. Accessed on 2023-April-5.

ResourceID

spase://NASA/NumericalData/MMS/1/Ephemeris/Burst/Level2/Tsyganenko_04_Dynamic/PT0.03

Description

Magnetospheric Multiscale 1 (MMS 1) spacecraft position, velocity, attitude, angular momentum vector, and magnetic ephemeris and coordinates (MEC), Level-2 science data at Burst (30 ms) time resolution. The Magnetic ephemeris data are calculated by using the Tsyganenko 2004 magnetic field model for disturbed magnetospheric conditions. Many variables are included in this data product including the magnetic field measured at the spacecraft. If possible, the northern and southern hemisphere footpoints of the spacecraft are found by tracing along the magnetic field line threading through the spacecraft per the given Tsyganenko and internal magnetic field models. The northern and southern hemisphere loss cone angles are also given. The magnetic field strength at the footpoints and the minimum magnetic field strength along the field line are also calculated by using the field models. Other variables list the spacecraft L-shell, the magnetic local time, the magnetic latitude and longitude, and whether the threading field line is open, closed, etc. Rotational quaternions are provided to allow coordinate transformation from GEI into 11 other coordinate systems including BSC, GEO, GSE, GSE2000, GSE, and SM. The list of ancillary variables includes the dipole tilt angle, the Dst and Kp activity indices, and separate flags that denote satellite eclipse by the Earth and Moon.

Details

[View XML](#) | [View JSON](#) | [Edit](#)

Version:2.5.0

NumericalData

ResourceID

spase://NASA/NumericalData/MMS/1/Ephemeris/Burst/Level2/Tsyganenko_04_Dynamic/PT0.030S

ResourceHeader

ResourceName

MMS 1 Magnetic Ephemeris and Coordinates (MEC) and Support (Tsyganenko 2004 model, Dynamic conditions), Level 2 (L2), Burst Mode, 30 ms Data

AlternateName

MMS1_MEC_BRST_L2_EPHTS04D

DOI

<https://doi.org/10.48322/v963-m344>

ReleaseDate

2023-03-04 12:34:56.789

RevisionHistory

RevisionEvent

ReleaseDate

2021-04-27 15:38:11

Note

Only known prior ReleaseDate of the metadata

RevisionEvent

ReleaseDate

2022-08-04 12:34:56.789

Note

Added DOI and PublicationInfo minted by LFB, updated the RepositoryID, updated the SPDF MetadataContact Person to Robert M. Candey, metadata updated to SPASE 2.4.1, reviewed by LFB 20220803

RevisionEvent**ReleaseDate**

2023-03-04 12:34:56.789

Note

Standardized the ResourceName Format, Set AlternateName equal to the ProductKey, Revised the Acknowledgement, PublicationInfo Authors, and Contact Person list per request of the MMS MEC team, metadata updated to SPASE 2.5.0, reviewed by LFB 20230304

Description

Magnetospheric Multiscale 1 (MMS 1) spacecraft position, velocity, attitude, angular momentum vector, and magnetic ephemeris and coordinates (MEC), Level-2 science data at Burst (30 ms) time resolution. The Magnetic ephemeris data are calculated by using the Tsyganenko 2004 magnetic field model for disturbed magnetospheric conditions. Many variables are included in this data product including the magnetic field measured at the spacecraft. If possible, the northern and southern hemisphere footpoints of the spacecraft are found by tracing along the magnetic field line threading through the spacecraft per the given Tsyganenko and internal magnetic field models. The northern and southern hemisphere loss cone angles are also given. The magnetic field strength at the footpoints and the minimum magnetic field strength along the field line are also calculated by using the field models. Other variables list the spacecraft L-shell, the magnetic local time, the magnetic latitude and longitude, and whether the threading field line is open, closed, etc. Rotational quaternions are provided to allow coordinate transformation from GEI into 11 other coordinate systems including BSC, GEO, GSE, GSE2000, GSE, and SM. The list of ancillary variables includes the dipole tilt angle, the Dst and Kp activity indices, and separate flags that denote satellite eclipse by the Earth and Moon.

Acknowledgement

Please acknowledge M.G. Henderson, S.K. Morley, and J.L. Burch for use of these data

PublicationInfo**Authors**

Henderson, Michael, G.; Morley, Steven, Karl; Burch, James, L.

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PublishedBy

NASA Space Physics Data Facility

Contacts

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5.	MetadataContact	spase://SMWG/Person/Robert.M.Candey			
6.	MetadataContact	spase://SMWG/Person/Lee.Frost.Bargatze			

InformationURL**Name**

The Magnetospheric Multiscale (MMS) Mission home page at Goddard Space Flight Center (GSFC)

URL

<https://mms.gsfc.nasa.gov/>

Description

MMS homepage

InformationURL**Name**

Data Caveats and Current Release Notes at LASP MMS SDC

URL

<https://lasp.colorado.edu/mms/sdc/public/datasets/mec/>

Description

The Magnetospheric Multiscale (MMS) Mission home page hosted by the Laboratory of Atmospheric and Space Physics, Science Data Center (LASP, SDC) at the University of Colorado, Boulder.

PriorIDs

spase://VSP0/NumericalData/MMS/1/Ephemeris/Burst/Level2/Tsyganenko_04_Disturbed/PT0.030S
NASA/NumericalData/MMS/1/Ephemeris/Burst/Level2/Tsyganenko_04_Disturbed/PT0.030S

AccessInformation**RepositoryID**

spase://SMWG/Repository/UCOLO/LASP/MMS_SDC

Availability

Online

AccessRights

Open

AccessURL**Name**

FTPS from the MMS SDC (not with most browsers)

URL<https://lasp.colorado.edu/mms/sdc/public/data/mms1/mec/brst/l2/ephts04d/>**Description**

In CDF via ftp from the MMS Science Data Center

AccessURL**Name**

HTTPS from the MMS SDC

URL<https://lasp.colorado.edu/mms/sdc/public/data/mms1/mec/brst/l2/ephts04d/>**Description**

In CDF via http from the MMS Science Data Center

Format

CDF

Encoding

None

Acknowledgement

Please acknowledge M.G. Henderson, S.K. Morley, and J.L. Burch. Also please acknowledge the data providers and CDAWeb when using these data.

