TOR VERGATA
UNIVERSITÀ DEGLI STUDI DI ROMA
Dipartimento di Fisica

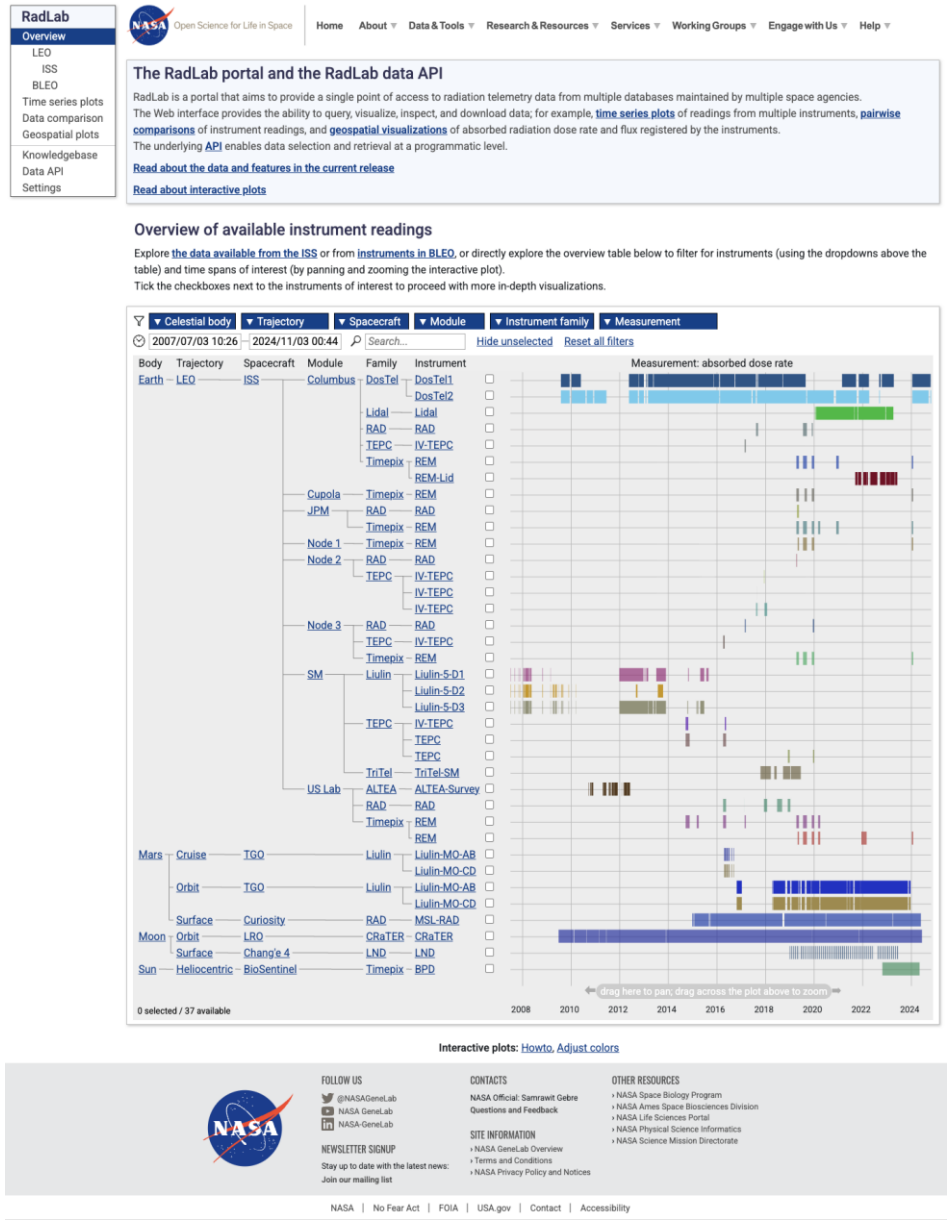
HSERLAB
Human Space Exploration Radiation LAB

A RadLab-based paper ?

Livio Narici



RadLab (…. from WRMISS2025)



