HPDE.io

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 Electron Drift Instrument (EDI) Ambient Electron Flux, Projection Method 2 (PM2), Level 2 (L2), Burst Mode, 0.9765625 ms Data

Torbert, R.B., Argall, M.R., and Burch, J.L. (2022). MMS 1 Electron Drift Instrument (EDI) Ambient Electron Flux, Projection Method 2 (PM2), Level 2 (L2), Burst Mode, 0.9765625 ms Data [Data set]. NASA Space Physics Data Facility. **https://doi.org/10.48322/2hhk-px04**. Accessed on 2023-April-5.

ResourceID
spase://NASA/NumericalData/MMS/1/FIELDS/EDI/Burst/Level2/AmbientElectronFlux/ProjectionMethod2/PT0.000976!

Description
Electron Drift Instrument (EDI) Ambient Burst Survey, Level 2, 0.0009765625 s Data (1024 samples/s). EDI has two scientific data acquisition modes, called electric field mode and ambient mode. In electric field mode, two coded electron beams are emitted such that they return to the detectors after one or more gyrations in the ambient magnetic and electric field. The firing directions and times-of-flight allow the derivation of the drift velocity and electric field. In ambient mode, the electron beams are not used. The detectors with their large geometric factors and their ability to adjust the field of view quickly allow continuous sampling of ambient electrons at a selected pitch angle and fixed but selectable energy. To find the beam directions that will hit the detector, EDI sweeps each beam in the plane perpendicular to B at a fixed angular rate of 0.22 °/ms until a signal has been acquired by the detector. Once signal has been acquired, the beams are swept back and forth to stay on target. Beam detection is not determined from the changes in the count-rates directly, but from the square of the beam counts divided by the background counts from ambient electrons, i.e., from the square of the instantaneous signal-to-noise ratio (SNR). This quantity is computed from data provided by the correlator in the Gun-Detector Electronics that also generates the coding pattern imposed on the outgoing beams. If the squared SNR ratio exceeds a threshold, this is taken as evidence that the beam is returning to the detector. The thresholds for SNR are chosen dependent on background fluxes. They represent a compromise between getting false hits (induced by strong variations in background electron fluxes) and missing true beam hits. The basic software loop that controls EDI operations is executed every 2 ms. As the times when the beams hit their detectors are neither synchronized with the telemetry nor equidistant, EDI data have no fixed time-resolution. Data are reported in telemetry slots. In Survey, using the standard packing mode 0, there are eight telemetry slots per second and Gyn Detector Unit (GDU). The last beam detected during the previous slot will be reported in the current slot. If no beam has been detected, the data quality will be set to zero. In Burst telemetry there are 128 slots per second and GDU. The data in each slot consists of information regarding the beam firing directions (stored in the form of analytic gun deflection voltages), times-of-flight (if successfully measured), quality indicators, time stamps of the beam hits, and some auxiliary correlator-related information. Whenever EDI is not in electron drift mode, it uses its ambient electron mode. The mode has the capability to sample at either 90 degrees pitch angle or at 0/180 degrees (field aligned), or to alternate between 90 degrees and field aligned with selectable dwell times. While all options have been demonstrated during the commissioning phase, only the field aligned mode has been used in the routine operations phase. The choices for energy are 250 eV, 500 eV, and 1 keV. The two detectors, which are facing opposite hemispheres, are looking strictly into opposite directions, so while one detector is looking along B the other is looking antiparallel to B (corresponding to pitch angles of 180 and 0 degrees, respectively). The two detectors switch roles every half spin of the spacecraft as the tip of the magnetic field vector spins outside the field of view of one detector and into the field of view of the other detector. Starting January 4, 2016, the anodes were chosen such that the projection of the magnetic field vector was best aligned with the center of the first (that is, outer) of the four anodes. This provides coverage of a larger range of pitch angles in general. Data taken in this configuration are identified by the term "amb-pm2" in the data product names. In the burst data where four channels (corresponding to the four adjacent sensor anode pads) are sampled per GDU, channel 1 represents best the pitch angle of 0 degrees (or 180 degrees). The EDI instrument paper can be found at: http://link.springer.com/article/10.1007%2Fs11214-015-0182-7. The EDI instrument data products guide can be found at https://lasp.colorado.edu/mms/sdc/public/datasets/fields/.

Details

View XML | View JSON | Edit

Version:2.5.0

NumericalData

ResourceID
spase://NASA/NumericalData/MMS/1/FIELDS/EDI/Burst/Level2/AmbientElectronFlux/ProjectionMethod2/PT0.0009765625S

ResourceHeader

ResourceName
MMS 1 Electron Drift Instrument (EDI) Ambient Electron Flux, Projection Method 2 (PM2), Level 2 (L2), Burst Mode, 0.9765625 ms Data

AlternateName
MMS1_EDI_BRST_L2_AMB-PM2

DOI
https://doi.org/10.48322/2hhk-px04

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 EDI team, metadata updated to SPASE 2.5.0, reviewed by LFB 20230304