AccessInformation**RepositoryID**[spase://SMWG/Repository/NASA/GSFC/SPDF/CDAWeb](https://smwg.repository.nasa.gov/spdf/cdaweb)**Availability**

Online

AccessRights

Open

AccessURL**Name**

FTPS from SPDF (not with most browsers)

URL<https://spdf.gsfc.nasa.gov/pub/data/mms/mms1/mec/brst/l2/ephts04d/>**Description**

In CDF via ftp from SPDF

AccessURL**Name**

HTTPS from SPDF

URL<https://spdf.gsfc.nasa.gov/pub/data/mms/mms1/mec/brst/l2/ephts04d/>**Description**

In CDF via http from SPDF

AccessURL**Name**

CDAWeb

URLhttps://cdaweb.gsfc.nasa.gov/cgi-bin/eval2.cgi?dataset=MMS1_MEC_BRST_L2_EPHTS04D&index=sp_phys**ProductKey**

MMS1_MEC_BRST_L2_EPHTS04D

Description

Access to ASCII, CDF, and plots via NASA/GSFC CDAWeb

Format

CDF

Encoding

None

Acknowledgement

Please acknowledge M.G. Henderson, S.K. Morley, and J.L. Burch. Also please acknowledge the data providers and CDAWeb when using these data.

AccessInformation**RepositoryID**<spase://SMWG/Repository/NASA/GSFC/SPDF/CDAWeb>**Availability**

Online

AccessRights

Open

AccessURL**Name**

CDAWeb HAPI Server

URL<https://cdaweb.gsfc.nasa.gov/hapi>**Style**

HAPI

ProductKey

MMS1_MEC_BRST_L2_EPHTS04D

Description

Web Service to this product using the HAPI interface

Format

CSV

Acknowledgement

Please acknowledge M.G. Henderson, S.K. Morley, and J.L. Burch. Also please acknowledge the data providers and CDAWeb when using these data.

ProcessingLevel

Calibrated

InstrumentIDs<spase://SMWG/Instrument/MMS/1/Ephemeris>**MeasurementType**

ActivityIndex

MeasurementType

Ephemeris

MeasurementType

MagneticField

TemporalDescription**TimeSpan****StartDate**

2016-01-31 00:18:35

RelativeStopDate

-P3M

Cadence

PT0.030S

ObservedRegion

Earth.Magnetosheath

ObservedRegion

Earth.Magnetosphere

ObservedRegion

Earth.Magnetosphere.Magnetotail

ObservedRegion

Earth.Magnetosphere.Main

ObservedRegion

Earth.Magnetosphere.RadiationBelt

ObservedRegion

Earth.NearSurface.EquatorialRegion

ObservedRegion

Earth.NearSurface.Plasmasphere

ObservedRegion

Heliosphere.NearEarth

Parameter #1

Name

Epoch

ParameterKey

Epoch

Description

Epoch

Caveats

This parameter exhibits an increasing monotonic progression.

