Swarm 16th DQW & 2nd NanoMagSat Symposium Agenda

5 - 9 October 2026, Potsdam, Germany

Zoom link		https://gfz-de.zoom-x.de/j/66316432266?pwd=9yhW8ACbCzOeMXGqRMsnl27cqL8C2v.1	
Day 1	**Monday 5/10/2026**		
	Room	**House H**	
9:00	9:30	**Registration**	
9:30	10:00	**Welcome (Maik Thomas; Andre Lottmann; Albrecht von Bargen; Manuel Metz; Anja Strømme)**	**Moderator: Monika Korte & Claudia Stolle**
		Session 1: Mission overview and future prospects	**Chairs: Monika Korte & Anja Strømme**
10:00	10:20	Swarm mission:current status	Anja Strømme
10:20	10:40	Swarm, Swarm Friends, and Swarm DISC – Present and Future	Nils Olsen
10:40	11:00	Swarm FOS Status	Giuseppe Albini
11:00	11:20	Coffee break	
11:20	11:40	Swarm Data quality status	Leda Qamili
11:40	12:00	Constellation status of the Swarm mission	Andre Vasconcelos
12:00	12:20	Swarm Passivation Approach	Thomas Usbeck
12:20	13:00	**Open Discussion on the future of Swarm**	
13:00	**14:30**	**Lunch**	
		Session 2: L1B data quality status / 1	**Chairs: Giulia Lovati & Elisabetta Iorfida**
14:30	14:50	Swarm Magnetic Suite: Instruments overview and Processor status	Giulia Lovati
14:50	15:10	Latest on dB_Sun Characterisation	Lars Tøffner-Clausen
15:10	15:30	Swarm ASM data production status (ASM-V + Burst + whistlers)	Sasha Troncy-Portier
15:30	15:50	Coffee break	
15:50	16:10	Status of Swarm Accelerometer Level 2 Data Processing	Sergiy Svitlov
16:10	16:30	Status of Swarm GPS receiver and L2 orbit and density products	Jose Van den IJssel
16:30	16:50	Quantifying uncertainty in Swarm thermospheric density observations through data assimilation diagnostics	Isabel Fernandez-Gomez
16:50	17:00	**Discussion and Recommendations**	
17:00	**20:00**	**Ice Breaker**	

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Day 2	**Tuesday 6/10/2026**		
	Room	**House H**	
		Session 3: L1B data quality status /2	**Chairs: Roberta Forte & Chao Xiong**
9:00	9:20	Swarm Electric Field Instrument overview and Processor status	Roberta Forte
9:20	9:40	The Swarm LPs, status and developments	Stephan Buchert
9:40	10:00	ESA Swarm Satellites Plasma Density Products: Comparison and Validation against Incoherent Scatter Radars Observations	Alessio Pignalberi
10:00	10:20	PIC Modeling of LEO Langmuir Probes: Challenges, Limitations, and Mitigation Strategies	Giulio La Rovere
10:20	10:40	Update on the Thermal Ion Imager sensors and data products	Johnathan Burchill
10:40	10:50	**Discussion and Recommendations**	
10:50	11:20	Coffee break (& Posters) + group picture with a drone	
		Session 4: Swarm-based L2 data products and services	**Chairs: Carla Grüne & Kathy Whaler**
11:20	11:40	Swarm-based empirical model of Substorm Polar Electrodynamics (SUPRE)	Spencer Hatch
11:40	12:00	CHAOS model updates and investigation of unmodelled quiet-time ionospheric signals	Clemens Kloss
12:00	12:20	Toward Dynamic DIFI: Modeling Day-to-Day Ionospheric Field Variability	Arnaud Chulliat
12:20	12:40	Swarm observations in context with magnetosphere missions and models using Timeline Viewer	Eelco Doornbos
12:40	13:00	VirES for Swarm - 2026 Update	Martin Paces
13:00	13:45	(Optional) Tour of Telegrafenberg with H. Hecht (Optical Telegraph, Outside). Max 39 participants (to be pre-booked)	
13:00	**14:30**	**Lunch**	
14:30	14:50	Multi-Scale Irregularities Product: A Data Product Utilizing the High-Resolution Swarm Plasma Density Data for Space Weather Applications	Yaqi Jin
14:50	15:10	Analysis of Swarm ionospheric gradients MIGRAS data products	Mainul Hoque
15:10	15:30	Whistlers detected in the ELF from Swarm through the solar cycle 25	Pierdavide Coïsson
15:30	15:50	Updates on development and validation of the IBP models based on magnetic field and plasma density data	Claudia Stolle
15:50	16:00	**Discussion and Recommendations**	
16:00	16:30	Coffee break (& Posters)	
		Session 5: Friends of Swarm #1	**Chairs: Astrid Maute & Arnaud Chulliat**
16:30	16:50	MagQuest Update	Mike Paniccia
16:50	17:10	The COSMO Mission: Overview, First Results, and Lessons Learned	Robert Marshall*
17:10	17:30	Magnetometry in Miniature: The Io-1 Cubesat Mission	Hugo Shelley
17:30	17:50	Platform Magnetometer Data – Calibration Approach and Update on Cryosat-2 and GRACE-FO Data Provision	Nils Olsen
17:50	18:00	**Discussion and Recommendations**	

