

MMS Fall 2022 Science Working Team Meeting

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MEETING LOGISTICS & HOW-TOS

Everyone in the MMS team is welcome to attend.

No registration is required.

Signing up for presentation is closed. Please do not edit this page.

Organizing team: Narges.Ahmadi@lasp.colorado.edu, Bob.Ergun@lasp.colorado.edu, Yi.Qi@lasp.colorado.edu, Alexandros.Chasapis@lasp.colorado.edu, Hadi.Madani@lasp.colorado.edu, Frederick.Wilder@uta.edu

MEETING ZOOM DETAIL (*All Sessions*)

Join Zoom Meeting

<https://cuboulder.zoom.us/j/98909187071>

Meeting ID: 989 0918 7071

[Zoom Details](#)

MEETING SLACK DETAILS

[Instructions: using Slack for conversations during the Fall 2022 SWT meeting](#)

Join our Slack => https://join.slack.com/t/mmsswt2022/shared_invite/zt-1gsr6h0zo-LyUZfzbUQDbU0wqG6n4~Vw

MEETING SCHEDULE				
	Monday (3 Oct)	Tuesday (4 Oct)	Wednesday (5 Oct)	Thursday (6 Oct)
Morning Session		Plenary #1	Plenary #3	Plenary #5

(10a-12p Eastern; 8a-10a Mountain; 7-9a Pacific; 4-6p Paris; 11p-1a Tokyo)		Mission Updates	Magnetotail Physics	Collisionless Shocks
Afternoon Session	Instrument Meetings and SWG	Plenary #2 Magnetic Reconnection	Plenary #4 Dayside Processes	Plenary #6 Turbulence and Waves
(1-3p Eastern; 11a-1p Mountain; 10a-12p Pacific; 7-9p Paris; 2-4a Tokyo)	(set up by individual teams)			

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Plenary Session #1

Tuesday, Oct 4 (Morning)

10:00 am - 12:00 pm Eastern
(7-9a Pacific; 8-10a Mountain; 4-6p Paris; 11p-1a Tokyo)

Mission Updates

SESSION PRESENTATIONS AND RECORDINGS

Chairs/Organizers: Narges Ahmadi/Alex Chasapis

Presenter	Talk Title	Time
Narges Ahmadi (LASP)	Welcome & Meeting Logistics	10 min
Jim Burch (SwRI)	Project Updates	10 min
Gina Lafferty (LASP)	POC Updates	20 min
Chris Riley (MOC)	MOC Updates	20 min
Trevor Williams (FDOA)	FD updates	20 min
Yoshifumi Saito (ISAS/JAXA)	Current status of Geotail	5 min

Plenary Session #2

Tuesday, Oct 4 (Afternoon)

1:00 pm - 3:15 pm Eastern
(10a-12:15p Pacific; 11a-1:15p Mountain; 7-9:15p Paris; 2-4:15a Tokyo)

Magnetic Reconnection

SESSION PRESENTATIONS AND RECORDINGS

Chairs/Organizers: Bob Ergun/Yi Qi

Presenter	Talk Title	Time
Dominic Payne (UMCP)	Relating the Growth of the Reconnection Rate to the Temporal Evolution of X-line Structures (2D PIC).	15 min
Jim Burch (SwRI)	Electron Heating in the Magnetic Reconnection Inflow Region.	15 min
Jeffersson Agudelo Rueda (Dartmouth College)	On the Effect of Driving Turbulence on Magnetic Reconnection: A Particle-In-Cell Simulation Study.	15 min

Plenary Session #3

Wednesday, Oct 5 (Morning)

10:00 am - 12:00 pm Eastern
(7-9a Pacific; 8-10a Mountain; 4-6p Paris; 11p-1a Tokyo)

Magnetotail Physics

SESSION PRESENTATIONS AND RECORDINGS

Chairs/Organizers: Rick Wilder/Narges Ahmadi

Presenter	Talk Title	Time
Gabor Toth (UMic)	Magnetotail simulations with MHD-AEPIC (MHD with adaptively embedded PIC)	15 min
Justin Bowman (West Virginia University)	Comparison of Sub-proton Scale Magnetic Holes in the Magnetosheath and Magnetotail	15 min
Neha Pathak (LASP)	Evidence of a Non-Orthogonal X-line in Guide-Field Magnetic Reconnection	15 min

Eric Grimes (UCLA)	MMS in SPEDAS (IDL and Python)	10 min

Mohammed Baraka (LPP, France)	Study of a dayside magnetopause reconnection event detected by MMS and related to a large-scale solar wind perturbation and cold ions.	15 min
Milton Arencibia (West Virginia University)	3D Anti-Parallel Reconnection Spreading in Non-Uniform Current Sheets and Application to the Near-Earth Magnetotail	15 min
Hiroshi Hasegawa (ISAS, JAXA)	Origin of positive and negative energy conversion rate $j \cdot E$ in an electron-scale reconnecting current sheet at the magnetopause	15 min
Harsha Gurram (UMD /GSFC)	Investigating kinetic signatures of magnetic reconnection at the dawn-side magnetopause during magnetic storm-time conditions	15 min
Jonathan Ng (UMD /GSFC)	Investigating the effect of the lower-hybrid drift instability on asymmetric reconnection – simulations and laboratory experiments	15 min
Seung ho Choi (UMD /GSFC)	Electron heating along the separatrix due to whistler waves in asymmetric magnetic reconnection	15 min

