

Swarm abbreviations and acronyms

This document lists commonly used acronyms and abbreviations related to ESA's magnetic field mission, Swarm.

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ACC	Accelerometer	Cal/Val	Calibration and Validation (science group, workshop)
ACCELE	Operational Level 1b Processor of ACC data	Cat-1	Level-2 Products that are processed by the SCARF Level-2 processing consortium
AE	Auroral Electrojet index	Cat-2	Level-2 Products that are processed by PDGS
AEBS	Auroral Electrojet and auroral Boundaries estimated from Swarm observations (a Level-2 data product)	CCDB	Characterisation and Calibration Database
A EJ	Auroral Electrojet	CCN	Contract Change Notice
AGC	Automatic Gain Control	CDF	Common Data Format (file format, see https://cdf.gsfc.nasa.gov/)
AGU	American Geophysical Union	CDM	Configuration and Data Management
AISP	Annotated Instrument Source Packet	CDMP	Configuration and Data Management Plan
AIUB	Astronomical Institute of the University of Bern (CH)	CDS	CCSDS Day Segmented Time Code
AMPS	The Average Magnetic field and Polar current System model (a Level-2 data product)	CEA-Leti	Leti CEA Technology Research Institute, Grenoble, FR (Laboratoire d'électronique des technologies de l'information)
AOB	Auroral Oval Boundaries/Any Other Business	CFI	Customer Furnished Item (provided by the customer without cost to the contractor)
AOCS	Attitude and Orbit Control Subsystem	CHAMP	CHALLENGING Mini-satellite Payload, led by GFZ, Germany
APDF	Archiving and Payload Data Facility	CHAOS	High-precision magnetic Field model derived by DTU Space
API	Application Programming Interface	CHU	Camera Head Unit
APID	Application Process ID	CI	Configuration Item
ARB	Anomaly Review Board	CI	Comprehensive Inversion
ASM	Absolute Scalar Magnetometer	CIRES	Cooperative Institute for Research in Environmental Sciences, University of Colorado, Boulder (US)
ASM-V	ASM Vector mode	CoM	Centre of Mass
ASU	Astronomical Institute of the Czech Academy of Sciences (CZ)	CR	Change Request
ATP	Acceptance To Proceed	CSES	China Seismo-Electromagnetic Satellite
AuroraX	Extension of the Swarm Aurora project	CUC	CCSDS Day Unsegmented Time Code
Aux	Auxiliary data	CUP	Charles University Prague (CZ)
BBO	Blinding/big-bright object (STR issue)	CVQ	Calibration-Validation Quality control
BCSS	Birkeland Centre for Space Science, University of Bergen (NO)		
BGS	British Geological Survey (GB)		
BOM	Beginning Of Mission		
CAC	Cumulative archive content		

D0	Date of availability of the first Swarm data
DAB	DISC Advisory Board
dB_sun	Sun induced stray field
DIFI	Dedicated Ionospheric Field model
DISC	(Swarm) Data, Innovation, and Science Cluster
DL	Deliverable
DLFI	Dedicated Lithospheric Field Inversion
DMPS	Defense Meteorological Satellite Program
DNS	Direct Numerical Simulation
DPA	Description of the Processing Algorithm
DPM	Detailed Processing Model
DQC	Data Quality Control
DQW	Data Quality Workshop
DS/NCI	Declaration of secrecy and non-conflict of interest
Dst	Disturbance storm time index, monitoring the strength of the magnetospheric ringcurrent
DTU	Technical University of Denmark (DK)
DTU-MI	DTU Space, division of Measurement and Instrumentation
DUT	Delft University of Technology (NL)
DVT	Data Validation Tool
DVUC	Description of the Visualization Use-Cases
DYN	Dynamic Orbit Determination
EEF	(Dayside eastward) Equatorial Electric Field, a Level-2 data product
EEJ	Equatorial Electrojet
EFD	Electric Field Detector (CSES)
EFI	Electrical Field Instrument, including the TII and the LP
ELF	Extreme-Low Frequency
EM	Engineering Model
EO	Earth Observation (ESA)
EO-Sec	ESA security office for the EO domain
EOX	EOX IT Services GmbH (AT)
ePOP	Swarm Echo
ERP	Earth Rotation Parameters (present in L1B AlgoDoc) / Earth Radiation Pressure (used by ACC community)