*remote participant

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Day 3	**Wednesday 7/10/2026**		
	Room	**House H**	
		Session 6: Swarm Science and Projects	**Chairs: Reham Elhawary & Jose Van den IJssel**
9:00	9:20	Analysis of the 2010 reversal of core-surface flow beneath the Pacific Ocean from 28 years of satellite data	Frederik Dahl Madsen*
9:20	9:40	Sampling the core-mantle boundary field from the Swarm era to deep past	Sanja Panovska
9:40	10:00	Core field model uncertainties and resolution estimates	Chris Finlay
10:00	10:20	Mapping the 4-D sensitivity of the ocean-induced magnetic field to the ocean flow and conductivity	Jakub Velímský
10:20	**11:20**	**Coffee break, Posters & Tool Demos**	
11:20	11:40	CMAG: High-Degree Crustal Magnetic Field Recovery from CHAMP and Swarm Observations	Manoj Nair
11:40	12:00	Multi-Domain Regional Solutions for Geomagnetic Field Modeling from Multi-Satellite Missions with Heterogeneous Spatio-Temporal Coverage	Erwan Thébault
12:00	12:20	Plasma wake effect of Swarm at the equator	Hermann Lühr
12:20	12:40	Interannual variations of F-region ionospheric currents throughout one Solar cycle as seen by LEO satellites	Martin Fillion
12:40	13:00	Recent and ongoing contributions to the Swarm work on field-aligned currents	Octav Marghitu
13:00	13:10	**Discussion and Recommendations**	
13:10	**14:30**	**Lunch**	
		Boat Trip	

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19:00	**Dinner at Braumanufaktur Forsthaus Templin** **https://www.braumanufaktur.de/**

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Day 4	**Thursday 8/10/2026**		
	Room	**House H**	
		Session 7: Extreme Events	**Chairs: Ewa Słomińska & Clemens Kloss**
9:00	9:20	Persistent GNSS Loss-of-Lock from Swarm mission during High Solar Activity and beyond	Michael Pezzopane
9:20	9:40	Incorporating MSS-1 and Swarm into multi-satellite analysis of particle flux in the South Atlantic Anomaly during the 2024 geomagnetic storms	Hannah Rogers
9:40	10:00	Solar Wind–Magnetosphere Coupling and FAC-driven Joule heating as Primary Drivers of Thermospheric Mass Density Enhancements During Extreme Geomagnetic Storms	Giulia D'Angelo
10:00	10:10	**Discussion and Recommendations**	
10:10	**11:10**	**Coffee break, Posters & Tool Demos**	
		Session 8: Friends of Swarm #2	**Chairs: Hannah Rogers & Claudia Stolle**
11:10	11:30	Geomagnetic activity storm and substorm indices derived from Swarm and CryoSat observations	Constantinos Papadimitriou
11:30	11:50	An update on the high-quality magnetic field data from MSS-1 mission: Advanced in-flight calibration and quality improvement	Jiaxuan Zhang
11:50	12:10	CSES-02 Mission: Overview, In Orbit Tests and Preliminary outcomes	Rui Yan
12:10	12:30	Connecting data and tools across DISC and beyond	Ashley Smith
12:30	12:40	**Discussion and Recommendations**	
12:40	**13:00**	**Overall recommendation and closing remarks**	
13:00	**13:45**	(Optional) Tour of Telegrafenberg with L. Grunewald (Great Refractor). Max 39 participants (to be pre-booked)	
13:00	**14:30**	**Lunch**	
		Session 9: NanoMagSat Programmatic and operation	**Chairs: Anja Strømme & Pierdavide Coïsson**
14:30	14:45	Introduction to NanoMagSat Symposium	Gauthier Hulot
14:45	15:00	NanoMagSat, the ESA perspective	Jean-Pascal Lejault
15:00	15:15	NanoMagSat Programmatic update	Florian Deconinck
15:15	15:30	Big Science, Small Box: NanoMagSat Operations and Data Delivery	Ed Chester
15:30	16:00	Coffee break	
		Session 10: NanoMagSat design and payload status	**Chairs: Gauthier Hulot & Florian Deconinck**
16:00	16:15	NanoMagSat Boom & Optical Bench. Development and Qualification Tests	Jorge Pinazo *
16:15	16:30	NMS Platform and GNSS Update	Nicholas Hwang
16:30	16:45	Status of the magnetic payload for NMS : MAM & HFM instruments from CEA-Leti	Thomas Jager
16:45	17:00	The established performance envelope of the NanoMagSat Star Tracker Platform	Christian Bang Stoltze
17:00	17:15	Latest on NanoMagSat m-NLP payload and E2E simulations	Lasse Clausen
17:15	18:00	**Discussion and Recommendations**	