Description
Electron Drift Instrument (EDI) Ambient Burst Survey, Level 2, 0.0009765625 s Data (1024 samples/s). EDI has two scientific data acquisition modes, called electric field mode and ambient mode. In electric field mode, two coded electron beams are emitted such that they return to the detectors after one or more gyrations in the ambient magnetic and electric field. The firing directions and times-of-flight allow the derivation of the drift velocity and electric field. In ambient mode, the electron beams are not used. The detectors with their large geometric factors and their ability to adjust the field of view quickly allow continuous sampling of ambient electrons at a selected pitch angle and fixed but selectable energy. To find the beam directions that will hit the detector, EDI sweeps each beam in the plane perpendicular to B at a fixed angular rate of 0.22 °/ms until a signal has been acquired by the detector. Once signal has been acquired, the beams are swept back and forth to stay on target. Beam detection is not determined from the changes in the count-rates directly, but from the square of the beam counts divided by the background counts from ambient electrons, i.e., from the square of the instantaneous signal-to-noise ratio (SNR). This quantity is computed from data provided by the correlator in the Gun-Detector Electronics that also generates the coding pattern imposed on the outgoing beams. If the squared SNR ratio exceeds a threshold, this is taken as evidence that the beam is returning to the detector. The thresholds for SNR are chosen dependent on background fluxes. They represent a compromise between getting false hits (induced by strong variations in background electron fluxes) and missing true beam hits. The basic software loop that controls EDI operations is executed every 2 ms. As the times when the beams hit their detectors are neither synchronized with the telemetry nor equidistant, EDI data have no fixed time-resolution. Data are reported in telemetry slots. In Survey, using the standard packing mode 0, there are eight telemetry slots per second and Gyn Detector Unit (GDU). The last beam detected during the previous slot will be reported in the current slot. If no beam has been detected, the data quality will be set to zero. In Burst telemetry there are 128 slots per second and GDU. The data in each slot consists of information regarding the beam firing directions (stored in the form of analytic gun deflection voltages), times-of-flight (if successfully measured), quality indicators, time stamps of the beam hits, and some auxiliary correlator-related information. Whenever EDI is not in electron drift mode, it uses its ambient electron mode. The mode has the capability to sample at either 90 degrees pitch angle or at 0/180 degrees (field aligned), or to alternate between 90 degrees and field aligned with selectable dwell times. While all options have been demonstrated during the commissioning phase, only the field aligned mode has been used in the routine operations phase. The choices for energy are 250 eV, 500 eV, and 1 keV. The two detectors, which are facing opposite hemispheres, are looking strictly into opposite directions, so while one detector is looking along B the other is looking antiparallel to B (corresponding to pitch angles of 180 and 0 degrees, respectively). The two detectors switch roles every half spin of the spacecraft as the tip of the magnetic field vector spins outside the field of view of one detector and into the field of view of the other detector. Starting January 4, 2016, the anodes were chosen such that the projection of the magnetic field vector was best aligned with the center of the first (that is, outer) of the four anodes. This provides coverage of a larger range of pitch angles in general. Data taken in this configuration are identified by the term "amb-pm2" in the data product names. In the burst data where four channels (corresponding to the four adjacent sensor anode pads) are sampled per GDU, channel 1 represents best the pitch angle of 0 degrees (or 180 degrees). The EDI instrument paper can be found at: http://link.springer.com/article/10.1007%2Fs11214-015-0182-7. The EDI instrument data products guide can be found at https://lasp.colorado.edu/mms/sdc/public/datasets/fields/.

Acknowledgement
Please acknowledge R.B. Torbert, M.R. Argall, and J.L. Burch for use of these data

PublicationInfo

Authors
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2022-01-01 00:00:00

PublishedBy
NASA Space Physics Data Facility

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2.	Developer	**spase://SMWG/Person/Matthew.R.Argall**		GroundSoftwareDeveloper
3.	PrincipalInvestigator	**spase://SMWG/Person/James.L.Burch**		
4.	HostContact	**spase://SMWG/Person/MMS_SDC_POC**		
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
The Magnetospheric Multiscale (MMS) Mission Home Page hosted by the Goddard Space Flight Center (GSFC).

InformationURL

Name
Data Caveats and Current Release Notes at LASP MMS SDC

URL
https://lasp.colorado.edu/mms/sdc/public/datasets/fields/

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.

InformationURL

Name
At UNH

URL
https://mms-fields.unh.edu/

Description
The Magnetospheric Multiscale (MMS) FIELDS Instrument Suite home page. The web page is hosted by the University of New Hampshire (UNH).

PriorIDs
spase://VSPO/NumericalData/MMS/1/FIELDS/EDI/Burst/Level2/AmbientElectronFlux/ProjectionMethod2/PT0.0009765625S

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
ftps://lasp.colorado.edu/mms/sdc/public/data/mms1/edi/brst/l2/amb-pm2/

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/edi/brst/l2/amb-pm2/

Description
In CDF via http from the MMS Science Data Center

Format
CDF

Encoding
None

Acknowledgement
Please acknowledge R.B. Torbert, M.R. Argall, 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
FTPS from SPDF (not with most browsers)

URL
ftps://spdf.gsfc.nasa.gov/pub/data/mms/mms1/edi/brst/l2/amb-pm2/

Description
In CDF via ftp from SPDF

AccessURL

Name
HTTPS from SPDF

URL
https://spdf.gsfc.nasa.gov/pub/data/mms/mms1/edi/brst/l2/amb-pm2/

Description
In CDF via http from SPDF

AccessURL

Name
CDAWeb

URL
https://cdaweb.gsfc.nasa.gov/cgi-bin/eval2.cgi?dataset=MMS1_EDI_BRST_L2_AMB-PM2&index=sp_phys

ProductKey
MMS1_EDI_BRST_L2_AMB-PM2

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

Format
CDF

Encoding
None

Acknowledgement

Please acknowledge R.B. Torbert, M.R. Argall, 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_EDI_BRST_L2_AMB-PM2

Description
Web Service to this product using the HAPI interface

Format
CSV

Acknowledgement
Please acknowledge R.B. Torbert, M.R. Argall, and J.L. Burch. Also please acknowledge the data providers and CDAWeb when using these data.