Cadence

PT0.030S

Units

ns

UnitsConversion

1.0e-9>s

RenderingHints**ValueFormat**

i29

ScaleType

LinearScale

ValidMin

1990-01-01T00:00:00.000000000

ValidMax

2100-01-01T00:00:00.000000000

FillValue

9999-12-31T23:59:59.999999999

Support**SupportQuantity**

Temporal

Parameter #2

Name

mms1_mec_dipole_tilt

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_dipole_tilt

Description

mms1_mec_dipole_tilt

Cadence

PT0.030S

Units

°

UnitsConversion

0.0174532925>rad

RenderingHints**AxisLabel**

mms1_mec_dipole_tilt

ValueFormat

f18.6

ScaleType

LinearScale

ValidMin

-40.0

ValidMax

40.0

FillValue

-1.0e+31

Support**Qualifier**

DirectionAngle.PolarAngle

SupportQuantity

Other

Parameter #3

Name

mms1_mec_gmst

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_gmst

Description

mms1_mec_gmst

Cadence

PT0.030S

Units

°

UnitsConversion

0.0174532925>rad

RenderingHints**AxisLabel**

mms1_mec_gmst

ValueFormat

f18.6

ScaleType

LinearScale

ValidMin

-360.0

ValidMax

360.0

FillValue

-1.0e+31

Support**Qualifier**

DirectionAngle.AzimuthAngle

SupportQuantity

Temporal

Parameter #4

Name

mms1_mec_mlat

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_mlat

Description

mms1_mec_mlat

Cadence

PT0.030S

Units

°

UnitsConversion

0.0174532925>rad

CoordinateSystem**CoordinateRepresentation**

Spherical

CoordinateSystemName

SM

RenderingHints**AxisLabel**

mms1_mec_mlat

ValueFormat

f18.6

ScaleType

LinearScale

ValidMin

-90.0

ValidMax

90.0

FillValue

-1.0e+31

Support**Qualifier**

DirectionAngle.AzimuthAngle

SupportQuantity

Positional

Parameter #5

Name

mms1_mec_mlt

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_mlt

Description

mms1_mec_mlt

Cadence

PT0.030S

Units

h

UnitsConversion

0.2617993877>rad

CoordinateSystem**CoordinateRepresentation**

Spherical

CoordinateSystemName

SM

RenderingHints**AxisLabel**

mms1_mec_mlt

ValueFormat

f18.6

ScaleType

LinearScale

ValidMin

0.0

ValidMax

24.0

FillValue

-1.0e+31

Support**Qualifier**

DirectionAngle.AzimuthAngle

SupportQuantity

Positional

Parameter #6

Name

mms1_mec_l_dipole

Set

Time series defined by using: EPOCH

ParameterKey
mms1_mec_l_dipole

Description
mms1_mec_l_dipole

Cadence
PT0.030S

RenderingHints

AxisLabel
mms1_mec_l_dipole

ValueFormat
f18.6

ScaleType
LinearScale

ValidMin
0.0

ValidMax
24.0

FillValue
-1.0e+31

Support

SupportQuantity
Positional

Parameter #7

Name
mms1_mec_quat_eci_to_bcs

Set
Time series defined by using: EPOCH

ParameterKey
mms1_mec_quat_eci_to_bcs

Description
mms1_mec_quat_eci_to_bcs

Cadence
PT0.030S

CoordinateSystem

CoordinateRepresentation
Cartesian

CoordinateSystemName
GEI

RenderingHints

DisplayType
TimeSeries

ValueFormat
f18.6

ScaleType
LinearScale

Structure

Size
4

Element

Name
mms1_quat_eci_to_bcs_qx

Index
1

Element

Name
mms1_quat_eci_to_bcs_qy

Index
2

Element**Name**

mms1_quat_eci_to_bcs_qz

Index

3

Element**Name**

mms1_quat_eci_to_bcs_qw

Index

4

ValidMin

-100000.0

ValidMax

100000.0

FillValue

-1.0e+31

Support**SupportQuantity**

Other

Parameter #8

Name

mms1_mec_quat_eci_to_dbcs

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_quat_eci_to_dbcs

Description

mms1_mec_quat_eci_to_dbcs

Cadence

PT0.030S

CoordinateSystem**CoordinateRepresentation**

Cartesian

CoordinateSystemName

GEI

RenderingHints**DisplayType**

TimeSeries

ValueFormat

f18.6

ScaleType

LinearScale

Structure**Size**

4

Element**Name**

mms1_quat_eci_to_dbcs_qx

Index

1

Element**Name**

mms1_quat_eci_to_dbcs_qy

Index

2

Element**Name**

mms1_quat_eci_to_dbcs_qz

Index	3
Element	
Name	mms1_quat_eci_to_dbcs_qw
Index	4
ValidMin	-100000.0
ValidMax	100000.0
FillValue	-1.0e+31
Support	
SupportQuantity	Other

Parameter #9

Name	mms1_mec_quat_eci_to_dmpa
Set	Time series defined by using: EPOCH
ParameterKey	mms1_mec_quat_eci_to_dmpa
Description	mms1_mec_quat_eci_to_dmpa
Cadence	PT0.030S
CoordinateSystem	
CoordinateRepresentation	Cartesian
CoordinateSystemName	GEI
RenderingHints	
DisplayType	TimeSeries
ValueFormat	f18.6
ScaleType	LinearScale
Structure	
Size	4
Element	
Name	mms1_quat_eci_to_dmpa_qx
Index	1
Element	
Name	mms1_quat_eci_to_dmpa_qy
Index	2
Element	
Name	mms1_quat_eci_to_dmpa_qz
Index	3
Element	

Name	mms1_quat_eci_to_dmpa_qw
Index	4
ValidMin	-100000.0
ValidMax	100000.0
FillValue	-1.0e+31
Support	SupportQuantity Other

Parameter #10

Name	mms1_mec_quat_eci_to_smpa
Set	Time series defined by using: EPOCH
ParameterKey	mms1_mec_quat_eci_to_smpa
Description	mms1_mec_quat_eci_to_smpa
Cadence	PT0.030S
CoordinateSystem	CoordinateRepresentation Cartesian
	CoordinateSystemName GEI
RenderingHints	DisplayType TimeSeries
	ValueFormat f18.6
	ScaleType LinearScale
Structure	Size 4
	Element
	Name mms1_quat_eci_to_smpa_qx
	Index 1
	Element
	Name mms1_quat_eci_to_smpa_qy
	Index 2
	Element
	Name mms1_quat_eci_to_smpa_qz
	Index 3
	Element
	Name mms1_quat_eci_to_smpa_qw
	Index

