Artemis II and Space Weather

Elana Resnick

ARTEMIS I

First Mission
(Uncrewed Test Flight)

COMPLETE

ARTEMIS II

First Artemis Crew

COMPLETE

ARTEMIS III

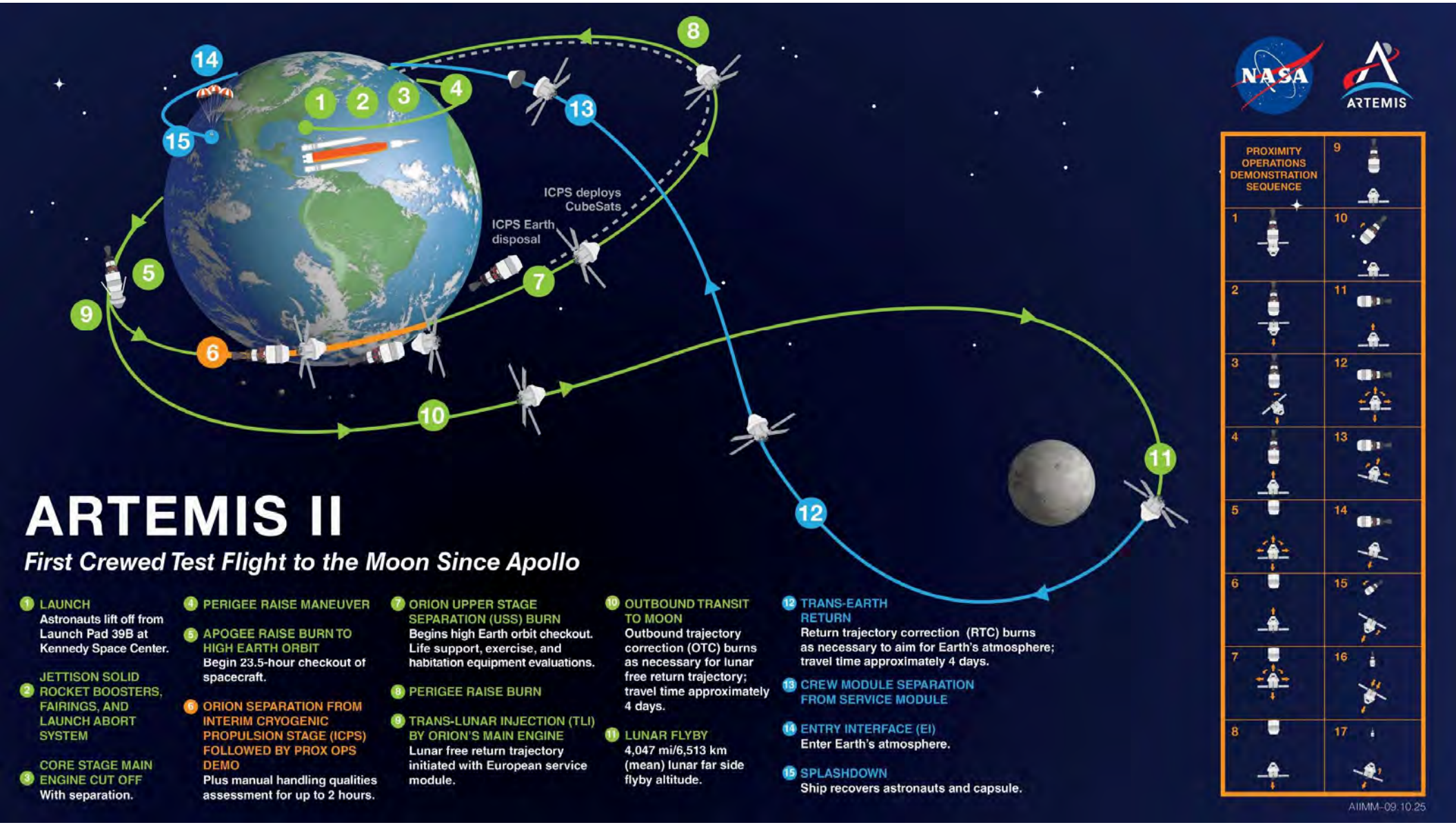
First Artemis Docking in Space
With Human Landing System

ARTEMIS IV

First Artemis
Human Surface Landing

ARTEMIS V+

Annual Mission Cadence
Sustained Lunar Presence



ARTEMIS II

First Crewed Test Flight to the Moon Since Apollo

1 LAUNCH
Astronauts lift off from Launch Pad 39B at Kennedy Space Center.

2 JETTISON SOLID ROCKET BOOSTERS, FAIRINGS, AND LAUNCH ABORT SYSTEM

3 CORE STAGE MAIN ENGINE CUT OFF
With separation.

4 PERIGEE RAISE MANEUVER

5 APOGEE RAISE BURN TO HIGH EARTH ORBIT
Begin 23.5-hour checkout of spacecraft.

6 ORION SEPARATION FROM INTERIM CRYOGENIC PROPULSION STAGE (ICPS) FOLLOWED BY PROX OPS DEMO
Plus manual handling qualities assessment for up to 2 hours.

7 ORION UPPER STAGE SEPARATION (USS) BURN
Begins high Earth orbit checkout. Life support, exercise, and habitation equipment evaluations.

8 PERIGEE RAISE BURN

9 TRANS-LUNAR INJECTION (TLI) BY ORION'S MAIN ENGINE
Lunar free return trajectory initiated with European service module.

10 OUTBOUND TRANSIT TO MOON
Outbound trajectory correction (OTC) burns as necessary for lunar free return trajectory; travel time approximately 4 days.

11 LUNAR FLYBY
4,047 mi/6,513 km (mean) lunar far side flyby altitude.

12 TRANS-EARTH RETURN
Return trajectory correction (RTC) burns as necessary to aim for Earth's atmosphere; travel time approximately 4 days.

13 CREW MODULE SEPARATION FROM SERVICE MODULE

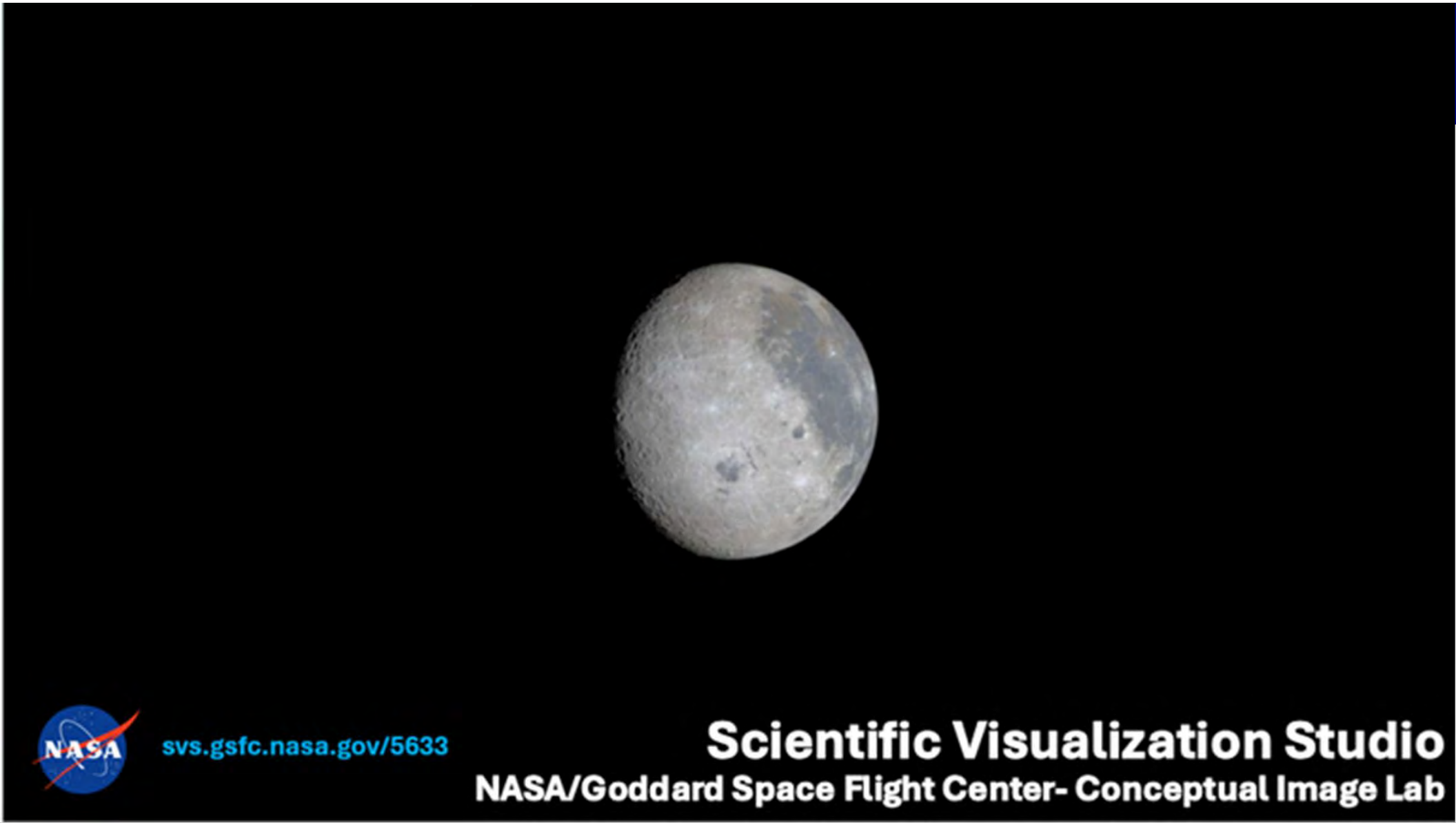
14 ENTRY INTERFACE (EI)
Enter Earth's atmosphere.