ProcessingLevel
Calibrated

InstrumentIDs
spase://SMWG/Instrument/MMS/1/FIELDS/EDI

MeasurementType
EnergeticParticles

TemporalDescription

TimeSpan

StartDate
2016-01-14 20:45:04

RelativeStopDate
-P2M

Cadence
PT0.0009765625S

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 Time, 0 degree Electrons

ParameterKey
epoch_0

Description
Epoch Time Tags for EDU 0 degree Pitch Angle Electron Count Data, Terrestrial Time 2000 (TT2000)

Cadence
PT0.0009765625S

Units
ns

UnitsConversion
1e-9>s

RenderingHints

AxisLabel
UT

ValueFormat

I16

ValidMin
2015-03-01T00:00:00.000000000

ValidMax
2065-12-31T00:00:01.000000000

FillValue
9999-12-31T23:59:59.999999999

Support

SupportQuantity
Temporal

Parameter #2

Name
Epoch Time, 180 degree Electrons

ParameterKey
epoch_180

Description
Epoch Time Tags for EDU 180 degree Pitch Angle Electron Count Data, Terrestrial Time 2000 (TT2000)

Cadence
PT0.0009765625S

Units
ns

UnitsConversion
1e-9>s

RenderingHints

AxisLabel
UT

ValueFormat
I16

ValidMin
2015-03-01T00:00:00.000000000

ValidMax
2065-12-31T00:00:01.000000000

FillValue
9999-12-31T23:59:59.999999999

Support

SupportQuantity
Temporal

Parameter #3

Name
Epoch Time Tag

ParameterKey
epoch_timetag

Description
Epoch Time Tags for EDU Support Data, Terrestrial Time 2000 (TT2000)