Cecilia Norgren (UIB)	Cessation and restart of magnetic reconnection in the magnetotail	15 min
Louis Richard (IRFU)	Ion temperature anisotropy in magnetotail plasma jets	15 min
Hiroshi Matsui (UNH)	Dipolarization Events With Inductive E Fields Observed by MMS and Van Allen Probes	15 min
Daniel Graham (IRFU)	Plasma frequency waves in Earth's magnetotail	15 min
Tien Vo (LASP)	A statistical study of particle energization associated with field turbulence in the magnetotail plasma sheet	15 min

Plenary Session #4

Wednesday, Oct 5 (*Afternoon*)

**1:00 pm - 3:15 pm Eastern
(10a-12:15p Pacific; 11a-1:
15p Mountain; 7-9:15p
Paris; 2-4:15a Tokyo)**

Dayside Processes

Plenary Session #5

Thursday, Oct 6 (*Morning*)

**10:00 am - 12:15 pm
Eastern
(7-9:15a Pacific; 8-10:15a
Mountain; 4-6:15p Paris;
11p-1:15a Tokyo)**

Plenary Session #6

Thursday, Oct 6 (*Afternoon*)

**1:00 pm - 3:30 pm Eastern
(10a-12:30p Pacific; 11a-1:
30p Mountain; 7-9:30p
Paris; 2-4:30a Tokyo)**

Turbulence and Waves

SESSION PRESENTATIONS AND RECORDINGS

Chairs/Organizers: Yi Qi/Hadi Madanian

Presenter	Talk Title	Time
Souhail Dahani (IRAP, France)	The helicity sign of Flux Transfer Event flux ropes and its relationship to the guide field and Hall physics in magnetic reconnection at the magnetopause.	15 min
Brandon Burkholder (GSFC/UMBC)	Global MHD simulations and MMS observations of the storm-time magnetopause boundary	15 min
Frederick Wilder (UTA)	Interplay between whistler waves and parallel electric fields in magnetosheath reconnection.	15 min
Tsige Atilaw (CLaSP/UMich)	A statistical study of storm-time magnetic flux dynamics using cross-scale observations from the Heliophysics System Observatory (HSO)	15 min
Rachel Rice (UMD/GSFC)	An MMS/THEMIS Conjunction in the Storm Time Magnetosphere, Boundary Layer, and Sheath	15 min
Nathan Miles (UCLA)	Magnetic entanglement events in the MMS data between 2015-2016	15 min
Jason Shuster (UMD/GSFC)	Temporal, spatial, and velocity-space variations of electron phase space density within electron-scale current layers at the magnetopause	15 min
Mark Hubbert (UCLA)	Audification and Statistical Properties of Magnetosheath Lion Roars and Relevant Solar Wind Conditions	15 min
Manuel Enrique Cuesta (UDelaware)	A statistical study of magnetic curvature	15 min

Collisionless Shocks

SESSION PRESENTATIONS AND RECORDINGS

Chairs/Organizers: Hadi Madanian/Narges Ahmadi

Presenter	Talk Title	Time
Martin Lindberg (KTH)	MMS observation of two step electron acceleration at Earth's bow shock	15 min
Ahmad Lalti (IRFU)	Short wavelength electrostatic wave measurement using MMS spacecraft	15 min
Ivan Vasko (Berkeley)	Ion-acoustic waves in the Earth's bow shock	15 min
Jiepu Sun (presented by Ivan Vasko)	Double layers and electron heating in the Earth's bow shock	15 min
Naoki Bessho (UMCP/GSFC)	Electron acceleration and heating by magnetic reconnection in the Earth's quasi-parallel bow shock	15 min
Naritoshi Kitamura (Nagoya U.)	Observational evidence of nonlinear growth of whistler-mode waves around quasi-perpendicular bow shocks	15 min
Takanobu Amano (Tokyo U.)	Roles of whistler-mode waves for the electron injection at collisionless oblique shocks	15 min
Li-Jen Chen (GSFC)	A reconnection EDR in the temperature ramp of a bow shock: implications on how reconnection modifies the bow shock structure	15 min
Charles Farrugia (UNH)	Bow shock and magnetopause dynamics during passage of a complex ejecta on April 29-21, 2020: MMS and Cluster Observations	15 min

SESSION PRESENTATIONS AND RECORDINGS

Chairs/Organizers: Alex Chasapis/Narges Ahmadi

Presenter	Talk Title	Time
Arya Afshari (U Iowa)	Observation of ion cyclotron resonance in magnetosheath turbulence	15 min
Riddhi Bandyopadhyay (Princeton)	Turbulent energy transfer and proton-electron heating in collisionless plasmas	15 min
Yan Yang (UDelaware)	Quantifying anisotropy of proton-electron heating in collisionless plasmas	15 min
Francesco Pecora (UDelaware)	Relaxation of the turbulent magnetosheath	15 min
Sohom Roy (UDelaware)	Statistics of Energy Dissipation rate at Reconnection Sites	15 min
Harry Lewis (Imperial)	The Influence of Plasma Conditions on Electric Fields in Magnetosheath Turbulence	15 min
Julia Stawarz (Imperial)	Magnetosheath Turbulence and Its Similarities and Differences to Turbulence in the Solar Wind	15 min
Paul Cassak (West Virginia University)	New Theoretical Developments on Energy Conversion via the Pressure-Strain Interaction	15 min
Hasan Barbhuiya (West Virginia University)	Physics of Pressure-Strain Interaction in Simulations of Magnetic Reconnection	15 min
William H. Matthaeus (UDelaware)	Collisional-like dissipation in collisionless plasma	15 min