15 SPLASHDOWN
Ship recovers astronauts and capsule.

NASA ARTEMIS

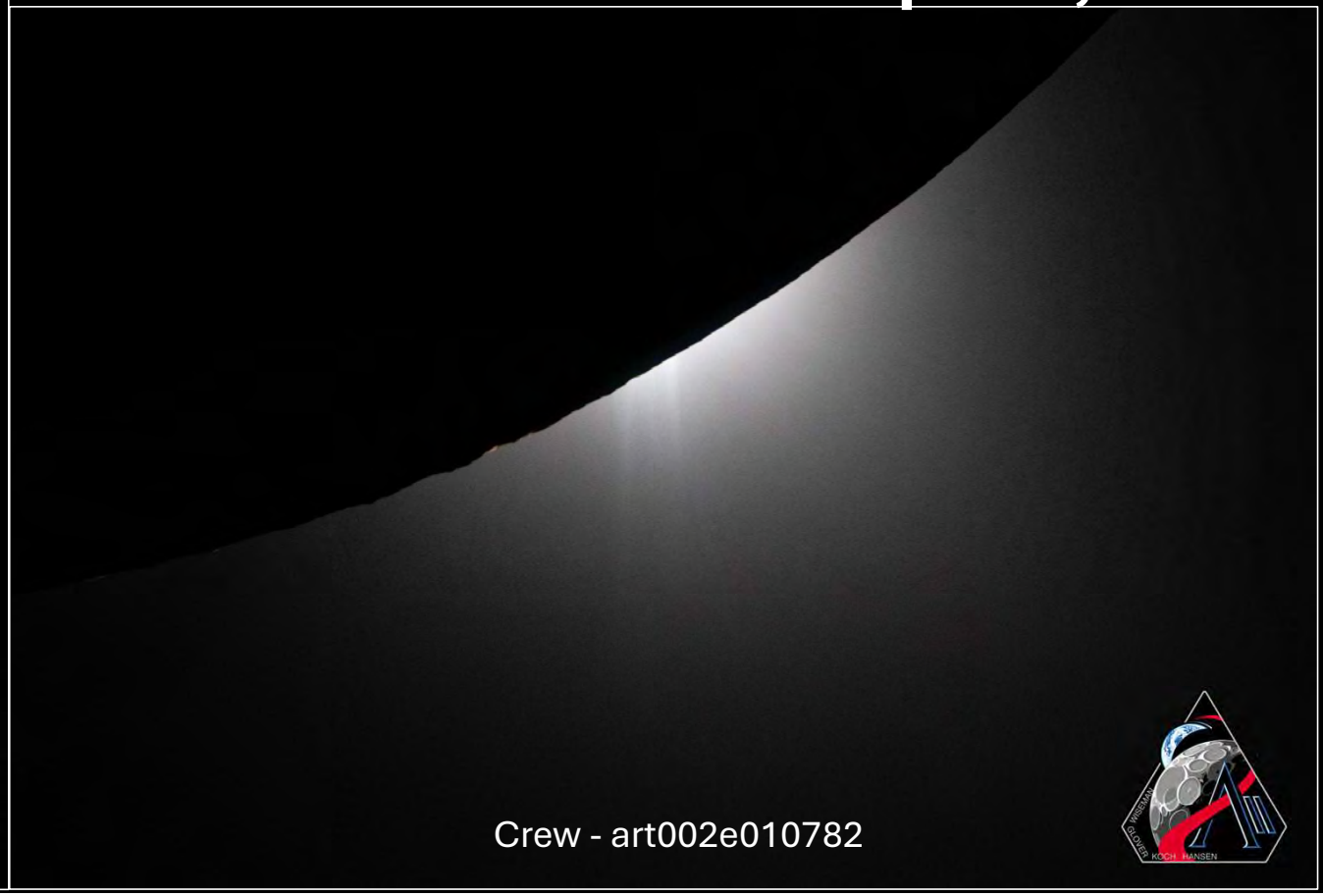
PROXIMITY OPERATIONS DEMONSTRATION SEQUENCE	9
1	10
2	11
3	12
4	13
5	14
6	15
7	16
8	17

AIIMM-09.10.25


svs.gsfc.nasa.gov/5633
Scientific Visualization Studio
NASA/Goddard Space Flight Center- Conceptual Image Lab