Cadence
PT0.0009765625S

Units
ns

UnitsConversion
1e-9>s

RenderingHints

AxisLabel
UT

ValueFormat
I16

ValidMin
2015-03-01T00:00:00.000000000

ValidMax
2065-12-31T00:00:01.000000000

FillValue
9999-12-31T23:59:59.999999999

Support

SupportQuantity
Temporal

Parameter #4

Name
Optics State

Set
Time series defined by using: EPOCH_TIMETAG

ParameterKey
mms1_edi_optics_state_brst_l2

Description
Optics State Parameter Setting

Cadence
PT0.0009765625S

RenderingHints

AxisLabel
Optics

ValueFormat
I4

ValidMin
0

ValidMax
254

FillValue
255

Support

SupportQuantity
InstrumentMode

Parameter #5

Name
GDU1 Beam Energy

Set
Time series defined by using: EPOCH_TIMETAG

ParameterKey
mms1_edi_energy_gdu1_brst_l2

Description
Gun Detector Unit 2 Beam Energy

Cadence
PT0.0009765625S

Units
eV

UnitsConversion
1.602e-19>J

RenderingHints

AxisLabel
Energy

ValueFormat
I4

ValidMin
0

ValidMax
1000

FillValue
65535

Particle

ParticleType
Electron

Qualifier
Scalar

ParticleQuantity
Energy

Parameter #6

Name
GDU2 Beam Energy

Set
Time series defined by using: EPOCH_TIMETAG

ParameterKey
mms1_edi_energy_gdu2_brst_l2

Description
Gun Detector Unit 1 Beam Energy

Cadence
PT0.0009765625S

Units
eV

UnitsConversion
1.602e-19>J

RenderingHints

AxisLabel

Energy

ValueFormat
I4

ValidMin
0

ValidMax
1000

FillValue
65535

Particle

ParticleType
Electron

Qualifier
Scalar

ParticleQuantity
Energy

Parameter #7

Name
GDU Identifier, 0 degree, Pitch Angle

Set
Time series defined by using: EPOCH_0

ParameterKey
mms1_edi_gdu_0_brst_l2

Description
Sorts 0 degree Flux Counts by Gun Detector Unit

Cadence
PT0.0009765625S

RenderingHints

ValueFormat
I1

ValidMin
1

ValidMax
2

FillValue
255

Particle

ParticleType
Electron

Qualifier
Scalar

ParticleQuantity
Counts

Parameter #8

Name
GDU Identifier, 180 degree, Pitch Angle

Set
Time series defined by using: EPOCH_180

ParameterKey
mms1_edi_gdu_180_brst_l2

Description
Sorts 180 degree Flux Counts by Gun Detector Unit

Cadence
PT0.0009765625S

RenderingHints

ValueFormat
I1

ValidMin
1

ValidMax
2

FillValue
255

Particle

ParticleType
Electron

Qualifier
Scalar

ParticleQuantity
Counts

Parameter #9

Name
Electron Flux, Trajectory 1, 0 degree Pitch Angle

Set
Time series defined by using: EPOCH_0

ParameterKey
mms1_edi_flux1_0_brst_l2

Description
Flux for Electrons with Trajectories given by traj1_0

Cadence
PT0.0009765625S

Units
cm^-2 s^-1

UnitsConversion
1e4>m^-2 s^-1

RenderingHints

DisplayType
TimeSeries

AxisLabel
Flux

ValueFormat
E12.5

ValidMin
0.0

ValidMax
1.0e+20

FillValue
-1.0e+31

Particle

ParticleType
Electron

Qualifier
Directional

ParticleQuantity
NumberFlux

Parameter #10

Name
Electron Flux, Trajectory 2, 0 degree Pitch Angle

Set
Time series defined by using: EPOCH_0

ParameterKey
mms1_edi_flux2_0_brst_l2

Description
Flux for Electrons with Trajectories given by traj2_0

Cadence
PT0.0009765625S

Units
cm^-2 s^-1

UnitsConversion
1e4>m^-2 s^-1

RenderingHints

DisplayType
TimeSeries

AxisLabel
Flux

ValueFormat
E12.5

ValidMin
0.0

ValidMax
1.0e+20

FillValue
-1.0e+31

Particle

ParticleType
Electron

Qualifier
Directional

ParticleQuantity
NumberFlux

Parameter #11

Name
Electron Flux, Trajectory 3, 0 degree Pitch Angle

Set
Time series defined by using: EPOCH_0

ParameterKey
mms1_edi_flux3_0_brst_l2

Description
Flux for Electrons with Trajectories given by traj3_0

Cadence
PT0.0009765625S

Units
cm^-2 s^-1

UnitsConversion
1e4>m^-2 s^-1

RenderingHints

DisplayType
TimeSeries

AxisLabel
Flux

ValueFormat
E12.5

ValidMin
0.0

ValidMax
1.0e+20

FillValue
-1.0e+31

Particle

ParticleType
Electron

Qualifier
Directional

ParticleQuantity
NumberFlux

Parameter #12

Name
Electron Flux, Trajectory 4, 0 degree Pitch Angle

Set
Time series defined by using: EPOCH_0

ParameterKey
mms1_edi_flux4_0_brst_l2

Description
Flux for Electrons with Trajectories given by traj4_0

Cadence
PT0.0009765625S

Units
cm^-2 s^-1

UnitsConversion
1e4>m^-2 s^-1

RenderingHints

DisplayType
TimeSeries

AxisLabel
Flux

ValueFormat
E12.5

ValidMin
0.0

ValidMax
1.0e+15

FillValue
-1.0e+31

Particle

ParticleType
Electron

Qualifier
Directional

ParticleQuantity
NumberFlux

Parameter #13

Name
Electron Flux, Trajectory 1, 180 degree Pitch Angle

Set
Time series defined by using: EPOCH_180

ParameterKey
mms1_edi_flux1_180_brst_l2

Description
Flux for Electrons with Trajectories given by traj1_180

Cadence
PT0.0009765625S

Units
cm^-2 s^-1

UnitsConversion
1e4>m^-2 s^-1

RenderingHints

DisplayType
TimeSeries

AxisLabel
Flux

ValueFormat
E12.5

ValidMin
0.0

ValidMax
1.0e+20

FillValue
-1.0e+31

Particle

ParticleType
Electron

Qualifier
Directional

ParticleQuantity
NumberFlux

Parameter #14

Name
Electron Flux, Trajectory 2, 180 degree Pitch Angle

Set
Time series defined by using: EPOCH_180

ParameterKey
mms1_edi_flux2_180_brst_l2

Description
Flux for Electrons with Trajectories given by traj2_180

Cadence
PT0.0009765625S

Units
cm^-2 s^-1

UnitsConversion
1e4>m^-2 s^-1

RenderingHints

DisplayType
TimeSeries

AxisLabel
Flux

ValueFormat
E12.5

ValidMin
0.0

ValidMax
1.0e+20

FillValue
-1.0e+31

Particle

ParticleType
Electron

Qualifier
Directional

ParticleQuantity
NumberFlux

Parameter #15

Name
Electron Flux, Trajectory 3, 180 degree Pitch Angle

Set
Time series defined by using: EPOCH_180

ParameterKey
mms1_edi_flux3_180_brst_l2

Description
Flux for Electrons with Trajectories given by traj3_180

Cadence
PT0.0009765625S

Units
cm^-2 s^-1

UnitsConversion
1e4>m^-2 s^-1

RenderingHints

DisplayType
TimeSeries

AxisLabel
Flux

ValueFormat
E12.5

ValidMin
0.0

ValidMax
1.0e+20

FillValue
-1.0e+31

Particle

ParticleType
Electron

Qualifier
Directional

ParticleQuantity
NumberFlux

Parameter #16

Name
Electron Flux, Trajectory 4, 180 degree Pitch Angle

Set
Time series defined by using: EPOCH_180

ParameterKey
mms1_edi_flux4_180_brst_l2

Description
Flux for Electrons with Trajectories given by traj4_180