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Day 5	**Friday 9/10/2026**		
	Room	**House H**	
		Session 11: NanoMagSat Data Processing and End-to-End simulations	**Chairs: Fabrice Cipriani & Arnaud Chulliat**
9:00	9:15	NanoMagSat GNSS L2/L3 data processing and End-to-End simulations	Maximilien Salinas
9:15	9:30	Magnetic and Star Tracker L2 data processing and End-to-End simulations	Robin Deborde
9:30	9:45	NanoMagSat precise orbit determination	Jose Van den IJssel
9:45	10:00	Recovering fast core field signals with NanoMagSat	Gauthier Hulot
10:00	10:15	NanoMagSat website	Audrey Le Reun
10:15	10:30	NMS Data access and plans to use VirES	Sasha Troncy-Portier
10:30	10:50	**Discussion and Recommendations**	
10:50	11:10	Coffee break	
		Session 12 (part 1): NanoMagSat Science	**Chairs: Erwan Thébault & Alexander Grayver**
11:10	11:30	NanoMagSat and Data Continuity for the WMM	Arnaud Chulliat
11:30	11:50	Recovering equatorial electrojet signals from NanoMagSat	Patrick Alken
11:50	12:10	NanoMagSat and Ocean-induced Magnetic Fields	Chris Finlay
12:10	12:30	Advanced Science observation of the NanoMagSat Star Trackers	John Jørgensen
12:30	**13:50**	**Lunch**	
		Session 12 (part2): NanoMagSat Science and supporting data/missions	**Chairs: Alessio Pignalberi & Lasse Clausen**
13:50	14:10	Potential of NanoMagSat in situ measurements of electron temperature and density for studying the global Ionosphere	Vladimir Truhlik*
14:10	14:30	Small-scale ionospheric electron density structuring observed by the m-NLP instrument	Lasse Clausen
14:30	14:50	NanoMagsat Level 3 TEC: Science applications	Lucas Schreiter
14:50	15:10	GNSS ionospheric occultations and whistlers observation opportunities with NanoMagSat	Pierdavide Coïsson
15:10	15:30	Coffee break	
15:30	15:50	A Network of Ground-based Broadband ELF Stations: Capabilities and Applications for the NanoMagSat Mission	Janusz Mlynarczyk*
15:50	16:10	Potential multi-mission synergy with the TRACERS mission	David Miles
16:10	16:30	TRACERS Observations of Whistler Mode Waves: Polarization, Propagation, and Inferred Plasma Conditions	David Hartley*
16:30	16:50	Tha CANVAS mission	Robert Marshall*
16:50	**18:00**	**General Discussion and End of Symposium**	