4

ValidMin
-100000.0

ValidMax
100000.0

FillValue
-1.0e+31

Support

SupportQuantity
Other

Parameter #11

Name
mms1_mec_quat_eci_to_dsl

Set
Time series defined by using: EPOCH

ParameterKey
mms1_mec_quat_eci_to_dsl

Description
mms1_mec_quat_eci_to_dsl

Cadence
PT0.030S

CoordinateSystem

CoordinateRepresentation
Cartesian

CoordinateSystemName
GEI

RenderingHints

DisplayType
TimeSeries

ValueFormat
f18.6

ScaleType
LinearScale

Structure

Size
4

Element

Name
mms1_quat_eci_to_dsl_qx

Index
1

Element

Name
mms1_quat_eci_to_dsl_qy

Index
2

Element

Name
mms1_quat_eci_to_dsl_qz

Index
3

Element

Name
mms1_quat_eci_to_dsl_qw

Index
4

ValidMin
-100000.0

ValidMax
100000.0

FillValue
-1.0e+31

Support
SupportQuantity
Other

Parameter #12

Name
mms1_mec_quat_eci_to_ssl

Set
Time series defined by using: EPOCH

ParameterKey
mms1_mec_quat_eci_to_ssl

Description
mms1_mec_quat_eci_to_ssl

Cadence
PT0.030S

CoordinateSystem
CoordinateRepresentation
Cartesian

CoordinateSystemName
GEI

RenderingHints
DisplayType
TimeSeries
ValueFormat
f18.6
ScaleType
LinearScale

Structure

Size
4

Element
Name
mms1_quat_eci_to_ssl_qx
Index
1

Element
Name
mms1_quat_eci_to_ssl_qy
Index
2

Element
Name
mms1_quat_eci_to_ssl_qz
Index
3

Element
Name
mms1_quat_eci_to_ssl_qw
Index
4

ValidMin
-100000.0

ValidMax
100000.0

FillValue

-1.0e+31

Support**SupportQuantity**

Other

Parameter #13

Name

mms1_mec_L_vec

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_L_vec

Description

mms1_mec_L_vec

Cadence

PT0.030S

Units

°

UnitsConversion

0.0174532925>rad

CoordinateSystem**CoordinateRepresentation**

Spherical

CoordinateSystemName

GEI

RenderingHints**DisplayType**

TimeSeries

ValueFormat

f18.6

ScaleType

LinearScale

Structure**Size**

2

Element**Name**

mms1_L_vec_RA

Index

1

Element**Name**

mms1_L_vec_DEC

Index

2

ValidMin

-360.0

ValidMax

360.0

FillValue

-1.0e+31

Support**Qualifier**

DirectionAngle

SupportQuantity

Positional

Parameter #14

Name

mms1_mec_Z_vec

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_Z_vec

Description

mms1_mec_Z_vec

Cadence

PT0.030S

Units

°

UnitsConversion

0.0174532925>rad

CoordinateSystem**CoordinateRepresentation**

Spherical

CoordinateSystemName

GEI

RenderingHints**DisplayType**

TimeSeries

ValueFormat

f18.6

ScaleType

LinearScale

Structure**Size**

2

Element**Name**

mms1_Z_vec_RA

Index

1

Element**Name**

mms1_Z_vec_DEC

Index

2

ValidMin

-360.0

ValidMax

360.0

FillValue

-1.0e+31

Support**Qualifier**

DirectionAngle

SupportQuantity

Positional

Parameter #15

Name

mms1_mec_P_vec

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_P_vec

Description

mms1_mec_P_vec

Cadence

PT0.030S

Units

°

UnitsConversion

0.0174532925>rad

CoordinateSystem**CoordinateRepresentation**

Spherical

CoordinateSystemName

GEI

RenderingHints**DisplayType**

TimeSeries

ValueFormat

f18.6

ScaleType

LinearScale

Structure**Size**

2

Element**Name**

mms1_P_vec_RA

Index

1

Element**Name**

mms1_P_vec_DEC

Index

2

ValidMin

-360.0

ValidMax

360.0

FillValue

-1.0e+31

Support**Qualifier**

DirectionAngle

SupportQuantity

Positional

Parameter #16

Name

mms1_mec_L_phase

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_L_phase

Description

mms1_mec_L_phase

Cadence

PT0.030S

Units

°

UnitsConversion

0.0174532925>rad

CoordinateSystem

CoordinateRepresentation

Spherical

CoordinateSystemName

GEI

RenderingHints**DisplayType**

TimeSeries

AxisLabel

mms1_mec_L_phase

ValueFormat

f18.6

ScaleType

LinearScale

ValidMin

0.0

ValidMax

360.0

FillValue

-1.0e+31

Support**Qualifier**

DirectionAngle

SupportQuantity

Positional

Parameter #17

Name

mms1_mec_Z_phase

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_Z_phase

Description

mms1_mec_Z_phase

Cadence

PT0.030S

Units

°

UnitsConversion

0.0174532925>rad

CoordinateSystem**CoordinateRepresentation**

Spherical

CoordinateSystemName

GEI

RenderingHints**DisplayType**

TimeSeries

AxisLabel

mms1_mec_Z_phase

ValueFormat

f18.6

ScaleType

LinearScale

ValidMin

0.0

ValidMax

360.0

FillValue

-1.0e+31

Support**Qualifier**

DirectionAngle

SupportQuantity

Positional

Parameter #18

Name

mms1_mec_P_phase

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_P_phase

Description

mms1_mec_P_phase

Cadence

PT0.030S

Units

°

UnitsConversion

0.0174532925>rad

CoordinateSystem**CoordinateRepresentation**

Spherical

CoordinateSystemName

GEI

RenderingHints**DisplayType**

TimeSeries

AxisLabel

mms1_mec_P_phase

ValueFormat

f18.6

ScaleType

LinearScale

ValidMin

0.0

ValidMax

360.0

FillValue

-1.0e+31

Support**Qualifier**

DirectionAngle

SupportQuantity

Positional

Parameter #19

Name

mms1_mec_kp

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_kp

Description

mms1_mec_kp

Cadence

PT0.030S

RenderingHints

AxisLabel

Kp

ValueFormat

f18.6

ScaleType

LinearScale

ValidMin

0.0

ValidMax

9.0

FillValue

-1.0e+31

Field**FieldQuantity**

Magnetic

Parameter #20

Name

mms1_mec_dst

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_dst

Description

mms1_mec_dst

Cadence

PT0.030S

Units

nT

UnitsConversion

1.0e9>T

RenderingHints**AxisLabel**

Dst

ValueFormat

f18.6

ScaleType

LinearScale

ValidMin

-10000.0

ValidMax

10000.0

FillValue

-1.0e+31

Field**FieldQuantity**

Magnetic

Parameter #21

Name

mms1_mec_earth_eclipse_flag

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_earth_eclipse_flag

Description

mms1_mec_earth_eclipse_flag

Caveats

This parameter exhibits an increasing monotonic progression.

Cadence

PT0.030S

RenderingHints**AxisLabel**

mms1_mec_earth_eclipse_flag

ValueFormat

i1

ScaleType

LinearScale

ValidMin

0

ValidMax

2

FillValue

-1

Support**SupportQuantity**

Other

Parameter #22

Name

mms1_mec_moon_eclipse_flag

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_moon_eclipse_flag

Description

mms1_mec_moon_eclipse_flag

Caveats

This parameter exhibits an increasing monotonic progression.