Solar eclipse photos
Captured by Orion capsule & crew
April 6, 2026

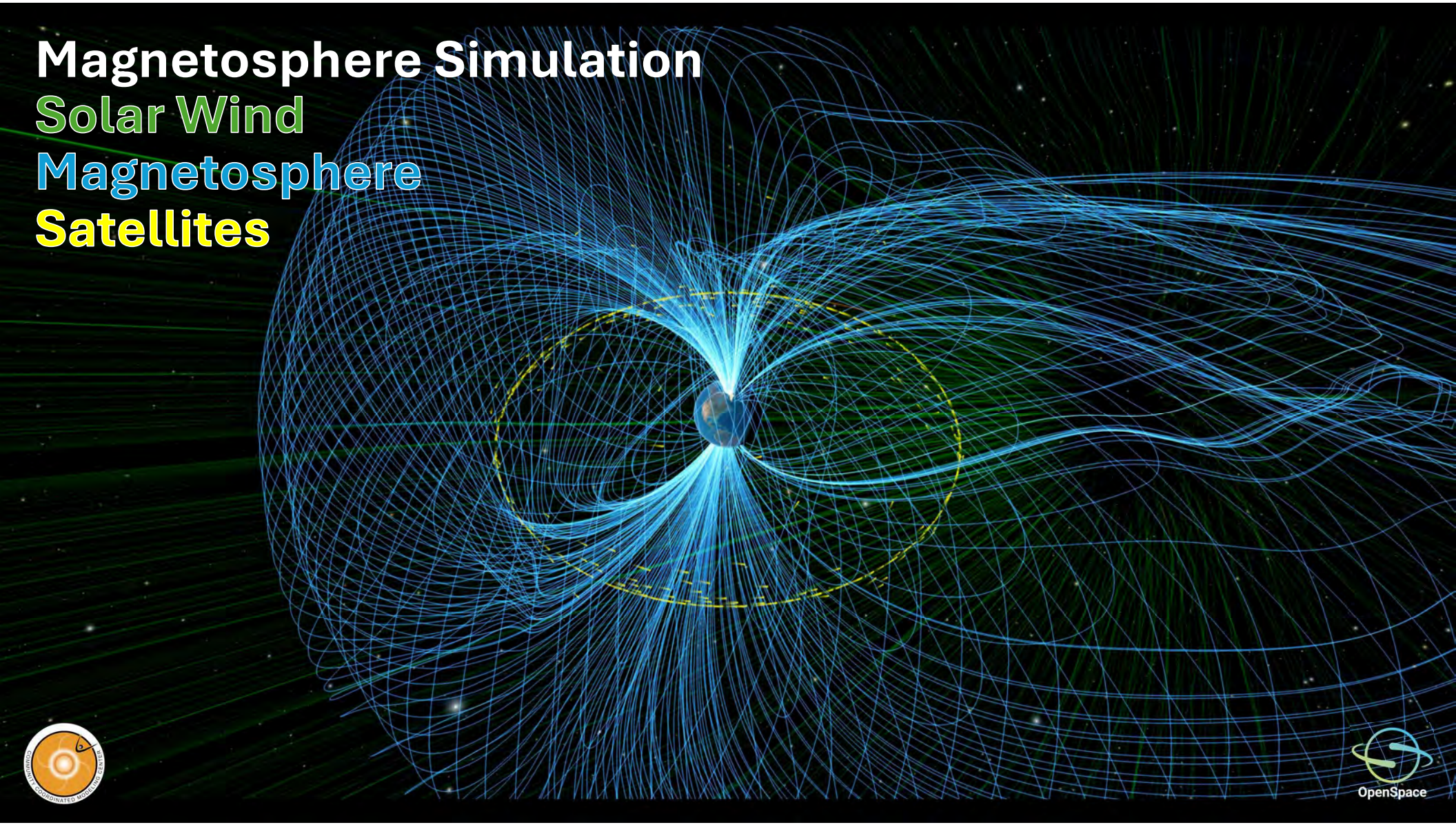
Orion - art002e009299



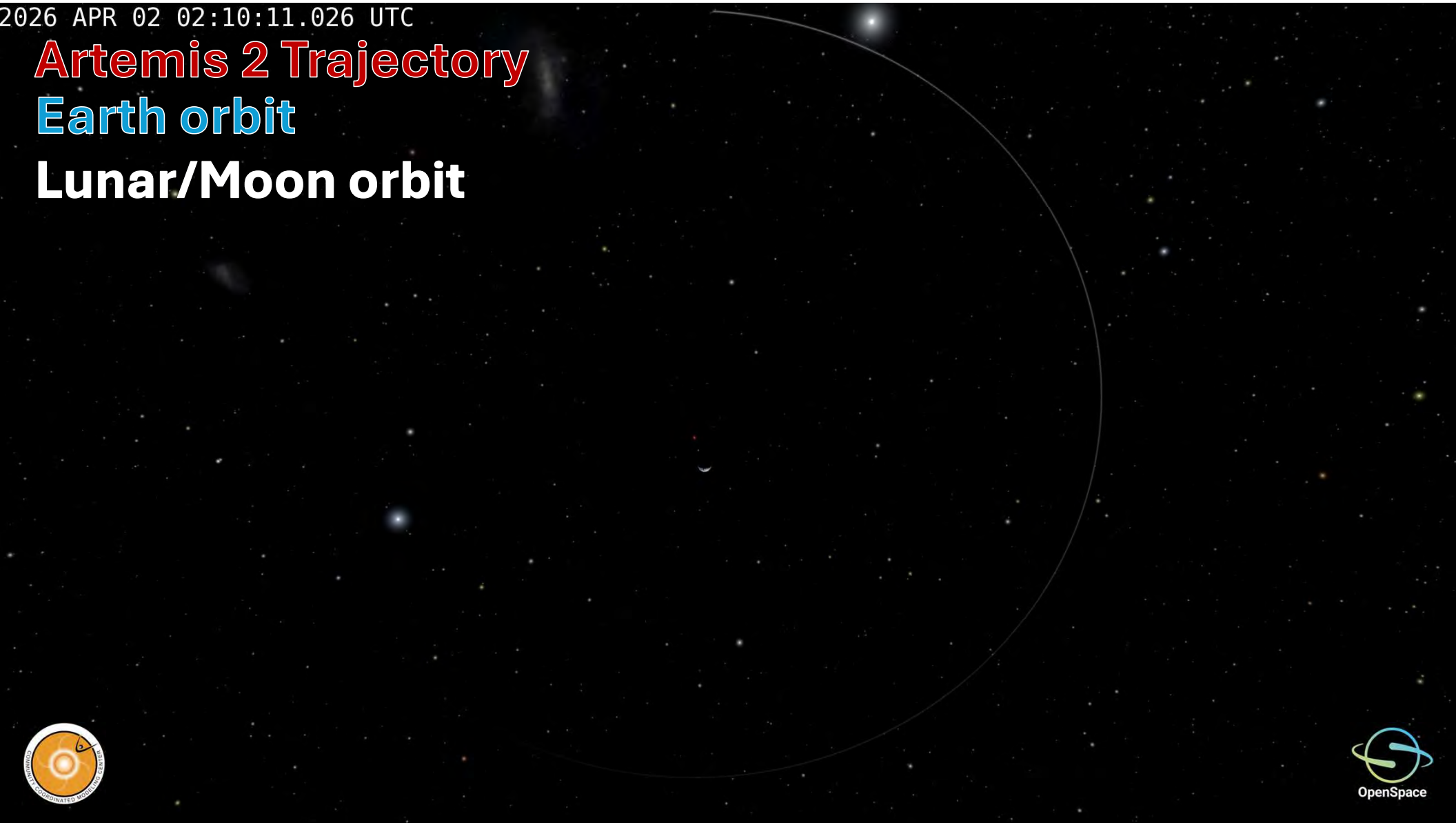
Crew - art002e010782


COMMUNITY COORDINATED MODELING CENTER
OpenSpace


COMMUNITY COORDINATED MODELING CENTER
OpenSpace


Magnetosphere Simulation
Solar Wind
Magnetosphere
Satellites
OpenSpace


Magnetosphere Simulation