Cadence
PT0.0009765625S

Units
cm^-2 s^-1

UnitsConversion
1e4>m^-2 s^-1

RenderingHints

DisplayType
TimeSeries

AxisLabel
Flux

ValueFormat
E12.5

ValidMin
0.0

ValidMax
1.0e+20

FillValue
-1.0e+31

Particle

ParticleType
Electron

Qualifier
Directional

ParticleQuantity
NumberFlux

Parameter #17

Name
Electron Flux Error, Trajectory 1, 0 degree Pitch Angle

Set
Time series defined by using: EPOCH_0

ParameterKey
mms1_edi_flux1_0_delta_brst_l2

Description
Error for flux1 0 degree Pitch Angle Electron Flux

Cadence
PT0.0009765625S

Units
cm^-2 s^-1

UnitsConversion
1e4>m^-2 s^-1

RenderingHints

AxisLabel
dFlux

ValueFormat
E12.5

ValidMin
0.0

ValidMax
1.0e+20

FillValue
-1.0e+31

Particle

ParticleType
Electron

Qualifier
Uncertainty

ParticleQuantity
NumberFlux

Parameter #18

Name
Electron Flux Error, Trajectory 2, 0 degree Pitch Angle

Set
Time series defined by using: EPOCH_0

ParameterKey
mms1_edi_flux2_0_delta_brst_l2

Description
Error for flux2 0 degree Pitch Angle Electron Flux

Cadence
PT0.0009765625S

Units
cm^-2 s^-1

UnitsConversion
1e4>m^-2 s^-1

RenderingHints

AxisLabel
dFlux

ValueFormat
E12.5

ValidMin
0.0

ValidMax
1.0e+30

FillValue
-1.0e+31

Particle

ParticleType
Electron

Qualifier
Uncertainty

ParticleQuantity
NumberFlux

Parameter #19

Name
Electron Flux Error, Trajectory 3, 0 degree Pitch Angle

Set
Time series defined by using: EPOCH_0

ParameterKey
mms1_edi_flux3_0_delta_brst_l2

Description
Error for flux3 0 degree Pitch Angle Electron Flux

Cadence
PT0.0009765625S

Units
cm^-2 s^-1

UnitsConversion
1e4>m^-2 s^-1

RenderingHints

AxisLabel
dFlux

ValueFormat
E12.5

ValidMin
0.0

ValidMax
1.0e+30

FillValue
-1.0e+31

Particle

ParticleType
Electron

Qualifier
Uncertainty

ParticleQuantity
NumberFlux

Parameter #20

Name
Electron Flux Error, Trajectory 4, 0 degree Pitch Angle

Set
Time series defined by using: EPOCH_0

ParameterKey
mms1_edi_flux4_0_delta_brst_l2

Description
Error for flux4 0 degree Pitch Angle Electron Flux

Cadence
PT0.0009765625S

Units
cm^-2 s^-1

UnitsConversion
1e4>m^-2 s^-1

RenderingHints

AxisLabel
dFlux

ValueFormat
E12.5

ValidMin
0.0

ValidMax
1.0e+30

FillValue
-1.0e+31

Particle

ParticleType
Electron

Qualifier
Uncertainty

ParticleQuantity
NumberFlux

Parameter #21

Name
Electron Flux Error, Trajectory 1, 180 degree Pitch Angle

Set
Time series defined by using: EPOCH_180

ParameterKey
mms1_edi_flux1_180_delta_brst_l2

Description
Error for flux1 180 degree Pitch Angle Electron Flux

Cadence
PT0.0009765625S

Units
cm^-2 s^-1

UnitsConversion
1e4>m^-2 s^-1

RenderingHints

AxisLabel
dFlux

ValueFormat
E12.5

ValidMin
0.0

ValidMax
1.0e+20

FillValue
-1.0e+31

Particle

ParticleType
Electron

Qualifier
Uncertainty

ParticleQuantity
NumberFlux

Parameter #22

Name
Electron Flux Error, Trajectory 2, 180 degree Pitch Angle

Set
Time series defined by using: EPOCH_180

ParameterKey
mms1_edi_flux2_180_delta_brst_l2

Description
Error for flux2 180 degree Pitch Angle Electron Flux

Cadence
PT0.0009765625S

Units
cm^-2 s^-1

UnitsConversion
1e4>m^-2 s^-1

RenderingHints

AxisLabel
dFlux

ValueFormat
E12.5

ValidMin
0.0

ValidMax
1.0e+30

FillValue
-1.0e+31

Particle

ParticleType
Electron

Qualifier
Uncertainty

ParticleQuantity
NumberFlux

Parameter #23

Name
Electron Flux Error, Trajectory 3, 180 degree Pitch Angle

Set
Time series defined by using: EPOCH_180

ParameterKey
mms1_edi_flux3_180_delta_brst_l2

Description
Error for flux3 180 degree Pitch Angle Electron Flux

Cadence
PT0.0009765625S

Units
cm^-2 s^-1

UnitsConversion
1e4>m^-2 s^-1

RenderingHints

AxisLabel
dFlux

ValueFormat
E12.5

ValidMin
0.0

ValidMax
1.0e+30

FillValue
-1.0e+31

Particle

ParticleType
Electron

Qualifier
Uncertainty

ParticleQuantity
NumberFlux

Parameter #24

Name
Electron Flux Error, Trajectory 4, 180 degree Pitch Angle

Set
Time series defined by using: EPOCH_180

ParameterKey
mms1_edi_flux4_180_delta_brst_l2

Description
Error for flux4 180 degree Pitch Angle Electron Flux

Cadence
PT0.0009765625S

Units
cm^-2 s^-1

UnitsConversion
1e4>m^-2 s^-1

RenderingHints

AxisLabel
dFlux

ValueFormat
E12.5

ValidMin
0.0

ValidMax
1.0e+30

FillValue
-1.0e+31

Particle

ParticleType
Electron

Qualifier
Uncertainty

ParticleQuantity
NumberFlux

Parameter #25

Name
Electron Trajectory 1, 0 degree Pitch Angle (GSE)

Set
Time series defined by using: EPOCH_0

ParameterKey
mms1_edi_traj1_gse_0_brst_l2

Description
Trajectory of flux1 0 degree Pitch Angle Electrons in Geocentric Solar Ecliptic (GSE) Cartesian Coordinates

Caveats
Trajectories are given as unit vectors in spherical coordinates, with phi (theta) representing the azimuthal (polar) directions, in the indicated coordinate system. They are opposite to the nominal look-direction of the instrument. Errors reflect the instrument's acceptance cone. For more details about errors, contact the EDI instrument team.

Cadence
PT0.0009765625S

Units

degree

UnitsConversion
0.0174532925>rad

CoordinateSystem

CoordinateRepresentation
Spherical

CoordinateSystemName
GSE

RenderingHints

DisplayType
TimeSeries

ValueFormat
F9.4

ScaleType
LinearScale

Structure

Size
2

Element

Name
Phi

Index
1

Element

Name
Theta

Index
2

ValidMin
-180.0

ValidMax
180.0

FillValue
-1.0e+31

Particle

ParticleType
Electron

ParticleQuantity
ArrivalDirection

Parameter #26

Name
Electron Trajectory 2, 0 degree Pitch Angle (GSE)

Set
Time series defined by using: EPOCH_0

ParameterKey
mms1_edi_traj2_gse_0_brst_l2

Description
Trajectory of flux2 0 degree Pitch Angle Electrons in Geocentric Solar Ecliptic (GSE) Cartesian Coordinates

Caveats
Trajectories are given as unit vectors in spherical coordinates, with phi (theta) representing the azimuthal (polar) directions, in the indicated coordinate system. They are opposite to the nominal look-direction of the instrument. Errors reflect the instrument's acceptance cone. For more details about errors, contact the EDI instrument team.

