

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 Search Coil Magnetometer (SCM) AC Magnetic Field Level 2 (L2), High Speed Burst Mode, 16384 Sample/s Data

Le Contel, O., Torbert, R.B., Mirioni, L., Argall, M.R., and Burch, J.L. (2022). MMS 1 Search Coil Magnetometer (SCM) AC Magnetic Field Level 2 (L2), High Speed Burst Mode, 16384 Sample/s Data [Data set]. NASA Space Physics Data Facility. <https://doi.org/10.48322/5dsj-t876>. Accessed on 2023-April-5.

ResourceID

spase://NASA/NumericalData/MMS/1/FIELDS/SCM/Burst/Level2/PT0.00006101515625S

Description

Search Coil Magnetometer (SCM) AC Magnetic Field (16384 samples/s), Level 2, High Speed Burst Mode Data. The tri-axial Search-Coil Magnetometer with its associated preamplifier measures three-dimensional magnetic field fluctuations. The analog magnetic waveforms measured by the SCM are digitized and processed inside the Digital Signal Processor (DSP), collected and stored by the Central Instrument Data Processor (CIDP) via the Fields Central Electronics Box (CEB). Prior to launch, all SCM Flight models were calibrated by LPP team members at the National Magnetic Observatory, Chambon-la-Forêt (Orleans). Once per orbit, each SCM transfer function is checked thanks to the onboard calibration signal provided by the DSP. The SCM is operated for the entire MMS orbit in survey mode. Within scientific Regions Of Interest (ROI), burst mode data are also acquired as well as high speed burst mode data. This SCM data set corresponds to the AC magnetic field waveforms in nanoTesla and in the GSE frame. The SCM instrument paper for SCM can be found at <http://link.springer.com/article/10.1007/s11214-014-0096-9> and the SCM data product guide 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/SCM/Burst/Level2/PT0.00006101515625S

ResourceHeader**ResourceName**

MMS 1 Search Coil Magnetometer (SCM) AC Magnetic Field Level 2 (L2), High Speed Burst Mode, 16384 Sample/s Data

AlternateName

MMS1_SCM_BRST_L2_SCHB

DOI

<https://doi.org/10.48322/5dsj-t876>

ReleaseDate

2023-03-28 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 SCM team, metadata updated to SPASE 2.5.0, reviewed by LFB 20230304

RevisionEvent
ReleaseDate

2023-03-28 12:34:56.789

Note

Assign the CoInvestigator Role to Matt Argall per request of the MMS FIELDS/SCM team, revised by LFB 20230328

Description

Search Coil Magnetometer (SCM) AC Magnetic Field (16384 samples/s), Level 2, High Speed Burst Mode Data. The tri-axial Search-Coil Magnetometer with its associated preamplifier measures three-dimensional magnetic field fluctuations. The analog magnetic waveforms measured by the SCM are digitized and processed inside the Digital Signal Processor (DSP), collected and stored by the Central Instrument Data Processor (CIDP) via the Fields Central Electronics Box (CEB). Prior to launch, all SCM Flight models were calibrated by LPP team members at the National Magnetic Observatory, Chambon-la-Forêt (Orleans). Once per orbit, each SCM transfer function is checked thanks to the onboard calibration signal provided by the DSP. The SCM is operated for the entire MMS orbit in survey mode. Within scientific Regions Of Interest (ROI), burst mode data are also acquired as well as high speed burst mode data. This SCM data set corresponds to the AC magnetic field waveforms in nanoTesla and in the GSE frame. The SCM instrument paper for SCM can be found at <http://link.springer.com/article/10.1007/s11214-014-0096-9> and the SCM data product guide at <https://lasp.colorado.edu/mms/sdc/public/datasets/fields/>.

Acknowledgement

Please acknowledge O. Le Contel, R.B. Torbert, L. Mirioni, M.R. Argall, and J.L. Burch for use of these data

PublicationInfo
Authors

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PublicationDate

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PublishedBy

NASA Space Physics Data Facility

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| 8. | MetadataContact | spase://SMWG/Person/Lee.Frost.Bargatze | | | |

InformationURL
Name

at GFSC

URL

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

Description

The Magnetospheric Multiscale (MMS) Mission Home Page hosted by the Goddard Space Flight Center (GSFC).