Solar Wind
Magnetosphere
Lunar/Moon orbit
OpenSpace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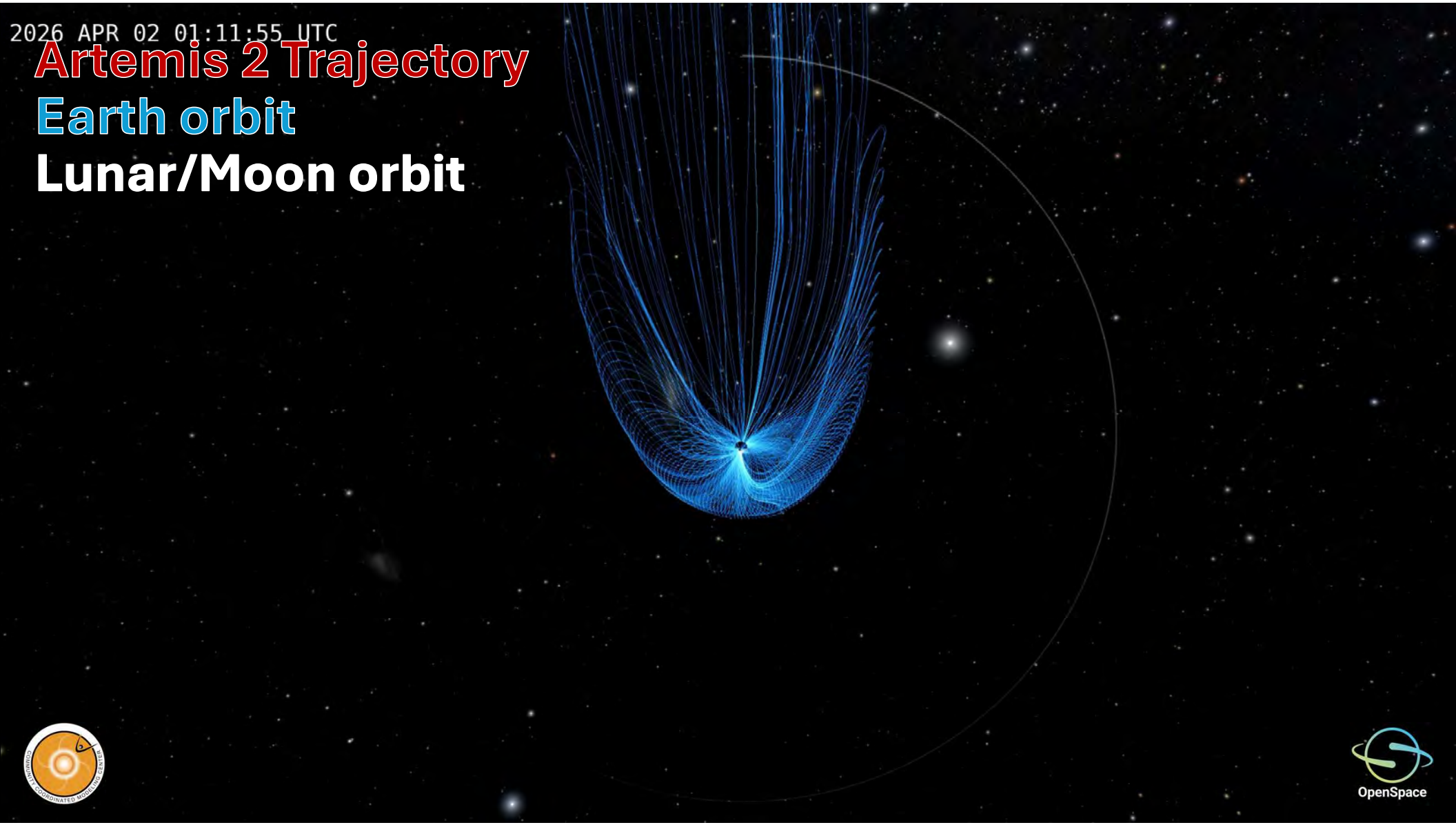
Artemis 2 Trajectory
Earth orbit
Lunar/Moon orbit
OpenSpace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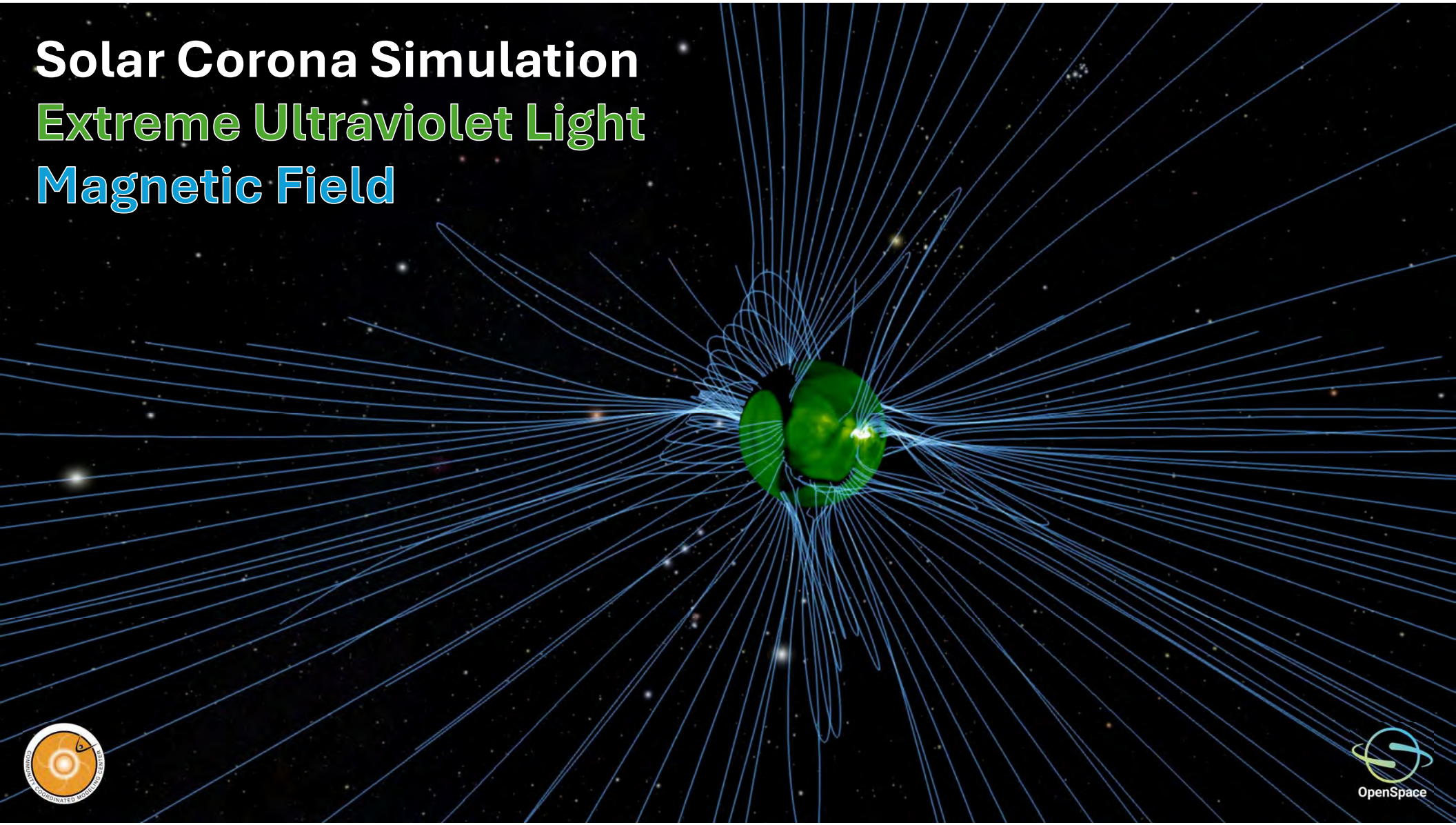
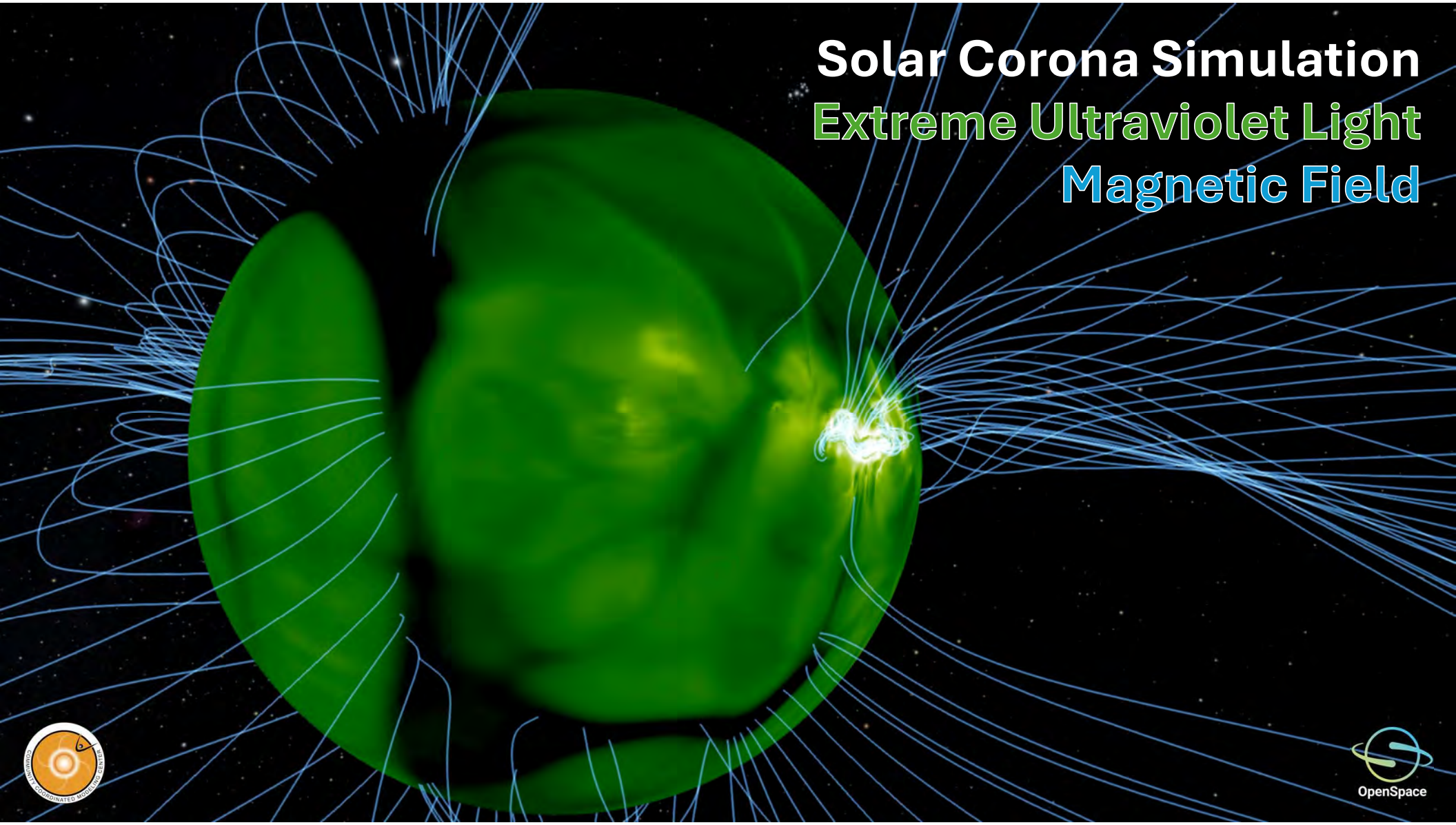
Artemis 2 Trajectory
Earth orbit
Lunar/Moon orbit
OpenSpace