Cadence

PT0.030S

RenderingHints**AxisLabel**

mms1_mec_moon_eclipse_flag

ValueFormat

i1

ScaleType

LinearScale

ValidMin

0

ValidMax

2

FillValue

-1

Support**SupportQuantity**

Other

Parameter #23

Name

mms1_mec_r_eci

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_r_eci

Description

mms1_mec_r_eci

Cadence

PT0.030S

Units

km

UnitsConversion

1.0e3>m

CoordinateSystem**CoordinateRepresentation**

Cartesian

CoordinateSystemName

GEI

RenderingHints**DisplayType**

TimeSeries

ValueFormat

f18.6

ScaleType

LinearScale

Structure**Size**

3

Element**Name**

mms1_r_eci_x

Index

1

Element**Name**

mms1_r_eci_y

Index

2

Element**Name**

mms1_r_eci_z

Index

3

ValidMin

-100000.0

ValidMax

100000.0

FillValue

-1.0e+31

Support**Qualifier**

Vector

SupportQuantity

Positional

Parameter #24

Name

mms1_mec_v_eci

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_v_eci

Description

mms1_mec_v_eci

Cadence

PT0.030S

Units

km/s

UnitsConversion

1.0e3>m/s

CoordinateSystem**CoordinateRepresentation**

Cartesian

CoordinateSystemName

GEI

RenderingHints**DisplayType**

TimeSeries

ValueFormat

f18.6

ScaleType

LinearScale

Structure**Size**

3

Element**Name**

mms1_v_eci_x

Index

1

Element**Name**

mms1_v_eci_y

Index

2

Element**Name**

mms1_v_eci_z

Index

3

ValidMin

-100000.0

ValidMax

100000.0

FillValue

-1.0e+31

Support**Qualifier**

Vector

SupportQuantity

Velocity

Parameter #25

Name

mms1_mec_r_gsm

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_r_gsm

Description

mms1_mec_r_gsm

Cadence

PT0.030S

Units

km

UnitsConversion

1.0e3>m

CoordinateSystem**CoordinateRepresentation**

Cartesian

CoordinateSystemName

GSM

RenderingHints**DisplayType**

TimeSeries

ValueFormat

f18.6

ScaleType

LinearScale

Structure**Size**

3

Element**Name**

mms1_r_gsm_x

Index

1

Element**Name**

mms1_r_gsm_y

Index

2

Element**Name**

mms1_r_gsm_z

Index

3

ValidMin

-100000.0

ValidMax

100000.0

FillValue

-1.0e+31

Support**Qualifier**

Vector

SupportQuantity

Positional

Parameter #26

Name

mms1_mec_v_gsm

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_v_gsm

Description

mms1_mec_v_gsm

Cadence

PT0.030S

Units

km/s

UnitsConversion

1.0e3>m/s

CoordinateSystem**CoordinateRepresentation**

Cartesian
CoordinateSystemName GSM
RenderingHints
DisplayType TimeSeries
ValueFormat f18.6
ScaleType LinearScale
Structure
Size 3
Element
Name mms1_v_gsm_x
Index 1
Element
Name mms1_v_gsm_y
Index 2
Element
Name mms1_v_gsm_z
Index 3
ValidMin -100000.0
ValidMax 100000.0
FillValue -1.0e+31
Support
Qualifier Vector
SupportQuantity Velocity

Parameter #27

Name mms1_mec_quat_eci_to_gsm
Set Time series defined by using: EPOCH
ParameterKey mms1_mec_quat_eci_to_gsm
Description mms1_mec_quat_eci_to_gsm
Cadence PT0.030S
CoordinateSystem
CoordinateRepresentation Cartesian
CoordinateSystemName GEI
RenderingHints
DisplayType TimeSeries

ValueFormat

f18.6

ScaleType

LinearScale

Structure**Size**

4

Element**Name**

mms1_quat_eci_to_gsm_qx

Index

1

Element**Name**

mms1_quat_eci_to_gsm_qy

Index

2

Element**Name**

mms1_quat_eci_to_gsm_qz

Index

3

Element**Name**

mms1_quat_eci_to_gsm_qw

Index

4

ValidMin

-100000.0

ValidMax

100000.0

FillValue

-1.0e+31

Support**SupportQuantity**

Other

Parameter #28

Name

mms1_mec_r_geo

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_r_geo

Description

mms1_mec_r_geo

Cadence

PT0.030S

Units

km

UnitsConversion

1.0e3>m

CoordinateSystem**CoordinateRepresentation**

Cartesian

CoordinateSystemName

GEO

RenderingHints**DisplayType**

TimeSeries
ValueFormat f18.6
ScaleType LinearScale
Structure
Size 3
Element
Name mms1_r_geo_x
Index 1
Element
Name mms1_r_geo_y
Index 2
Element
Name mms1_r_geo_z
Index 3
ValidMin -100000.0
ValidMax 100000.0
FillValue -1.0e+31
Support
Qualifier Vector
SupportQuantity Positional

Parameter #29

Name mms1_mec_v_geo
Set Time series defined by using: EPOCH
ParameterKey mms1_mec_v_geo
Description mms1_mec_v_geo
Cadence PT0.030S
Units km/s
UnitsConversion 1.0e3>m/s
CoordinateSystem
CoordinateRepresentation Cartesian
CoordinateSystemName GEO
RenderingHints
DisplayType TimeSeries
ValueFormat

f18.6

ScaleType

LinearScale

Structure**Size**

3

Element**Name**

mms1_v_geo_x

Index

1

Element**Name**

mms1_v_geo_y

Index

2

Element**Name**

mms1_v_geo_z

Index

3

ValidMin

-100000.0

ValidMax

100000.0

FillValue

-1.0e+31

Support**Qualifier**

Vector

SupportQuantity

Velocity

Parameter #30

Name

mms1_mec_quat_eci_to_geo

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_quat_eci_to_geo

Description

mms1_mec_quat_eci_to_geo

Cadence

PT0.030S

CoordinateSystem**CoordinateRepresentation**

Cartesian

CoordinateSystemName

GEI

RenderingHints**DisplayType**

TimeSeries

ValueFormat

f18.6

ScaleType

LinearScale

Structure**Size**

4

Element**Name**

mms1_quat_eci_to_geo_qx

Index

1

Element**Name**

mms1_quat_eci_to_geo_qy

Index

2

Element**Name**

mms1_quat_eci_to_geo_qz

Index

3

Element**Name**

mms1_quat_eci_to_geo_qw

Index

4

ValidMin

-100000.0

ValidMax

100000.0

FillValue

-1.0e+31

Support**SupportQuantity**

Other

Parameter #31

Name

mms1_mec_r_sm

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_r_sm

Description

mms1_mec_r_sm

Cadence

PT0.030S

Units

km

UnitsConversion

1.0e3>m

CoordinateSystem**CoordinateRepresentation**

Cartesian

CoordinateSystemName

SM

RenderingHints**DisplayType**

TimeSeries

ValueFormat

f18.6

ScaleType

LinearScale

Structure**Size**

3

Element**Name**

mms1_r_sm_x

Index

1

Element**Name**

mms1_r_sm_y

Index

2

Element**Name**

mms1_r_sm_z

Index

3

ValidMin

-100000.0

ValidMax

100000.0

FillValue

-1.0e+31

Support**Qualifier**

Vector

SupportQuantity

Positional

Parameter #32

Name

mms1_mec_v_sm

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_v_sm

Description

mms1_mec_v_sm

Cadence

PT0.030S

Units

km/s

UnitsConversion

1.0e3>m/s

CoordinateSystem**CoordinateRepresentation**

Cartesian

CoordinateSystemName

SM

RenderingHints**DisplayType**

TimeSeries

ValueFormat

f18.6

ScaleType

LinearScale

Structure**Size**

3

Element

Name	mms1_v_sm_x
Index	1
Element	
Name	mms1_v_sm_y
Index	2
Element	
Name	mms1_v_sm_z
Index	3
ValidMin	-100000.0
ValidMax	100000.0
FillValue	-1.0e+31
Support	
Qualifier	Vector
SupportQuantity	Velocity