Cadence
PT0.0009765625S

Units
degree

UnitsConversion
0.0174532925>rad

CoordinateSystem

CoordinateRepresentation
Spherical

CoordinateSystemName
GSE

RenderingHints

DisplayType
TimeSeries

ValueFormat
F9.4

ScaleType
LinearScale

Structure

Size
2

Element

Name
Phi

Index
1

Element

Name
Theta

Index
2

ValidMin
-180.0

ValidMax
180.0

FillValue
-1.0e+31

Particle

ParticleType
Electron

ParticleQuantity
ArrivalDirection

Parameter #27

Name
Electron Trajectory 3, 0 degree Pitch Angle (GSE)

Set
Time series defined by using: EPOCH_0

ParameterKey
mms1_edi_traj3_gse_0_brst_l2

Description
Trajectory of flux3 0 degree Pitch Angle Electrons in Geocentric Solar Ecliptic (GSE) Cartesian Coordinates

Caveats
Trajectories are given as unit vectors in spherical coordinates, with phi (theta) representing the azimuthal (polar) directions, in the indicated coordinate system. They are opposite to the nominal look-direction of the instrument. Errors reflect the instrument's acceptance cone. For more details about errors, contact the EDI instrument team.

Cadence
PT0.0009765625S

Units
degree

UnitsConversion
0.0174532925>rad

CoordinateSystem

CoordinateRepresentation
Spherical

CoordinateSystemName
GSE

RenderingHints

DisplayType
TimeSeries

ValueFormat
F9.4

ScaleType
LinearScale

Structure

Size
2

Element

Name
Phi

Index
1

Element

Name
Theta

Index
2

ValidMin
-180.0

ValidMax
180.0

FillValue
-1.0e+31

Particle

ParticleType
Electron

ParticleQuantity
ArrivalDirection

Parameter #28

Name
Electron Trajectory 4, 0 degree Pitch Angle (GSE)

Set
Time series defined by using: EPOCH_0

ParameterKey
mms1_edi_traj4_gse_0_brst_l2

Description
Trajectory of flux4 0 degree Pitch Angle Electrons in Geocentric Solar Ecliptic (GSE) Cartesian Coordinates

Caveats
Trajectories are given as unit vectors in spherical coordinates, with phi (theta) representing the azimuthal (polar) directions, in the indicated coordinate system. They are opposite to the nominal look-direction of the instrument. Errors reflect the instrument's acceptance cone. For more details about errors, contact the EDI instrument team.

Cadence
PT0.0009765625S

Units
degree

UnitsConversion
0.0174532925>rad

CoordinateSystem

CoordinateRepresentation
Spherical

CoordinateSystemName
GSE

RenderingHints

DisplayType
TimeSeries

ValueFormat
F9.4

ScaleType
LinearScale

Structure

Size
2

Element

Name
Phi

Index
1

Element

Name
Theta

Index
2

ValidMin
-180.0

ValidMax
180.0

FillValue
-1.0e+31

Particle

ParticleType
Electron

ParticleQuantity
ArrivalDirection

Parameter #29

Name
Electron Trajectory 1, 180 degree Pitch Angle (GSE)

Set
Time series defined by using: EPOCH_180

ParameterKey
mms1_edi_traj1_gse_180_brst_l2

Description

Trajectory of flux1 180 degree Pitch Angle Electrons in Geocentric Solar Ecliptic (GSE) Cartesian Coordinates

Caveats
Trajectories are given as unit vectors in spherical coordinates, with phi (theta) representing the azimuthal (polar) directions, in the indicated coordinate system. They are opposite to the nominal look-direction of the instrument. Errors reflect the instrument's acceptance cone. For more details about errors, contact the EDI instrument team.

Cadence
PT0.0009765625S

Units
degree

UnitsConversion
0.0174532925>rad

CoordinateSystem

CoordinateRepresentation
Spherical

CoordinateSystemName
GSE

RenderingHints

DisplayType
TimeSeries

ValueFormat
F9.4

ScaleType
LinearScale

Structure

Size
2

Element

Name
Phi

Index
1

Element

Name
Theta

Index
2

ValidMin
-180.0

ValidMax
180.0

FillValue
-1.0e+31

Particle

ParticleType
Electron

ParticleQuantity
ArrivalDirection

Parameter #30

Name
Electron Trajectory 2, 180 degree Pitch Angle (GSE)

Set
Time series defined by using: EPOCH_180

ParameterKey
mms1_edi_traj2_gse_180_brst_l2

Description
Trajectory of flux2 180 degree Pitch Angle Electrons in Geocentric Solar Ecliptic (GSE) Cartesian Coordinates

Caveats
Trajectories are given as unit vectors in spherical coordinates, with phi (theta) representing the azimuthal (polar) directions, in the indicated coordinate system. They are opposite to the nominal look-direction of the instrument. Errors reflect the instrument's acceptance cone. For more details about errors, contact the EDI instrument team.

Cadence
PT0.0009765625S

Units
degree

UnitsConversion
0.0174532925>rad

CoordinateSystem

CoordinateRepresentation
Spherical

CoordinateSystemName
GSE

RenderingHints

DisplayType
TimeSeries

ValueFormat
F9.4

ScaleType
LinearScale

Structure

Size
2

Element

Name
Phi

Index
1

Element

Name
Theta

Index
2

ValidMin
-180.0

ValidMax
180.0

FillValue
-1.0e+31

Particle

ParticleType
Electron

ParticleQuantity
ArrivalDirection

Parameter #31

Name
Electron Trajectory 3, 180 degree Pitch Angle (GSE)

Set
Time series defined by using: EPOCH_180

ParameterKey
mms1_edi_traj3_gse_180_brst_l2

Description
Trajectory of flux3 180 degree Pitch Angle Electrons in Geocentric Solar Ecliptic (GSE) Cartesian Coordinates

Caveats
Trajectories are given as unit vectors in spherical coordinates, with phi (theta) representing the azimuthal (polar) directions, in the indicated coordinate system. They are opposite to the nominal look-direction of the instrument. Errors reflect the instrument's acceptance cone. For more details about errors, contact the EDI instrument team.