Solar Corona Simulation
Extreme Ultraviolet Light
Magnetic Field
OpenSpace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Extreme Ultraviolet Light
Magnetic Field
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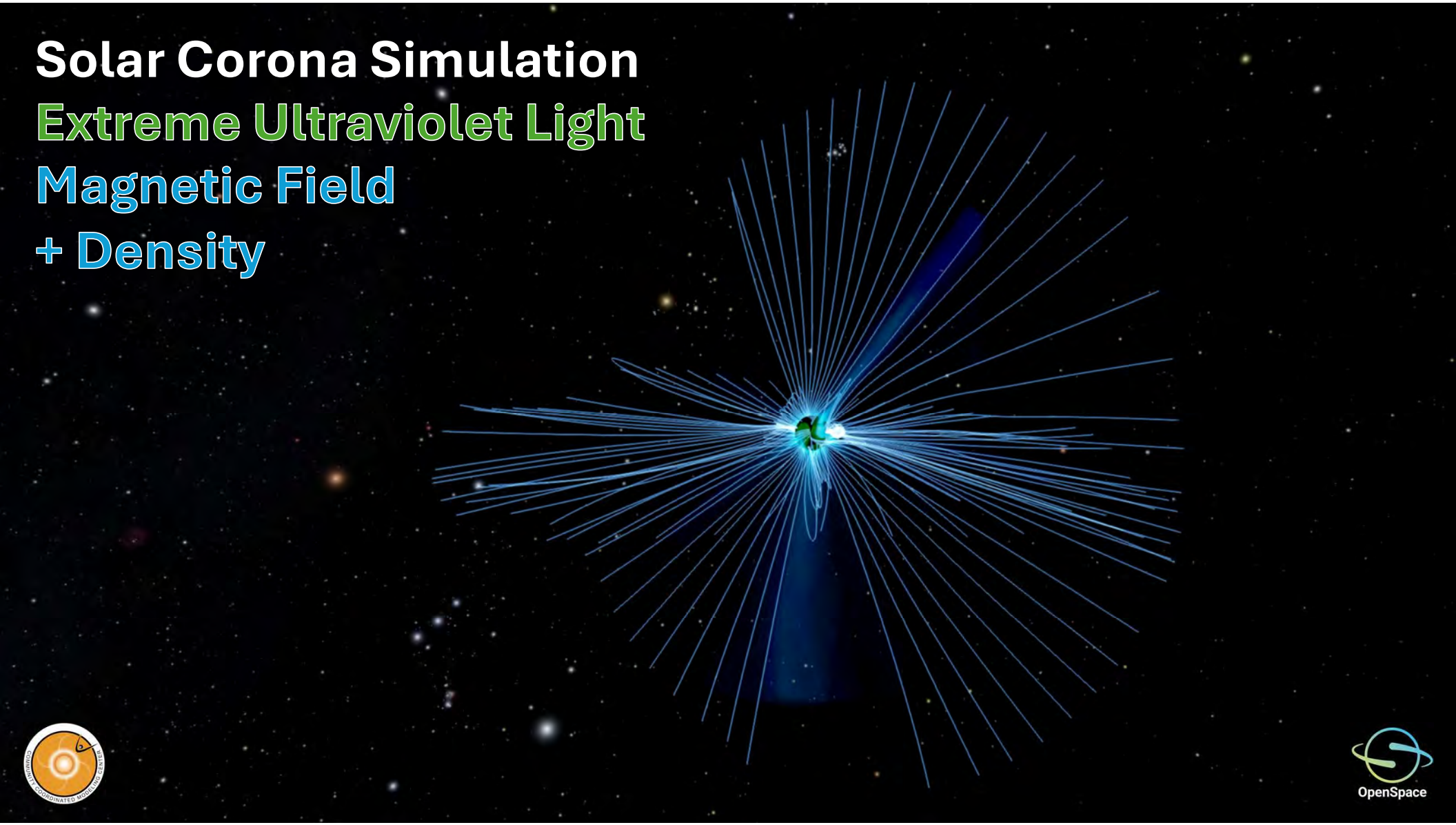
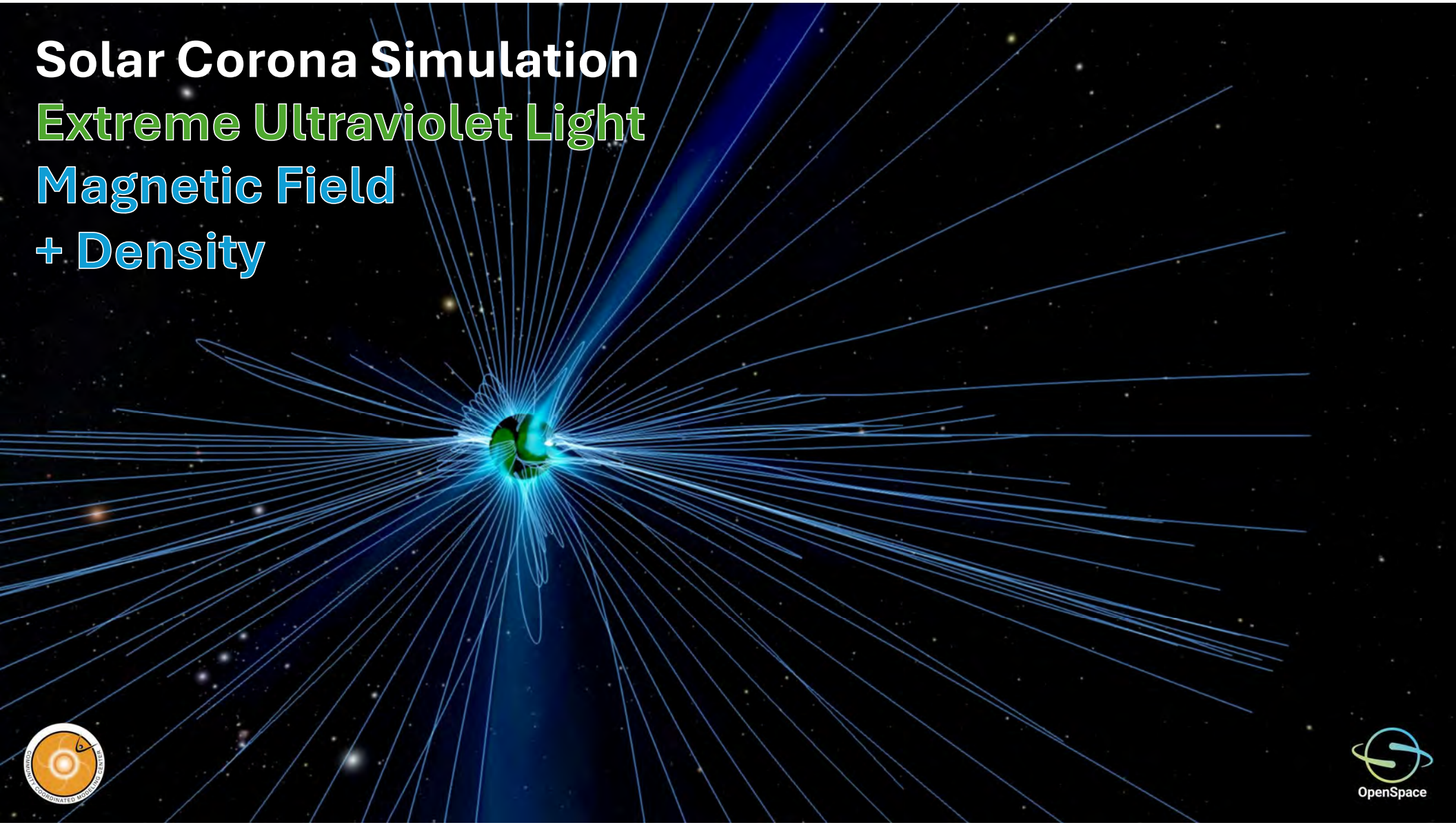
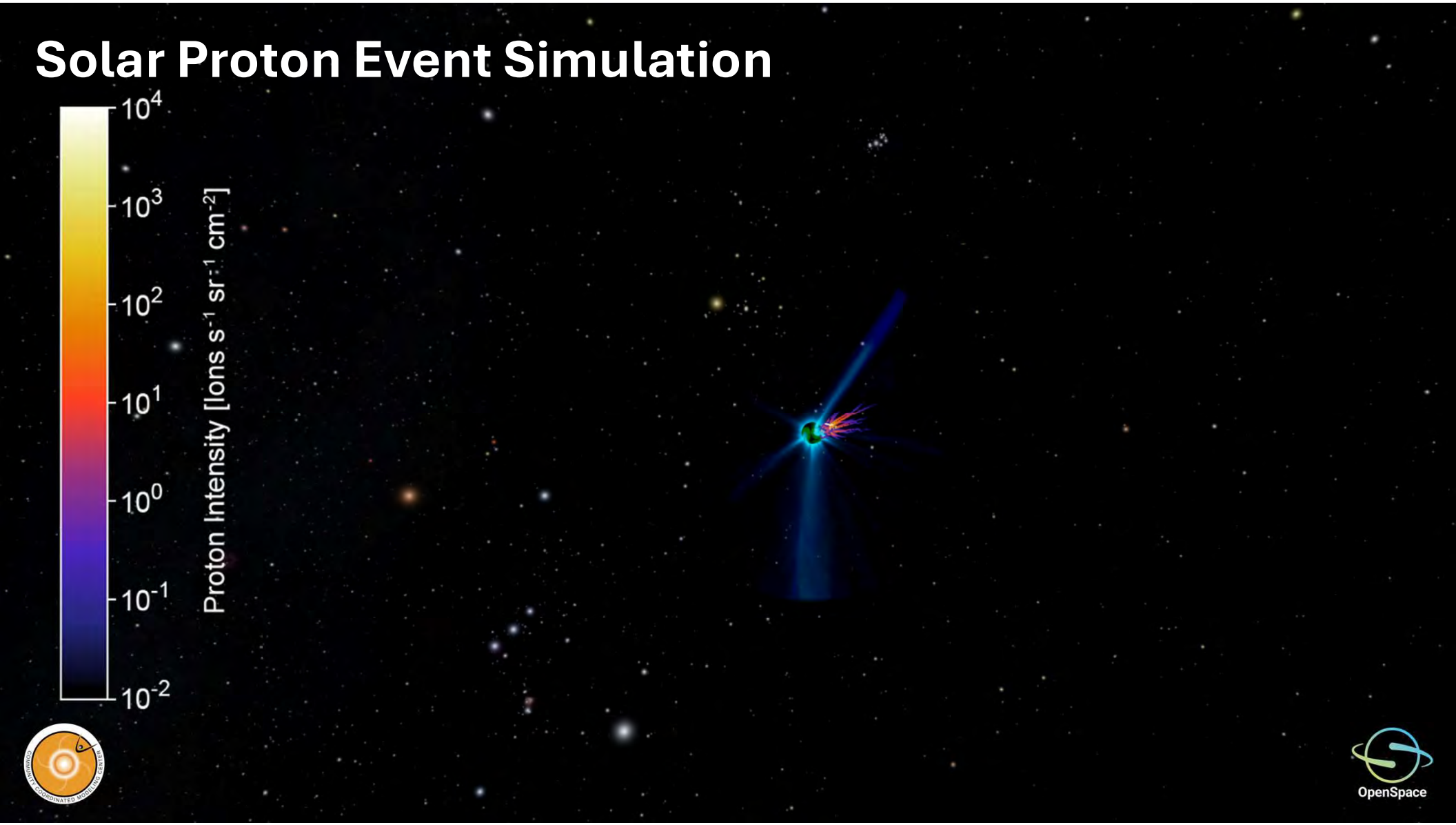