*remote participant

Poster session

Poster board Nr.	Title	Author
1	Swarm PDGS Status	Livia D'Alba
2	Swarm PDGS Migration to EOF-EOS G-POS Architecture	Antonio de la Fuente
3	Signatures in Swarm ASM Burst Data: Power Line Emissions and Density-Irregularity-Modulated Narrowband Signals	Adam Emsley
4	Artificial signals of Swarm LP/FP plasma density over the magnetic equator	Chao Xiong
5	Characteristics of the difference between ASM and VFM of Swarm	Chao Xiong
6	Te spike trains	Matthias Foerster
7	AUX OBS Improvements, MMA Status and GVO Gradient Developments	Natalia Gomez Perez
8	Swarm Level 2 ionospheric gradient indices NIX & TIX: status & development towards FAST implementation	Juan Andrés Cahuasquí
9	Current status of GFZ Swarm FAST L2 data products	Guram Kervalishvili
10	Swarm data access, analysis and visualization using GeospaceLAB	Lei Cai
11	Global geomagnetic field evolution back through time	Monika Korte
12	Geomagnetic field modeling on millennial timescales - methods and applications	Maximilian Schanner
13	IGRF 13 SV 'forecasts' and further computational forecast 'experiments'	Martin Rother
14	Swarm data quality implications for resolving core surface flow	Kathy Whaler
15	Core magnetic field and associated surface flow variations from 1999 to 2025	Vincent Lesur*
16	Regional internal field model of the Philippines for 2020 to 2025 from Swarm, MSS-1 and ground data	Patrick Joseph Robles*/ Will Brown
17	Error analysis of high-resolution lithospheric magnetic field models	Callum Watson
18	Modelling of the ocean-induced magnetic field based on empirical orthogonal functions	Carla Grüne
19	MOSAIC 3D midlatitude ionospheric trough model based on Swarm	Máté Tomasik
20	Subauroral plasma boundaries and associated magnetospheric phenomena	Balazs Heilig
21	Coupled Thermosphere–Ionosphere–Plasmasphere Disturbances during the April 2023 Geomagnetic Storm: A Multiparametric Study Based on Ground-Based and Swarm Observations	Loredana Perrone
22	Swarm Investigation of Space Weather and Natural Hazards Effects	George Balasis

23	SUNHi - Swarm-based ULF Natural Hazard index - a concept for studying magnetic perturbations in regions of active volcanos	Ewa Słomińska
24	Swarm Electron Temperature: A Definitive Predictor of STEVE Continuum and Enhanced IR Emission	Andrew Yau
25	Statistical analysis of neutral mass density scale height using coplanar measurements from multiple missions	Lei Cai
26	Machine Learning-based Modeling of the Variability of Small- and Mesoscale Magnetic Field Perturbations at High Latitudes from Swarm Data	Levan Lomidze
27	Deep learning for detection of plasma irregularities	Tarique Siddiqui
28	Science highlights from the SUPRE model	Reham Elhawary
29	Swarm dual-satellite field-aligned current products during close orbit separation: the DULCE project	Adrian Blagau*
30	ESA Swarm 4D Ionosphere: Key Final Results from the Five Core Projects and Three Cross-Collaborative Studies	Elisabetta Iorfida
31	Characteristics Disturbance Characteristics at Middle and Low Latitudes During the May 2024 Geomagnetic Storm	Jia Zhu
32	Persistence and Dynamics of an Sq-like Mid-Latitude Current Vortex During the May 2024 Superstorm	Fengjue Wang
33	Comprehensive Calibration of the MSS-1 Magnetic Field for Next-Generation Data Products	Ligang Li
34	The MSS Data Center: Infrastructure, Daily Operations, and Data Processing Workflow	Sen Li
35	Comparison of scalar lithospheric magnetic anomaly derived from CSES-01/02 satellite data	Jie Wang
36	CSES-02 Electric Field Detector for the characterization of Ionospheric Plasma Dynamics	Mirko Piersanti
37	Equatorial Ionization Anomaly Crest Position and Width: Characterization and Modeling Using COSMIC-1, COSMIC-2, and Swarm Observations	Melessew Gereme
38	A physics-based approach to modeling the Earth's Sq geomagnetic field	Wenbo Li
39	Lithospheric Magnetic Field Modeling over China Using CHAMP, Swarm, MSS-1, and Aeromagnetic Data	Zhengyang Wu
40	New model and validation of rapidly varying ionospheric, magnetispheric and induced sources from multi-satellite and ground observations	Alexander Grayver
41	Remote magnetic-field measurements with EZIE: comparison with Swarm-derived models	Karl Laundal
42	Space Weather Monitoring Capabilities of ESA’s Swarm & SMOS Missions	Lorenzo Trenchi
43	Multi mission slant TEC from Swarm and Sentinel. Applications for the Ionospheric transition region.	Lucas Schreiter
44	ESA MAGNIFY: MAGnetometry driven Next generation Investigations for Field sensing with emerging quantum technologY	Will Brown
45	New e-POP/Swarm-E data products	Andrew White
46	Synergies and data quality of planned SAWA mission	Paweł Jujeczko
47	10 Years of OSCAR & Future Mission Prospects for Diamond-based Quantum Sensors	Jaroslav Hruby
48	DIAMAGRAD - Diamond magnetic field and radiation sensing for earth observation	Siemen Achten