Cadence
PT0.0009765625S

Units
degree

UnitsConversion
0.0174532925>rad

CoordinateSystem

CoordinateRepresentation
Spherical

CoordinateSystemName
GSE

RenderingHints

DisplayType
TimeSeries

ValueFormat
F9.4

ScaleType
LinearScale

Structure

Size
2

Element

Name
Phi

Index
1

Element

Name

Theta

Index
2

ValidMin
-180.0

ValidMax
180.0

FillValue
-1.0e+31

Particle

ParticleType
Electron

ParticleQuantity
ArrivalDirection

Parameter #32

Name
Electron Trajectory 4, 180 degree Pitch Angle (GSE)

Set
Time series defined by using: EPOCH_180

ParameterKey
mms1_edi_traj4_gse_180_brst_l2

Description
Trajectory of flux4 180 degree Pitch Angle Electrons in Geocentric Solar Ecliptic (GSE) Cartesian Coordinates

Caveats
Trajectories are given as unit vectors in spherical coordinates, with phi (theta) representing the azimuthal (polar) directions, in the indicated coordinate system. They are opposite to the nominal look-direction of the instrument. Errors reflect the instrument's acceptance cone. For more details about errors, contact the EDI instrument team.

Cadence
PT0.0009765625S

Units
degree

UnitsConversion
0.0174532925>rad

CoordinateSystem

CoordinateRepresentation
Spherical

CoordinateSystemName
GSE

RenderingHints

DisplayType
TimeSeries

ValueFormat
F9.4

ScaleType
LinearScale

Structure

Size
2

Element

Name
Phi

Index
1

Element

Name
Theta

Index
2

ValidMin
-180.0

ValidMax
180.0

FillValue
-1.0e+31

Particle

ParticleType
Electron

ParticleQuantity
ArrivalDirection

Parameter #33

Name
Electron Trajectory 1, 0 degree Pitch Angle (GSM)

Set
Time series defined by using: EPOCH_0

ParameterKey
mms1_edi_traj1_gsm_0_brst_l2

Description
Trajectory of flux1 0 degree Pitch Angle Electrons in Geocentric Solar Magnetospheric (GSM) Cartesian Coordinates

Caveats
Trajectories are given as unit vectors in spherical coordinates, with phi (theta) representing the azimuthal (polar) directions, in the indicated coordinate system. They are opposite to the nominal look-direction of the instrument. Errors reflect the instrument's acceptance cone. For more details about errors, contact the EDI instrument team.

Cadence
PT0.0009765625S

Units
degree

UnitsConversion
0.0174532925>rad

CoordinateSystem

CoordinateRepresentation
Spherical

CoordinateSystemName
GSM

RenderingHints

DisplayType
TimeSeries

ValueFormat
F9.4

ScaleType
LinearScale

Structure

Size
2

Element

Name
Phi

Index
1

Element

Name
Theta

Index
2

ValidMin
-180.0

ValidMax
180.0

FillValue
-1.0e+31

Particle

ParticleType
Electron

ParticleQuantity
ArrivalDirection

Parameter #34

Name
Electron Trajectory 2, 0 degree Pitch Angle (GSM)

Set
Time series defined by using: EPOCH_0

ParameterKey
mms1_edi_traj2_gsm_0_brst_l2

Description
Trajectory of flux2 0 degree Pitch Angle Electrons in Geocentric Solar Magnetospheric (GSM) Cartesian Coordinates

Caveats
Trajectories are given as unit vectors in spherical coordinates, with phi (theta) representing the azimuthal (polar) directions, in the indicated coordinate system. They are opposite to the nominal look-direction of the instrument. Errors reflect the instrument's acceptance cone. For more details about errors, contact the EDI instrument team.

Cadence
PT0.0009765625S

Units
degree

UnitsConversion

0.0174532925>rad

CoordinateSystem

CoordinateRepresentation
Spherical

CoordinateSystemName
GSM

RenderingHints

DisplayType
TimeSeries

ValueFormat
F9.4

ScaleType
LinearScale

Structure

Size
2

Element

Name
Phi

Index
1

Element

Name
Theta

Index
2

ValidMin
-180.0

ValidMax
180.0

FillValue
-1.0e+31

Particle

ParticleType
Electron

ParticleQuantity
ArrivalDirection

Parameter #35

Name
Electron Trajectory 3, 0 degree Pitch Angle (GSM)

Set
Time series defined by using: EPOCH_0

ParameterKey
mms1_edi_traj3_gsm_0_brst_l2

Description
Trajectory of flux3 0 degree Pitch Angle Electrons in Geocentric Solar Magnetospheric (GSM) Cartesian Coordinates

Caveats
Trajectories are given as unit vectors in spherical coordinates, with phi (theta) representing the azimuthal (polar) directions, in the indicated coordinate system. They are opposite to the nominal look-direction of the instrument. Errors reflect the instrument's acceptance cone. For more details about errors, contact the EDI instrument team.

Cadence
PT0.0009765625S

Units
degree

UnitsConversion
0.0174532925>rad

CoordinateSystem

CoordinateRepresentation
Spherical

CoordinateSystemName
GSM

RenderingHints

DisplayType
TimeSeries

ValueFormat
F9.4

ScaleType
LinearScale

Structure

Size
2

Element

Name
Phi

Index
1

Element

Name
Theta

Index
2

ValidMin
-180.0

ValidMax
180.0

FillValue
-1.0e+31

Particle

ParticleType
Electron

ParticleQuantity
ArrivalDirection

Parameter #36

Name
Electron Trajectory 4, 0 degree Pitch Angle (GSM)

Set
Time series defined by using: EPOCH_0

ParameterKey
mms1_edi_traj4_gsm_0_brst_l2

Description
Trajectory of flux4 0 degree Pitch Angle Electrons in Geocentric Solar Magnetospheric (GSM) Cartesian Coordinates

Caveats
Trajectories are given as unit vectors in spherical coordinates, with phi (theta) representing the azimuthal (polar) directions, in the indicated coordinate system. They are opposite to the nominal look-direction of the instrument. Errors reflect the instrument's acceptance cone. For more details about errors, contact the EDI instrument team.