Solar Corona Simulation
Extreme Ultraviolet Light
Magnetic Field
+ Density
OpenSpace


Solar Corona Simulation
Extreme Ultraviolet Light
Magnetic Field
+ Density
OpenSpace

Solar Proton Event Simulation



Solar Proton Event Simulation

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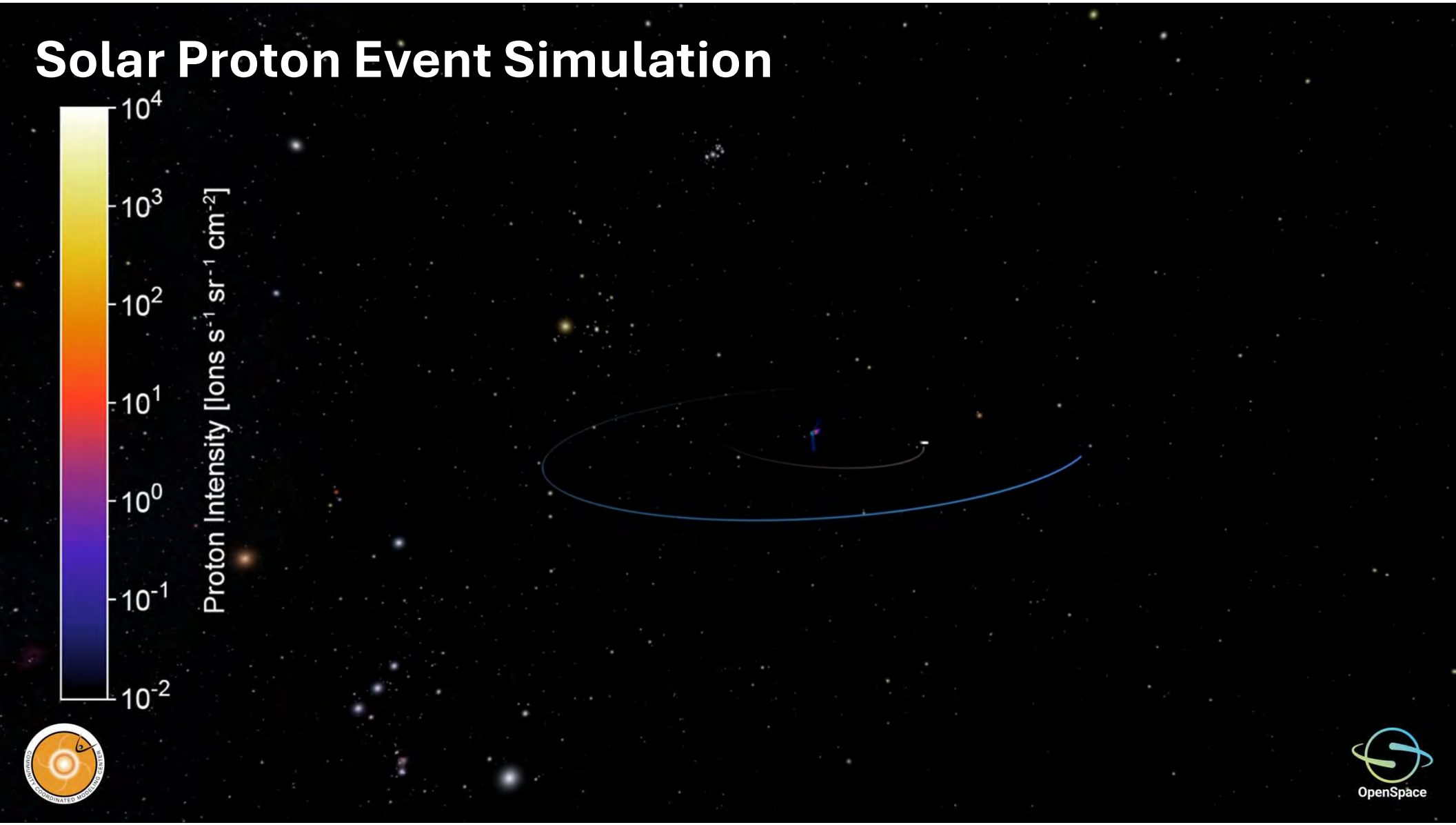
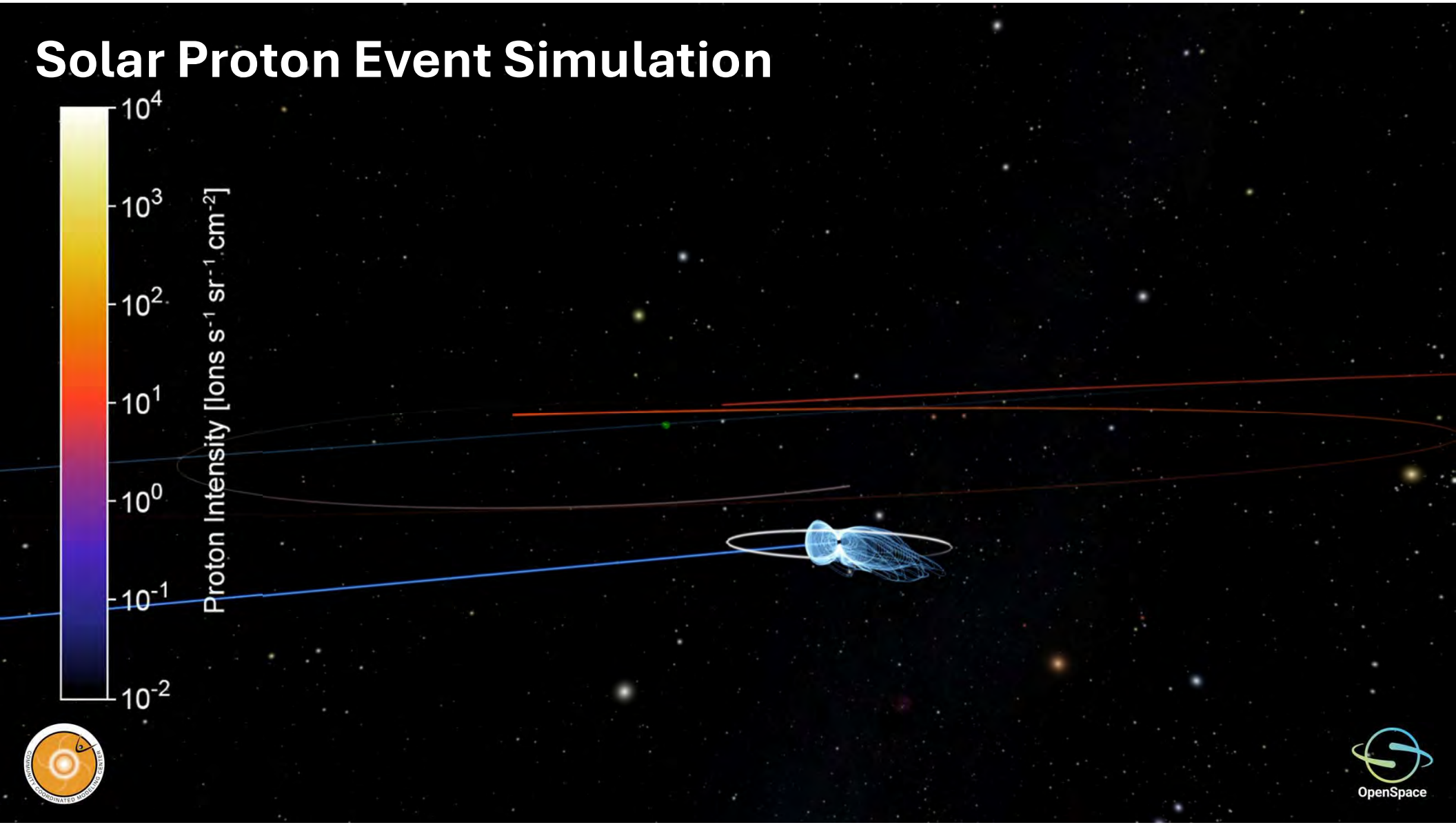
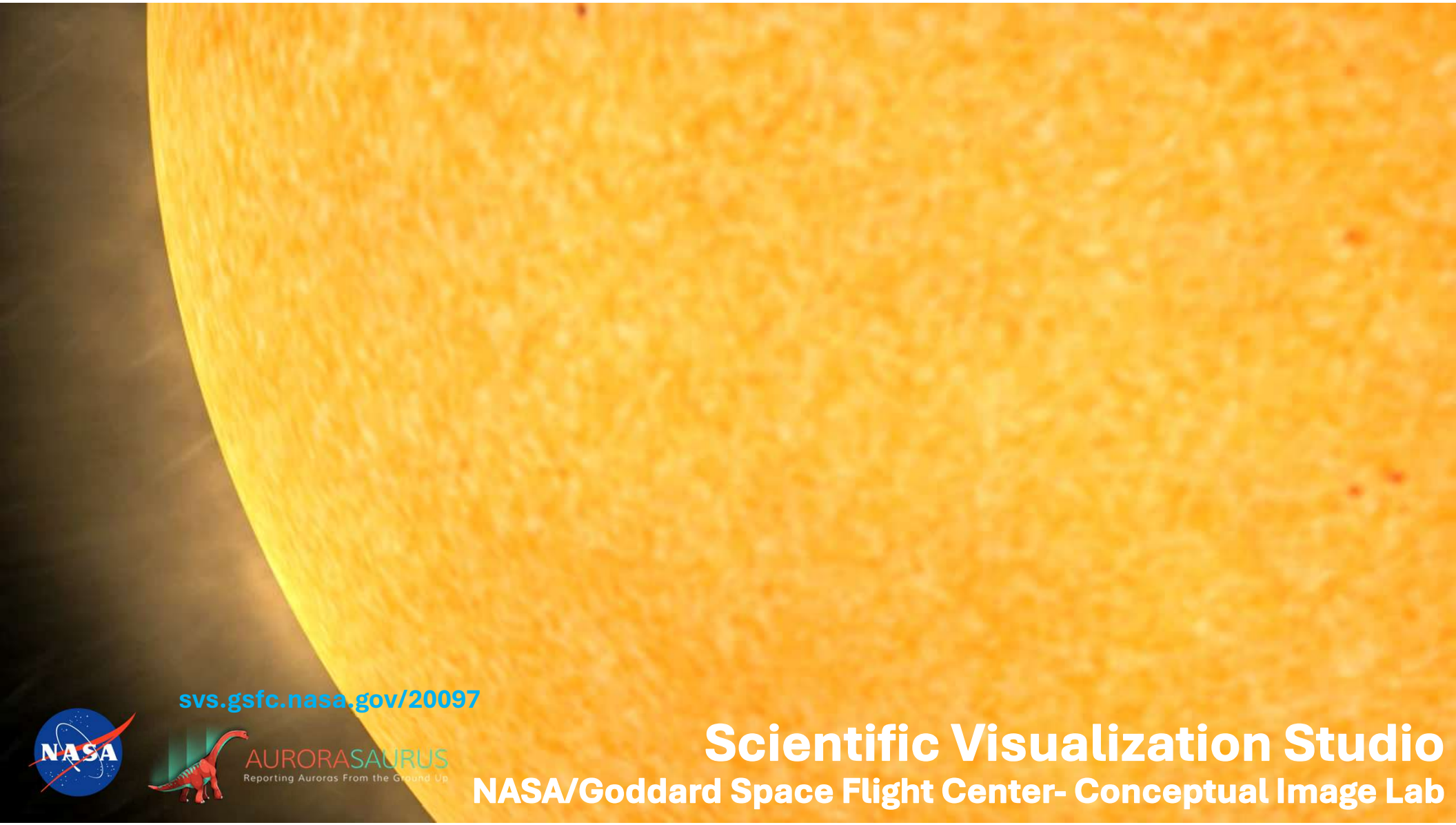


Solar Proton Event Simulation

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NASA
AURORASAURUS
Reporting Auroras From the Ground Up
Scientific Visualization Studio
NASA/Goddard Space Flight Center- Conceptual Image Lab


November 11, 2025
October 10, 2024
Baltimore County, MD
Free alerts!
AURORASAURUS
Reporting Auroras From the Ground Up

CCMC Tool Highlights:

ISWA

Integrated Space Weather Analysis (ISWA)Provides general space weather context and event chain, useful for anomaly analysis