Parameter #33

Name	mms1_mec_quat_eci_to_sm
Set	Time series defined by using: EPOCH
ParameterKey	mms1_mec_quat_eci_to_sm
Description	mms1_mec_quat_eci_to_sm
Cadence	PT0.030S
CoordinateSystem	
CoordinateRepresentation	Cartesian
CoordinateSystemName	GEI
RenderingHints	
DisplayType	TimeSeries
ValueFormat	f18.6
ScaleType	LinearScale
Structure	
Size	4
Element	
Name	mms1_quat_eci_to_sm_qx
Index	1
Element	
Name	

mms1_quat_eci_to_sm_qy

Index

2

Element**Name**

mms1_quat_eci_to_sm_qz

Index

3

Element**Name**

mms1_quat_eci_to_sm_qw

Index

4

ValidMin

-100000.0

ValidMax

100000.0

FillValue

-1.0e+31

Support**SupportQuantity**

Other

Parameter #34

Name

mms1_mec_r_gse

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_r_gse

Description

mms1_mec_r_gse

Cadence

PT0.030S

Units

km

UnitsConversion

1.0e3>m

CoordinateSystem**CoordinateRepresentation**

Cartesian

CoordinateSystemName

GSE

RenderingHints**DisplayType**

TimeSeries

ValueFormat

f18.6

ScaleType

LinearScale

Structure**Size**

3

Element**Name**

mms1_r_gse_x

Index

1

Element

Name	mms1_r_gse_y
Index	2
Element	
Name	mms1_r_gse_z
Index	3
ValidMin	-100000.0
ValidMax	100000.0
FillValue	-1.0e+31
Support	
Qualifier	Vector
SupportQuantity	Positional

Parameter #35

Name	mms1_mec_v_gse
Set	Time series defined by using: EPOCH
ParameterKey	mms1_mec_v_gse
Description	mms1_mec_v_gse
Cadence	PT0.030S
Units	km/s
UnitsConversion	1.0e3>m/s
CoordinateSystem	
CoordinateRepresentation	Cartesian
CoordinateSystemName	GSE
RenderingHints	
DisplayType	TimeSeries
ValueFormat	f18.6
ScaleType	LinearScale
Structure	
Size	3
Element	
Name	mms1_v_gse_x
Index	1
Element	
Name	mms1_v_gse_y

Index	2
Element	
Name	mms1_v_gse_z
Index	3
ValidMin	-100000.0
ValidMax	100000.0
FillValue	-1.0e+31
Support	
Qualifier	Vector
SupportQuantity	Velocity

Parameter #36

Name	mms1_mec_quat_eci_to_gse
Set	Time series defined by using: EPOCH
ParameterKey	mms1_mec_quat_eci_to_gse
Description	mms1_mec_quat_eci_to_gse
Cadence	PT0.030S
CoordinateSystem	
CoordinateRepresentation	Cartesian
CoordinateSystemName	GEI
RenderingHints	
DisplayType	TimeSeries
ValueFormat	f18.6
ScaleType	LinearScale
Structure	
Size	4
Element	
Name	mms1_quat_eci_to_gse_qx
Index	1
Element	
Name	mms1_quat_eci_to_gse_qy
Index	2
Element	
Name	mms1_quat_eci_to_gse_qz
Index	