InformationURL**Name**

The MMS LPP SCM Team home page at LPP, CNRS École Polytechnique and Sorbonne Université

URL

<https://www.lpp.polytechnique.fr/MMS-SCM-939?lang=en>

Description

The Magnetospheric Multiscale (MMS) Search-Coil Magnetometer (SCM) home page hosted by the Laboratoire de Physique des Plasma (LPP), CNRS École Polytechnique and Sorbonne Université

PriorIDs

spase://VSP0/NumericalData/MMS/1/FIELDS/SCM/Burst/Level2/PT0.00006101515625S

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/scm/brst/l2/schb/>

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/scm/brst/l2/schb/>

Description

In CDF via http from the MMS Science Data Center

Format

CDF

Encoding

None

Acknowledgement

Please acknowledge O. Le Contel, R.B. Torbert, L. Mirioni, 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/scm/brst/l2/schb/>

Description

In CDF via ftp from SPDF

AccessURL

Name

HTTPS from SPDF

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

In CDF via http from SPDF

AccessURL**Name**

CDAWeb

URLhttps://cdaweb.gsfc.nasa.gov/cgi-bin/eval2.cgi?dataset=MMS1_SCM_BRST_L2_SCHB&index=sp_phys**ProductKey**

MMS1_SCM_BRST_L2_SCHB

Description

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

Format

CDF

Encoding

None

Acknowledgement

Please acknowledge O. Le Contel, R.B. Torbert, L. Mirioni, 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_SCM_BRST_L2_SCHB

Description

Web Service to this product using the HAPI interface

Format

CSV

Acknowledgement

Please acknowledge O. Le Contel, R.B. Torbert, L. Mirioni, 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/SCM>**MeasurementType**

MagneticField

MeasurementType

Waves.Passive

TemporalDescription**TimeSpan****StartDate**

2015-09-01 12:11:14

RelativeStopDate

-P2M

Cadence

PT0.0000610151563S

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

AC Magnetic Field

Set

Time series defined by using: EPOCH

ParameterKey

mms1_scm_acb_gse_schb_brst_I2

Description

Search Coil AC magnetic vector components in GSE coordinates.

Caveats

These calibrated (nT) AC magnetic field waveform data are sampled at 16384 samples/s. They are high-pass filtered above 32.0 Hz but not low-pass filtered. See global attributes for details. For more information, see the SCM data product guide at <https://lasp.colorado.edu/mms/sdc/public/datasets/fields/>.

Cadence

PT0.0000610151563S

Units

nT

UnitsConversion

1.0e-9>T

CoordinateSystem**CoordinateRepresentation**

Cartesian

CoordinateSystemName

GSE

RenderingHints**DisplayType**

TimeSeries

ValueFormat

e13.5

ScaleType

LinearScale

Structure**Size**

3

Element**Name**

Bx GSE

Index

1

Units

nT

Element**Name**

By GSE

Index

2

Units

nT

Element**Name**

Bz GSE

Index

3

Units

nT

ValidMin

-30000.0

ValidMax

30000.0

FillValue

NaN

Wave**WaveType**

PlasmaWaves

Qualifier

Vector

WaveQuantity

ACMagneticField

Parameter #2

Name

Epoch

ParameterKey

Epoch

Description

Center time of the magnetic field sample

Caveats

This parameter exhibits an increasing monotonic progression.

Cadence

PT0.0000610151563S

Units

ns

UnitsConversion

1.0e-9>s

RenderingHints**AxisLabel**

Time

ValueFormat

i20

ScaleType

LinearScale

ValidMin
2010-01-01T00:00:00.000000000

ValidMax
2030-01-01T00:00:00.999999999

FillValue
9999-12-31T23:59:59.999999999

Support

SupportQuantity
Temporal

Parameter #3

Name
Epoch delta

ParameterKey
Epoch_delta

Description
Epoch_delta

Units
ns

UnitsConversion
1.0e-9>s

RenderingHints
ValueFormat
e13.5

ValidMin
0.0

ValidMax
61035.2

Support

SupportQuantity
Temporal

Parameter #4

Name
Quality Factor

Set
Time series defined by using: EPOCH

ParameterKey
mms1_scm_qf_scm123_schb_brst_l2

Description
Magnetic field vector component quality flags, three letter format.

Caveats
Each letter refers to one SCM physical antenna in the SCM123 order. G stands for good data, Z for data that are affected or set to zero by convolution boundary effect, S for saturated data, X for out of range data, B for fillvalue/bad data.

Cadence
PT0.0000610151563S

RenderingHints
ValueFormat
a3

FillValue
XXX

Support

SupportQuantity
Other