ESA	European Space Agency
ESAC	European Space Astronomy Centre
ESF	Equatorial Spread-F
ESL	(Swarm) Expert Support Laboratories
ESR	EISCAT Svalbard Radar
ESRIN	European Space Research Institute, Frascati (IT)
ESTEC	European Space Research and Technology Centre, Noordwijk (NL)
ETH	Eidgenössische Technische Hochschule Zürich (CH)
eu	Engineering unit
FAC	(Ionospheric) Field-Aligned Currents
FFP	Firm Fixed Price
FLR	Field Line Resonance
FMI	Finnish Meteorological Institute (FI)
FOS	Flight Operation Services
FP	Faceplate
FTE	Flux Transfer Event
FTE	Full Time Equivalent
FTP	File Transfer Protocol
FUP	Fixed Unit Price
GAP	GPS receiver-based Attitude, Position, and profiling experiment (ePOP)
GEO	Geographic coordinate system
GFZ	Helmholtz Centre Potsdam - German Research Centre for Geoscience (DE)
GMV	GMV Innovations Solutions Poland (PL)
GNSS	Global Navigation Satellite System (using the GPS (US), GLONASS (Russian), Galileo (EU) or BeiDou (Chinese) system)
GPSR	Global Positioning System (GPS) Receiver
GSE	Geocentric Solar Ecliptic coordinate system
GSFC	NASA Goddard Space Flight Center (US)
GUI	Graphical User Interface
GUT	GOCE User Toolbox
GUT	Graz University of Technology
HK	House-Keeping
HR	High Resolution
HVPS	High Voltage Power Supply
IAR	Ionospheric Alfvén Resonators

IBA	Inter Boresight Angle
IBI	Ionospheric Bubble Index, a Level-2 data product
IBP	Ionospheric Bubble Probability
IBP	Inter Boresight Parameter
ICD	Interface Control Document
ICRF	International Celestial Reference Frame
IE	Integral Equation
IfG	Institute of Geodesy of the Graz University of Technology (AT)
IGRF	International Geomagnetic Reference Field
IHFAC	Interhemispheric field-aligned current
IMDD	Instrument Measurement Data Definition
IMF	Interplanetary Magnetic Field, a magnetic field parameter
IOC	In Orbit Commissioning
IOCR	In Orbit Commissioning Review
IOP	In Orbit Performance meeting
IPF	Instrument Processing Facilities (Serco)
IPGP	Institut de Physique du Globe de Paris (FR)
IPIR	Ionospheric Plasma Irregularities and Fluctuations based on Swarm data (a Level-2 data product)
IRC	Ionospheric Radial Current
IRF	Swedish Institute of Space Physics (SE)
IRI	International Reference Ionosphere
IRM	Imaging and Rapid-scanning ion Mass spectrometer
IS radar	Incoherent Scatter radar
ISP	Instrument Source Packet
ITRF	International Terrestrial Reference Frame
ITT	Invitation To Tender
JIRA	Internet based tool (Atlassian) for tracking project issues (server located at DTU - https://jira.spacecenter.dk/)
KIN	Kinematic Precise Orbit Determination
KO	Kick-Off
Kp	Index monitoring global geomagnetic activity
KPI	Key Performance Indicator
L	Launch time of the Swarm satellites (22 Nov 2013)

L0	Level 0 (raw data direct from the satellite)
L0GF	Level 0 Generating Facility
L1	Level 1 (satellite data)
L1b	Level 1b (satellite data)
L1BOP/L1B OP	Level 1b Operational Processor
L2	Level 2 (satellite data)
L2 Cat-1	Level 2 category 1, (data processed by SCARF)
L2 Cat-2	Level 2 category 2, (data processed by PDGS)
L2PS	Level 2 Processing System (replaced by SCARF)
LA1Q	ASM Level of Signal La1 (Swarm housekeeping Level 0 product)
LC	Line Current
LEO	Low Earth Orbit
LIT	Lithospheric
LoL	Limit of Liability
LP	Langmuir Probe, part of the Electrical Field Instrument on Swarm and is also on CSES
LPGN	Laboratoire de Planétologie et Géodynamique de Nantes (FR)
LR	Low Resolution
LRR	Laser Retro-Reflector
LSB	Least Significant Bit
LUH	Leibniz Universität Hannover (DE)
LVPS	Low Voltage Power Supply
M2 tidal	Lunar M-2 tide (a Level-2 data product)
M2M	Machine to Machine
MAGNET	Operational Level 1b Magnetic processor
MGF	Magnetic Field Instrument (ePOP)
MHD	Magnetohydrodynamics
MIO	Magnetic Ionospheric field model (Swarm product)
MLT	Magnetic Local Time
MM	Mission Manager
MMA	(Swarm data derived) Model of the large-scale Magnetospheric Magnetic Field (a Level 2 data product)
MMEG	Magnetic Measurement Expert Group
MoM	Minutes of Meeting