3

Element**Name**

mms1_quat_eci_to_gse_qw

Index

4

ValidMin

-100000.0

ValidMax

100000.0

FillValue

-1.0e+31

Support**SupportQuantity**

Other

Parameter #37

Name

mms1_mec_r_gse2000

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_r_gse2000

Description

mms1_mec_r_gse2000

Cadence

PT0.030S

Units

km

UnitsConversion

1.0e3>m

CoordinateSystem**CoordinateRepresentation**

Cartesian

CoordinateSystemName

GSE

RenderingHints**DisplayType**

TimeSeries

ValueFormat

f18.6

ScaleType

LinearScale

Structure**Size**

3

Element**Name**

mms1_r_gse2000_x

Index

1

Element**Name**

mms1_r_gse2000_y

Index

2

Element**Name**

mms1_r_gse2000_z

Index
3

ValidMin
-100000.0

ValidMax
100000.0

FillValue
-1.0e+31

Support

Qualifier
Vector

SupportQuantity
Positional

Parameter #38

Name
mms1_mec_v_gse2000

Set
Time series defined by using: EPOCH

ParameterKey
mms1_mec_v_gse2000

Description
mms1_mec_v_gse2000

Cadence
PT0.030S

Units
km/s

UnitsConversion
1.0e3>m/s

CoordinateSystem

CoordinateRepresentation
Cartesian

CoordinateSystemName
GSE

RenderingHints

DisplayType
TimeSeries

ValueFormat
f18.6

ScaleType
LinearScale

Structure

Size
3

Element

Name
mms1_v_gse2000_x

Index
1

Element

Name
mms1_v_gse2000_y

Index
2

Element

Name
mms1_v_gse2000_z

Index
3

ValidMin
-100000.0

ValidMax
100000.0

FillValue
-1.0e+31

Support

Qualifier
Vector

SupportQuantity
Velocity

Parameter #39

Name
mms1_mec_quat_eci_to_gse2000

Set
Time series defined by using: EPOCH

ParameterKey
mms1_mec_quat_eci_to_gse2000

Description
mms1_mec_quat_eci_to_gse2000

Cadence
PT0.030S

CoordinateSystem

CoordinateRepresentation
Cartesian

CoordinateSystemName
GEI

RenderingHints

DisplayType
TimeSeries

ValueFormat
f18.6

ScaleType
LinearScale

Structure

Size
4

Element

Name
mms1_quat_eci_to_gse2000_qx

Index
1

Element

Name
mms1_quat_eci_to_gse2000_qy

Index
2

Element

Name
mms1_quat_eci_to_gse2000_qz

Index
3

Element

Name
mms1_quat_eci_to_gse2000_qw

Index
4

ValidMin

-100000.0

ValidMax

100000.0

FillValue

-1.0e+31

Support**SupportQuantity**

Other

Parameter #40

Name

mms1_mec_geod_lat

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_geod_lat

Description

mms1_mec_geod_lat

Cadence

PT0.030S

Units

°

UnitsConversion

0.0174532925>rad

CoordinateSystem**CoordinateRepresentation**

Spherical

CoordinateSystemName

WGS84

RenderingHints**AxisLabel**

mms1_mec_geod_lat

ValueFormat

f18.6

ScaleType

LinearScale

ValidMin

-90.0

ValidMax

90.0

FillValue

-1.0e+31

Support**Qualifier**

DirectionAngle.ElevationAngle

SupportQuantity

Positional

Parameter #41

Name

mms1_mec_geod_lon

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_geod_lon

Description

mms1_mec_geod_lon

Cadence

PT0.030S

Units

°

UnitsConversion

0.0174532925>rad

CoordinateSystem**CoordinateRepresentation**

Spherical

CoordinateSystemName

WGS84

RenderingHints**AxisLabel**

mms1_mec_geod_lon

ValueFormat

f18.6

ScaleType

LinearScale

ValidMin

-180.0

ValidMax

180.0

FillValue

-1.0e+31

Support**Qualifier**

DirectionAngle.AzimuthAngle

SupportQuantity

Positional

Parameter #42

Name

mms1_mec_geod_height

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_geod_height

Description

mms1_mec_geod_height

Cadence

PT0.030S

Units

km

UnitsConversion

1.0e3>m

CoordinateSystem**CoordinateRepresentation**

Spherical

CoordinateSystemName

WGS84

RenderingHints**AxisLabel**

mms1_mec_geod_height

ValueFormat

f18.6

ScaleType

LinearScale

ValidMin

0.0

ValidMax

100000.0

FillValue

-1.0e+31

Support**SupportQuantity**

Positional

Parameter #43

Name

mms1_mec_r_sun_de421_eci

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_r_sun_de421_eci

Description

mms1_mec_r_sun_de421_eci

Cadence

PT0.030S

Units

km

UnitsConversion

1.0e3>m

CoordinateSystem**CoordinateRepresentation**

Cartesian

CoordinateSystemName

GEI

RenderingHints**DisplayType**

TimeSeries

ValueFormat

f18.6

ScaleType

LinearScale

Structure**Size**

3

Element**Name**

mms1_r_sun_de421_eci_x

Index

1

Element**Name**

mms1_r_sun_de421_eci_y

Index

2

Element**Name**

mms1_r_sun_de421_eci_z

Index

3

ValidMin

-2.0e+08

ValidMax

2.0e+08

FillValue

-1.0e+31

Support**Qualifier**

Vector

SupportQuantity
 Positional

Parameter #44

Name

mms1_mec_r_moon_de421_eci

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_r_moon_de421_eci

Description

mms1_mec_r_moon_de421_eci

Cadence

PT0.030S

Units

km

UnitsConversion

1.0e3>m

CoordinateSystem**CoordinateRepresentation**

Cartesian

CoordinateSystemName

GEI

RenderingHints**DisplayType**

TimeSeries

ValueFormat

f18.6

ScaleType

LinearScale

Structure**Size**

3

Element**Name**

mms1_r_moon_de421_eci_x

Index

1

Element**Name**

mms1_r_moon_de421_eci_y

Index

2

Element**Name**

mms1_r_moon_de421_eci_z

Index

3

ValidMin

-500000.0

ValidMax

500000.0

FillValue

-1.0e+31

Support**Qualifier**

Vector

SupportQuantity

Positional

Parameter #45

Name

mms1_mec_int_model

ParameterKey

mms1_mec_int_model

Description

mms1_mec_int_model

Cadence

PT0.030S

RenderingHints**ValueFormat**

a30

Support**SupportQuantity**

Other

Parameter #46

Name

mms1_mec_ext_model

ParameterKey

mms1_mec_ext_model

Description

mms1_mec_ext_model

Cadence

PT0.030S

RenderingHints**ValueFormat**

a30

Support**SupportQuantity**

Other

Parameter #47

Name

mms1_mec_fieldline_type

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_fieldline_type

Description

mms1_mec_fieldline_type

Caveats

This parameter exhibits an increasing monotonic progression.