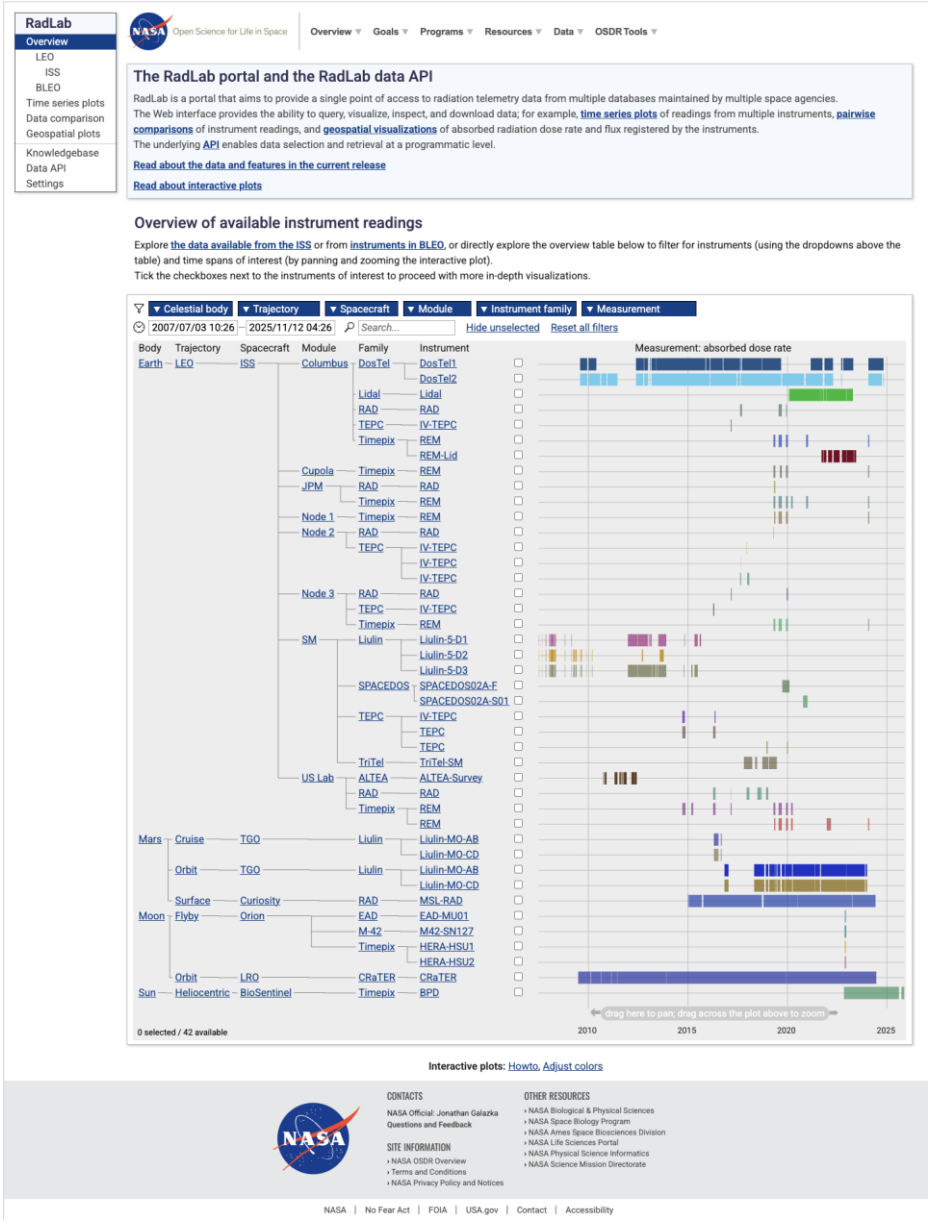
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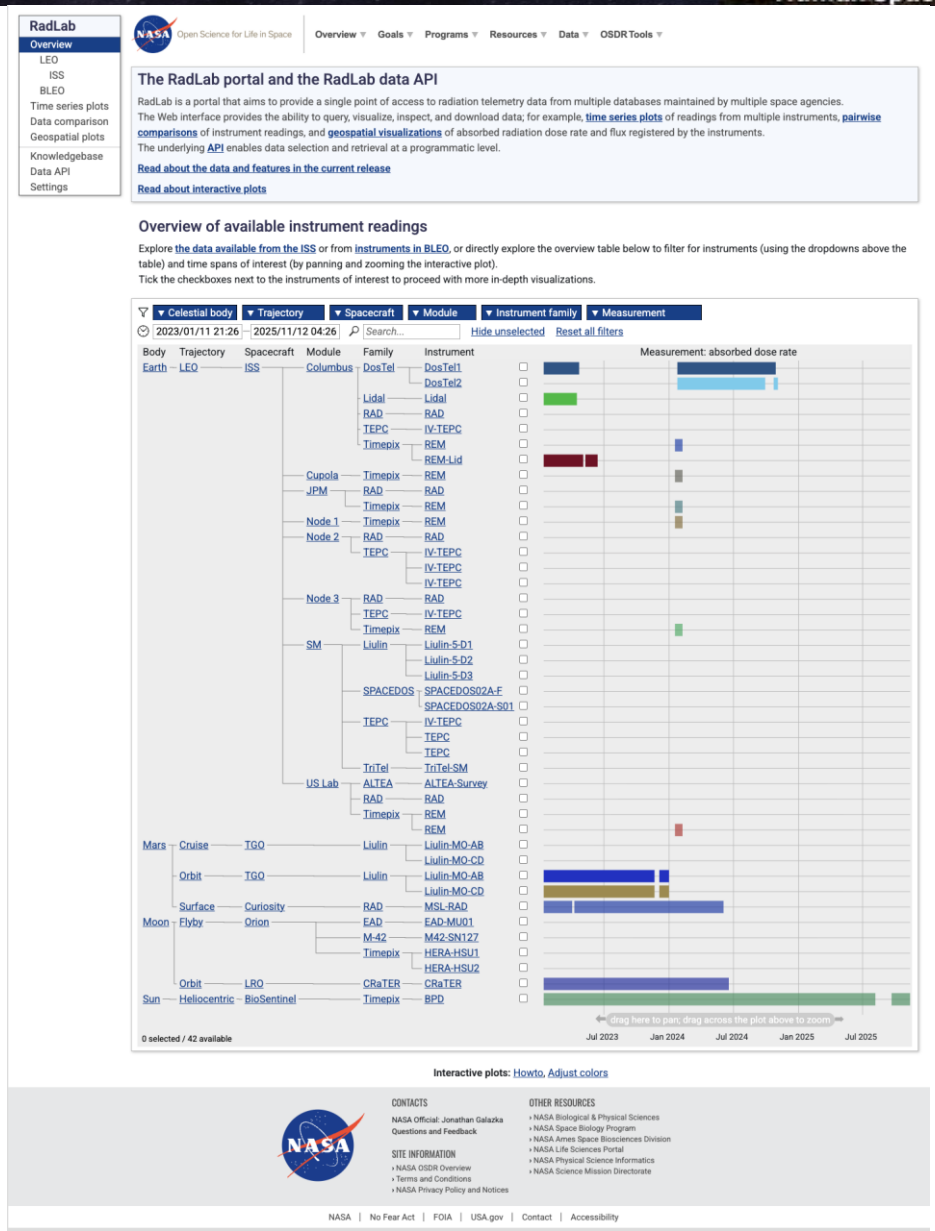
RE