Cadence
PT0.0009765625S

Units
degree

UnitsConversion
0.0174532925>rad

CoordinateSystem

CoordinateRepresentation
Spherical

CoordinateSystemName
GSM

RenderingHints

DisplayType
TimeSeries

ValueFormat
F9.4

ScaleType
LinearScale

Structure

Size
2

Element

Name
Phi

Index
1

Element

Name
Theta

Index
2

ValidMin
-180.0

ValidMax
180.0

FillValue
-1.0e+31

Particle

ParticleType
Electron

ParticleQuantity
ArrivalDirection

Parameter #37

Name
Electron Trajectory 1, 180 degree Pitch Angle (GSM)

Set
Time series defined by using: EPOCH_180

ParameterKey
mms1_edi_traj1_gsm_180_brst_l2

Description
Trajectory of flux1 180 degree Pitch Angle Electrons in Geocentric Solar Magnetospheric (GSM) Cartesian Coordinates

Caveats
Trajectories are given as unit vectors in spherical coordinates, with phi (theta) representing the azimuthal (polar) directions, in the indicated coordinate system. They are opposite to the nominal look-direction of the instrument. Errors reflect the instrument's acceptance cone. For more details about errors, contact the EDI instrument team.

Cadence
PT0.0009765625S

Units
degree

UnitsConversion
0.0174532925>rad

CoordinateSystem

CoordinateRepresentation
Spherical

CoordinateSystemName
GSM

RenderingHints

DisplayType
TimeSeries

ValueFormat
F9.4

ScaleType
LinearScale

Structure

Size
2

Element

Name
Phi

Index
1

Element

Name
Theta

Index
2

ValidMin
-20.0

ValidMax
20.0

FillValue
-1.0e+31

Particle

ParticleType
Electron

ParticleQuantity
ArrivalDirection

Parameter #38

Name
Electron Trajectory 2, 180 degree Pitch Angle (GSM)

Set
Time series defined by using: EPOCH_180

ParameterKey
mms1_edi_traj2_gsm_180_brst_l2

Description
Trajectory of flux2 180 degree Pitch Angle Electrons in Geocentric Solar Magnetospheric (GSM) Cartesian Coordinates

Caveats

Trajectories are given as unit vectors in spherical coordinates, with phi (theta) representing the azimuthal (polar) directions, in the indicated coordinate system. They are opposite to the nominal look-direction of the instrument. Errors reflect the instrument's acceptance cone. For more details about errors, contact the EDI instrument team.

Cadence
PT0.0009765625S

Units
degree

UnitsConversion
0.0174532925>rad

CoordinateSystem

CoordinateRepresentation
Spherical

CoordinateSystemName
GSM

RenderingHints

DisplayType
TimeSeries

ValueFormat
F9.4

ScaleType
LinearScale

Structure

Size
2

Element

Name
Phi

Index
1

Element

Name
Theta

Index
2

ValidMin
-180.0

ValidMax
180.0

FillValue
-1.0e+31

Particle

ParticleType
Electron

ParticleQuantity
ArrivalDirection

Parameter #39

Name
Electron Trajectory 3, 180 degree Pitch Angle (GSM)

Set
Time series defined by using: EPOCH_180

ParameterKey
mms1_edi_traj3_gsm_180_brst_l2

Description
Trajectory of flux3 180 degree Pitch Angle Electrons in Geocentric Solar Magnetospheric (GSM) Cartesian Coordinates

Caveats
Trajectories are given as unit vectors in spherical coordinates, with phi (theta) representing the azimuthal (polar) directions, in the indicated coordinate system. They are opposite to the nominal look-direction of the instrument. Errors reflect the instrument's acceptance cone. For more details about errors, contact the EDI instrument team.

Cadence
PT0.0009765625S

Units
degree

UnitsConversion
0.0174532925>rad

CoordinateSystem

CoordinateRepresentation
Spherical

CoordinateSystemName
GSM

RenderingHints

DisplayType
TimeSeries

ValueFormat
F9.4

ScaleType
LinearScale

Structure

Size
2

Element

Name
Phi

Index
1

Element

Name
Theta

Index
2

ValidMin
-180.0

ValidMax
180.0

FillValue
-1.0e+31

Particle

ParticleType
Electron

ParticleQuantity
ArrivalDirection

Parameter #40

Name
Electron Trajectory 4, 180 degree Pitch Angle (GSM)

Set
Time series defined by using: EPOCH_180

ParameterKey
mms1_edi_traj4_gsm_180_brst_l2

Description
Trajectory of flux4 180 degree Pitch Angle Electrons in Geocentric Solar Magnetospheric (GSM) Cartesian Coordinates

Caveats
Trajectories are given as unit vectors in spherical coordinates, with phi (theta) representing the azimuthal (polar) directions, in the indicated coordinate system. They are opposite to the nominal look-direction of the instrument. Errors reflect the instrument's acceptance cone. For more details about errors, contact the EDI instrument team.

Cadence
PT0.0009765625S

Units
degree

UnitsConversion
0.0174532925>rad

CoordinateSystem

CoordinateRepresentation
Spherical

CoordinateSystemName
GSM

RenderingHints

DisplayType
TimeSeries

ValueFormat
F9.4

ScaleType
LinearScale

Structure

Size
2

Element

Name
Phi

Index
1

Element

Name
Theta

Index

2

ValidMin
-180.0

ValidMax
180.0

FillValue
-1.0e+31

Particle

ParticleType
Electron

ParticleQuantity
ArrivalDirection