Cadence

PT0.030S

RenderingHints**AxisLabel**

mms1_mec_fieldline_type

ValueFormat

i2

ScaleType

LinearScale

ValidMin

-3

ValidMax

3

FillValue

-32768

Support**SupportQuantity**

Other

Parameter #48

Name

mms1_mec_bsc_gsm

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_bsc_gsm

Description

mms1_mec_bsc_gsm

Cadence

PT0.030S

Units

nT

UnitsConversion

1.0e9>T

CoordinateSystem**CoordinateRepresentation**

Cartesian

CoordinateSystemName

GSM

RenderingHints**DisplayType**

TimeSeries

ValueFormat

f18.6

ScaleType

LinearScale

Structure**Size**

4

Element**Name**

mms1_bsc_gsm_x

Index

1

Element**Name**

mms1_bsc_gsm_y

Index

2

Element**Name**

mms1_bsc_gsm_z

Index

3

Element**Name**

mms1_bsc_gsm_mag

Index

4

ValidMin

-100000.0

ValidMax

100000.0

FillValue

-1.0e+31

Field**FieldQuantity**
Magnetic

Parameter #49

Name

mms1_mec_loss_cone_angle_s

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_loss_cone_angle_s

Description

mms1_mec_loss_cone_angle_s

Cadence

PT0.030S

Units

°

UnitsConversion

0.0174532925>rad

RenderingHints**AxisLabel**

mms1_mec_loss_cone_angle_s

ValueFormat

f18.6

ScaleType

LinearScale

ValidMin

-40.0

ValidMax

40.0

FillValue

-1.0e+31

Support**Qualifier**

DirectionAngle.PolarAngle

SupportQuantity

Positional

Parameter #50

Name

mms1_mec_loss_cone_angle_n

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_loss_cone_angle_n

Description

mms1_mec_loss_cone_angle_n

Cadence

PT0.030S

Units

°

UnitsConversion

0.0174532925>rad

RenderingHints**AxisLabel**

mms1_mec_loss_cone_angle_n

ValueFormat

f18.6

ScaleType
LinearScale

ValidMin
-40.0

ValidMax
40.0

FillValue
-1.0e+31

Support

Qualifier
DirectionAngle.PolarAngle

SupportQuantity
Positional

Parameter #51

Name
mms1_mec_pfs_geod_latlon

Set
Time series defined by using: EPOCH

ParameterKey
mms1_mec_pfs_geod_latlon

Description
mms1_mec_pfs_geod_latlon

Cadence
PT0.030S

Units
°

UnitsConversion
0.0174532925>rad

CoordinateSystem

CoordinateRepresentation
Spherical

CoordinateSystemName
WGS84

RenderingHints

DisplayType
TimeSeries

ValueFormat
f18.6

ScaleType
LinearScale

Structure

Size
2

Element

Name
mms1_pfs_geod_lat

Index
1

Element

Name
mms1_pfs_geod_lon

Index
2

ValidMin
-180.0

ValidMax
180.0

FillValue
-1.0e+31

Support**Qualifier**

DirectionAngle

SupportQuantity

Positional

Parameter #52

Name

mms1_mec_pfn_geod_latlon

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_pfn_geod_latlon

Description

mms1_mec_pfn_geod_latlon

Cadence

PT0.030S

Units

°

UnitsConversion

0.0174532925>rad

CoordinateSystem**CoordinateRepresentation**

Spherical

CoordinateSystemName

WGS84

RenderingHints**DisplayType**

TimeSeries

ValueFormat

f18.6

ScaleType

LinearScale

Structure**Size**

2

Element**Name**

mms1_pfn_geod_lat

Index

1

Element**Name**

mms1_pfn_geod_lon

Index

2

ValidMin

-180.0

ValidMax

180.0

FillValue

-1.0e+31

Support**Qualifier**

DirectionAngle

SupportQuantity

Positional

Parameter #53

Name

mms1_mec_pfs_gsm

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_pfs_gsm

Description

mms1_mec_pfs_gsm

Cadence

PT0.030S

Units

km

UnitsConversion

1.0e3>m

CoordinateSystem**CoordinateRepresentation**

Cartesian

CoordinateSystemName

GSM

RenderingHints**DisplayType**

TimeSeries

ValueFormat

f18.6

ScaleType

LinearScale

Structure**Size**

3

Element**Name**

mms1_pfs_gsm_x

Index

1

Element**Name**

mms1_pfs_gsm_y

Index

2

Element**Name**

mms1_pfs_gsm_z

Index

3

ValidMin

-100000.0

ValidMax

100000.0

FillValue

-1.0e+31

Support**Qualifier**

Vector

SupportQuantity

Positional

Parameter #54

Name

mms1_mec_bfs_gsm

Set
Time series defined by using: EPOCH

ParameterKey
mms1_mec_bfs_gsm

Description
mms1_mec_bfs_gsm

Cadence
PT0.030S

Units
nT

UnitsConversion
1.0e9>T

CoordinateSystem

CoordinateRepresentation
Cartesian

CoordinateSystemName
GSM

RenderingHints

DisplayType
TimeSeries

ValueFormat
f18.6

ScaleType
LinearScale

Structure

Size
4

Element

Name
mms1_bfs_gsm_x

Index
1

Element

Name
mms1_bfs_gsm_y

Index
2

Element

Name
mms1_bfs_gsm_z

Index
3

Element

Name
mms1_bfs_gsm_mag

Index
4

ValidMin
-100000.0

ValidMax
100000.0

FillValue
-1.0e+31

Field

FieldQuantity
Magnetic

Parameter #55

Name

mms1_mec_pfn_gsm

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_pfn_gsm

Description

mms1_mec_pfn_gsm

Cadence

PT0.030S

Units

km

UnitsConversion

1.0e3>m

CoordinateSystem**CoordinateRepresentation**

Cartesian

CoordinateSystemName

GSM

RenderingHints**DisplayType**

TimeSeries

ValueFormat

f18.6

ScaleType

LinearScale

Structure**Size**

3

Element**Name**

mms1_pfn_gsm_x

Index

1

Element**Name**

mms1_pfn_gsm_y

Index

2

Element**Name**

mms1_pfn_gsm_z

Index

3

ValidMin

-100000.0

ValidMax

100000.0

FillValue

-1.0e+31

Support**Qualifier**

Vector

SupportQuantity

Positional

Parameter #56

Name

mms1_mec_bfn_gsm

Set

Time series defined by using: EPOCH

ParameterKey

mms1_mec_bfn_gsm

Description

mms1_mec_bfn_gsm

Cadence

PT0.030S

Units

nT

UnitsConversion

1.0e9>T

CoordinateSystem**CoordinateRepresentation**

Cartesian

CoordinateSystemName

GSM

RenderingHints**DisplayType**

TimeSeries

ValueFormat

f18.6

ScaleType

LinearScale

Structure**Size**

4

Element**Name**

mms1_bfn_gsm_x

Index

1

Element**Name**

mms1_bfn_gsm_y

Index

2

Element**Name**

mms1_bfn_gsm_z

Index

3

Element**Name**

mms1_bfn_gsm_mag

Index

4

ValidMin

-100000.0

ValidMax

100000.0

FillValue

-1.0e+31

Field**FieldQuantity**

Magnetic

Parameter #57

Name

mms1_mec_pmin_gsm

Set
Time series defined by using: EPOCH

ParameterKey
mms1_mec_pmin_gsm

Description
mms1_mec_pmin_gsm

Cadence
PT0.030S

Units
km

UnitsConversion
1.0e3>m

CoordinateSystem

CoordinateRepresentation
Cartesian

CoordinateSystemName
GSM

RenderingHints

DisplayType
TimeSeries

ValueFormat
f18.6

ScaleType
LinearScale

Structure

Size
3

Element

Name
mms1_pmin_gsm_x

Index
1

Element

Name
mms1_pmin_gsm_y

Index
2

Element

Name
mms1_pmin_gsm_z

Index
3

ValidMin
-100000.0

ValidMax
100000.0

FillValue
-1.0e+31

Support

Qualifier
Vector

SupportQuantity
Positional

Parameter #58

Name
mms1_mec_bmin_gsm

Set
Time series defined by using: EPOCH

ParameterKey
mms1_mec_bmin_gsm

Description
mms1_mec_bmin_gsm

Cadence
PT0.030S

Units
nT

UnitsConversion
1.0e9>T

CoordinateSystem

CoordinateRepresentation
Cartesian

CoordinateSystemName
GSM

RenderingHints

DisplayType
TimeSeries

ValueFormat
f18.6

ScaleType
LinearScale

Structure

Size
4

Element

Name
mms1_bmin_gsm_x

Index
1

Element

Name
mms1_bmin_gsm_y

Index
2

Element

Name
mms1_bmin_gsm_z

Index
3

Element

Name
mms1_bmin_gsm_mag

Index
4

ValidMin
-100000.0

ValidMax
100000.0

FillValue
-1.0e+31

Field

FieldQuantity
Magnetic