https://tinyurl.com/iswaccmc

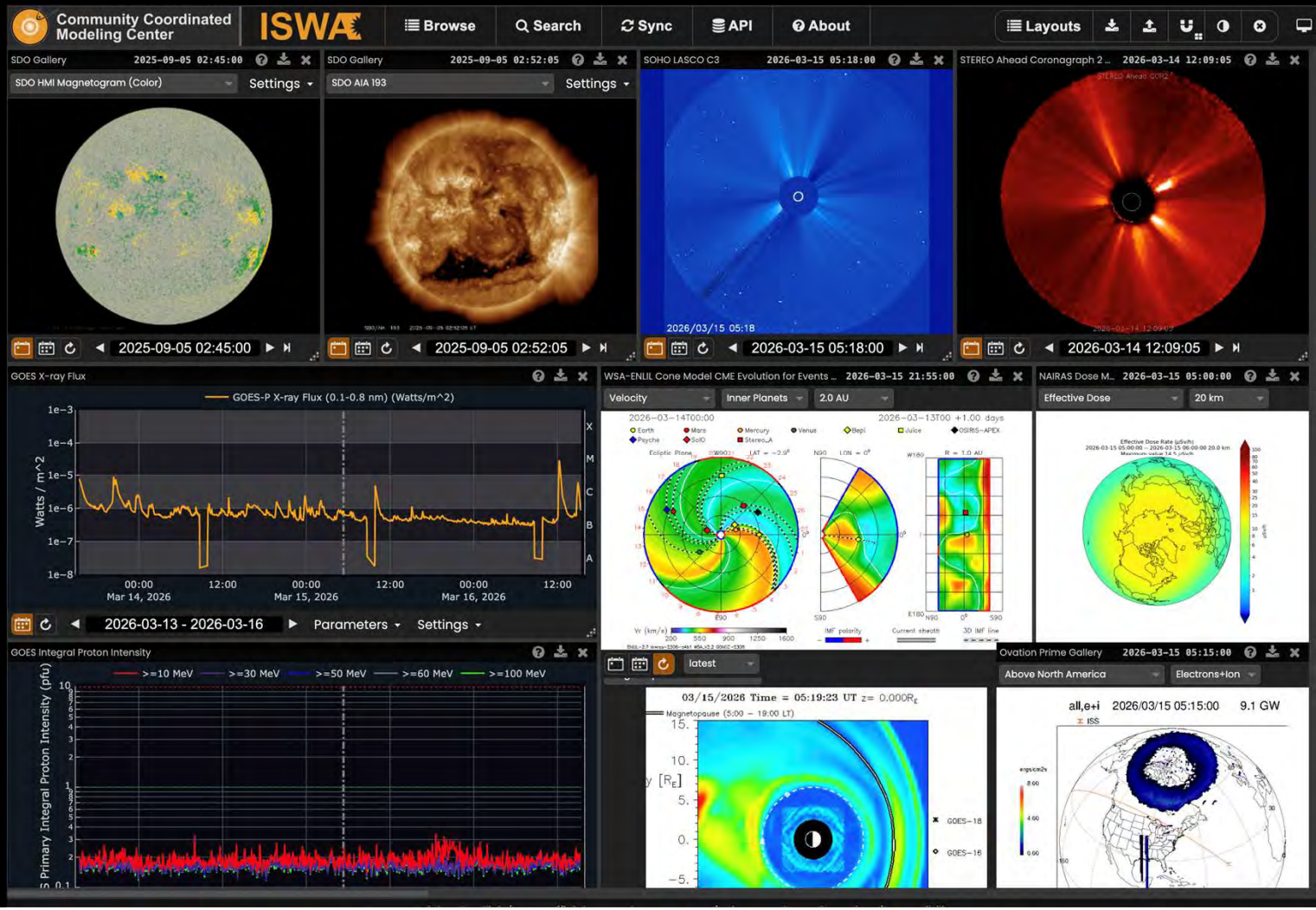
CCMC Space Weather DONKI-Dash

Database
Of
Notifications,
Knowledge,
Information

https://tinyurl.com/donkidash

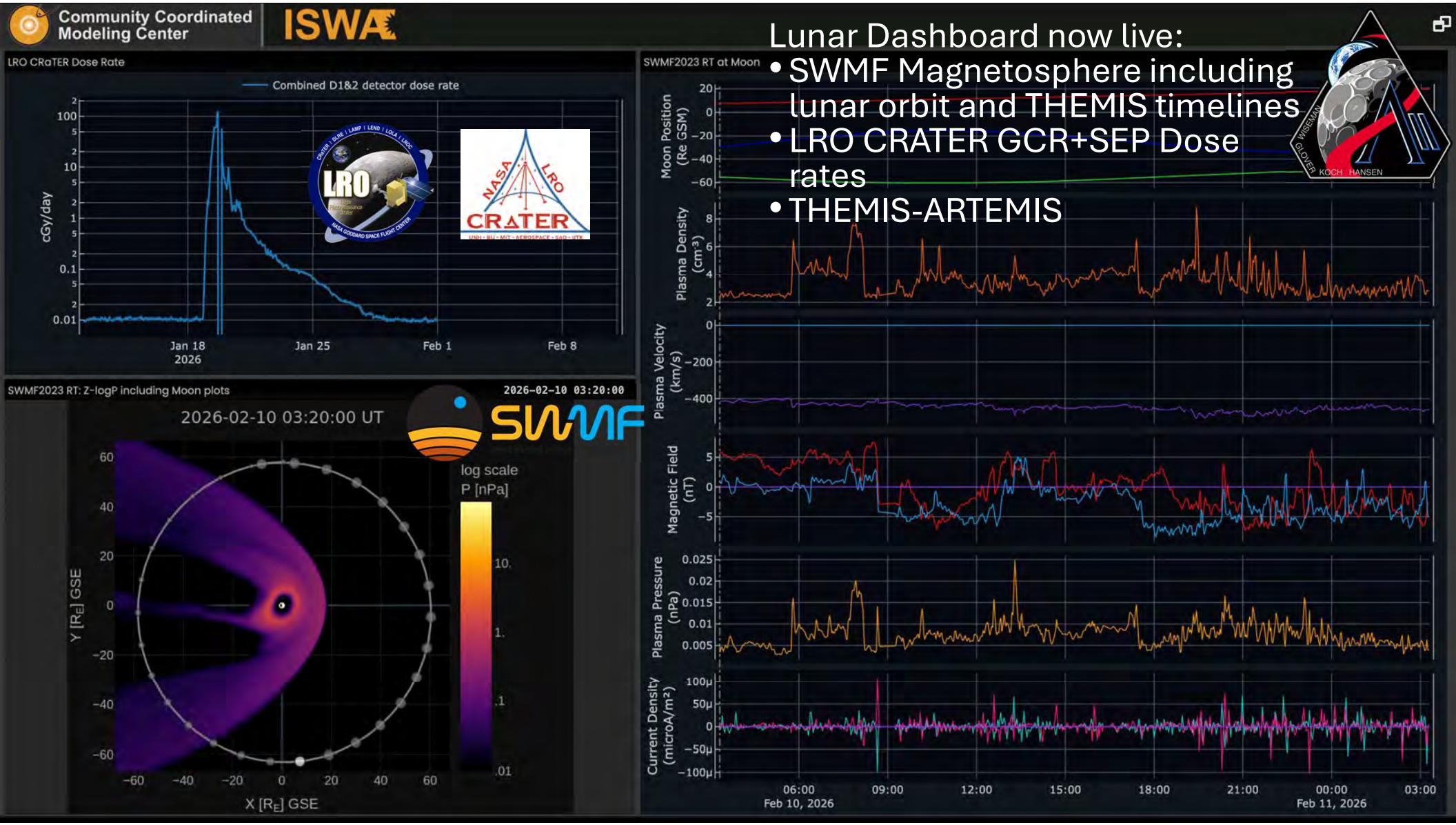
Integrated Space Weather Analysis (ISWA)

A flexible user-configurable system for space weather monitoring, forecasting, anomaly analysis event analysis and system science (operational since 2010)



https://iswa.ccmc.gsfc.nasa.gov/

https://tinyurl.com/iswaccmc



Lunar Dashboard now live:

- SWMF Magnetosphere including lunar orbit and THEMIS timelines
- LRO CRATER GCR+SEP Dose rates
- THEMIS-ARTEMIS

Home | CCMC

Gemini

https://ccmc.gsfc.nasa.gov

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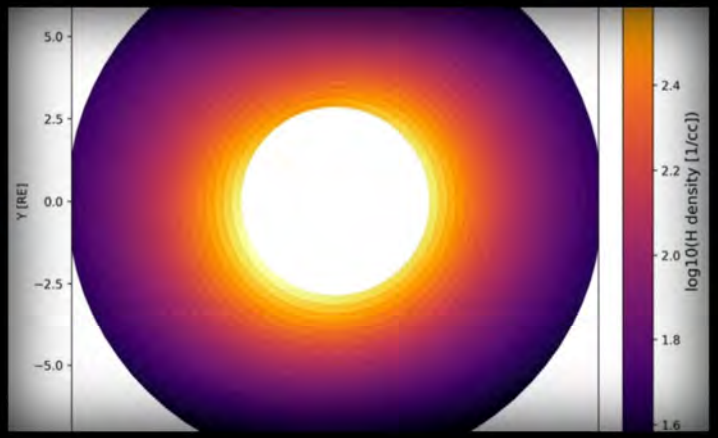
News:
ExosPy

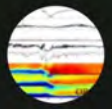
The ExosPy 2.3 is now available to the community through the CCMC Instant run Service.

Read More



CAMEL Updates

Validation



ORIENT

Simulation Service

PHaRLAP

Simulation Service

Our Mission

Thank you!
Questions?

Photo by Danielle Buggé

April 1, 2026
Kennedy Space Center, Florida