MoU	Memorandum of understanding
MPPF	Mission Planning and Performance Facility
MRD	Mission Requirements Document
MSB	Most Significant Bit
MST	ASM on-board parameter format code
MT	Magnetotelluric
N/A	Not Applicable
NCI	Non-conflict of interest
NEC	North, East, Center coordinate system. A spherical coordinate system in relation to Earth's center
NED	North, East, Down coordinate system. A geodetic coordinate system in relation to Earth's ellipsoid model
NOA	National Observatory of Athens (GR)
NPM	New Procurements Manager
NRT	Near Real Time
OP	Operational Processor (for Cat-2 products)
OPER	Operational data (nominal)
ORBATT	Operational Level 1b orbit and attitude processor
OS	Operating System
OSU	Ohio State University (US)
PA	Product Assurance
Pc/Pi	Pulsations continuous/pulsations irregular (rapid geomagnetic variations caused by magnetospheric/ionospheric currents and waves)
PDD	Product Definition Document
PDGS	Payload Data Ground Segment
PDGSE	Payload Data Ground Segment Evolution
PDR	Preliminary Design Review
PEJ	Polar Electrojet
PFC	Parameter Format Code
PI	Principal Investigator
PID	Process ID
PLASMA	Operational Level 1b Plasma processor
PLP	Planar Langmuir Probe
PLSO	Post Launch Support Office
POD	Precise Orbit Determination
PP	Prototype Processor (for Cat-2 products)

PPS	Pulse per Second
PRD	Products routinely distributed
PRG	Products routinely generated
PSD	Power Spectral Density
PTC	Parameter Type Code
QC	Quality Control
QD	Quasi-Dipole
QL	Quick Look
QWG	Swarm Quality Working Group
R&D	Research and development
RFP/RFQ	Request for proposals/quotation
RMS	Root-mean-square
ROTI	Rate of TEC Index
S&T	Science [&] Technology Corporation (NL)
SAA	South Atlantic Anomaly
SAC-C	Satélite de Aplicaciones Científicas-C
SC & S/C	Spacecraft
SC DYN	Spacecraft Dynamics (Level 1b product)
SCARF	Satellite Constellation Application and Research Facility (replaces L2PS)
SCM	Search Coil Magnetometer (CSES)
SCT	Special Conditions to Tender
SDBR	Swarm DISC Board of Representatives (replaced by DAB)
SECS	Spherical Elementary Current System
SEFI	Single Event Functional Interrupts
Serco	Serco SpA, Frascati (IT), Serco GmbH, Darmstadt (DE) and Serco Ltd., London (GB)
SEU	Single Event Upset
SFTP	Secure File Transfer Protocol
SH	Spherical Harmonics
SH degree	Spherical Harmonics degree
SHA	Spherical Harmonic Analysis
SID	Structure ID
SIL	Scientist In the Loop. Scientist evaluating and if appropriate, adjusting the processing parameters for the purpose of improving the scientific quality of the data products
SLA	Service Level Agreement

SLR	Satellite Laser Ranging (method to determine position at a given time instant)
SMILE	Solar wind Magnetosphere Ionosphere Link Explorer
SoW	Statement of Work
SPPA	Swarm Sensor Performance, Products and Algorithms Manager (ESA/ESRIN)
SPR	Software Problem Report
Sq	Solar quiet geomagnetic variation
SR	Success Rate
SRP	Solar Radiation Pressure
SSA	Space Situational Awareness
SSFAC	Small-scale Field-Aligned Currents
SSW	Sudden Stratospheric Warming
STR	Star Tracker
STSE	Support to Science Element
SUM	Software User Manual
SVN	SVN Repository with server located at DTU. Presently, the following URLs apply: https://smart-svn.spacecenter.dk/svn/smart/SwarmESL - All, https://smart-svn.spacecenter.dk/svn/smart/SwarmL2 (heritage from the L2PS Project)
SVT	Swarm Validation Team
SW or S/W	Software
SWA, SWB, SWC	Swarm-A, -B, -C
Swarm Aurora	Finished project conducted by UoC.
Swarm Echo/ Swarm-E	A suite of eight scientific instruments on-board the CAScade, Smallsat and IOnospheric Polar Explorer (CASSIOPE) satellite. The University of Calgary's Institute for Space Research leads the science project
SYM-H	Symmetric disturbance index for the Horizontal component of the Earth's magnetic field. 1-min proxy of the (hourly) Dst index
SAA	South Atlantic Anomaly
TBC	To Be Confirmed
TBD	To Be Defined
TC	Tender Conditions/Telecommand
TDS	Test Data Set
TEB	Tender Evaluation Board

TEC	Ionospheric Total Electron Content
TFA	Time-Frequency Analysis
TII	Thermal Ion Imager, part of the Electrical Field Instrument
TM	Telemetry
TN	Technical Note
TOB	Tender Opening Board
TPM	Third Party Mission
UiB	University of Bergen (NO)
UiO	University of Oslo (NO)
ULF	Ultra-Low Frequency
UoC	University of Calgary (CA)
UoN	University of Nantes (FR)
USGS	US Geological Survey
UT	Universal Time
UXO	Unexploded Ordnance
VC4	Virtual Channel 4 (science-part of Swarm telemetry)
VFM	Vector Field Magnetometer
VIR	VirES requirement
VRE	Virtual Research Environment
WBS	Work Breakdown Structure
WDMAM	World Digital Magnetic Anomaly Map
WO	Work Order
WP	Work Package
WPD	Work Package Description
WPS	Web Processing Service by Open Consortium. Protocol can be used to retrieve data from VirES server
ZT	Zero Tracking
ZTH	Zero Tracking Harmonic Mode