https://visualization.osdr.nasa.gov/radlab/gui/overview/

A RadLab based paper?

RadLab (today)





Solutions?

- write a paper which would not be possible (or would be very difficult) to write without RadLab
- use this task also to fill up RadLab:
  - → use also data still not in the DB IF they are coming fast
  - → use this to speed RadLab population
  - → use this also to implement the first real 'use-and-improve' test
- IDEAS:

  we have data (even if not **all** of the following in the same time window)

  in LEO inside ISS

  on and around the Moon

  on and around Mars

  in Heliocentric orbit

→ focus on the November 11th -12th / 2025 event!

(and use also SW knowledge and shielding knowledge to present the results)

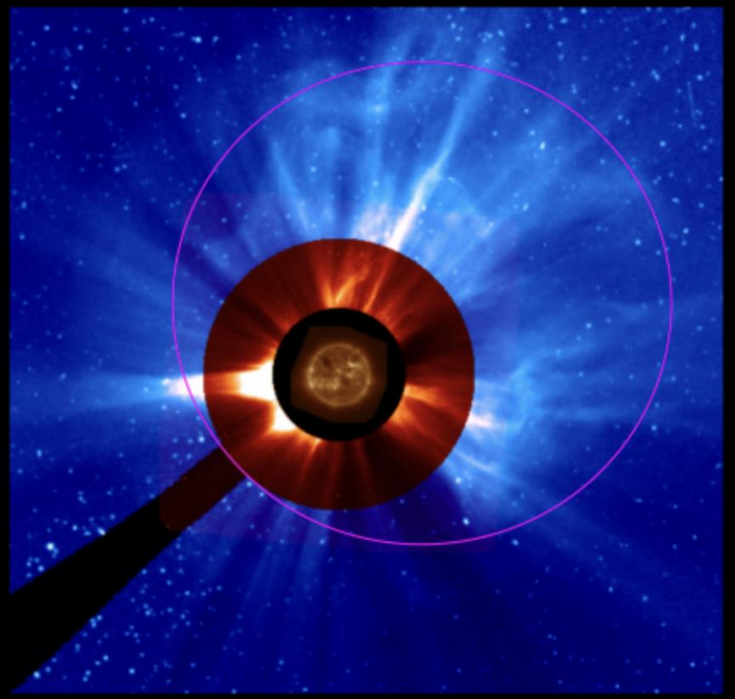
The November 2025 SPE

G4 (SEVERE) WATCH IN EFFECT FOR 12 NOVEMBER

Severe Geomagnetic Storm WATCH for Nov 12 UTC-day **G4**

Updated: Tue, 11 Nov, 2025 17:15 UTC

WHAT: A CME will likely arrive at Earth and lead to highly elevated geomagnetic activity



EVENT:
A coronal mass ejection (CME) is an eruption of solar material and magnetic fields. When they arrive at Earth, a geomagnetic storm can result. Watches at this level are very rare; still, this is the fourth G4 Watch issued so far this solar cycle.

EXPECTATION:
A CME is anticipated to arrive at and partially impact Earth around mid-day, 12 Nov; with the potential for elevated geomagnetic response and dependent upon the orientation of the embedded magnetic field, potential exists for Severe Storm levels.

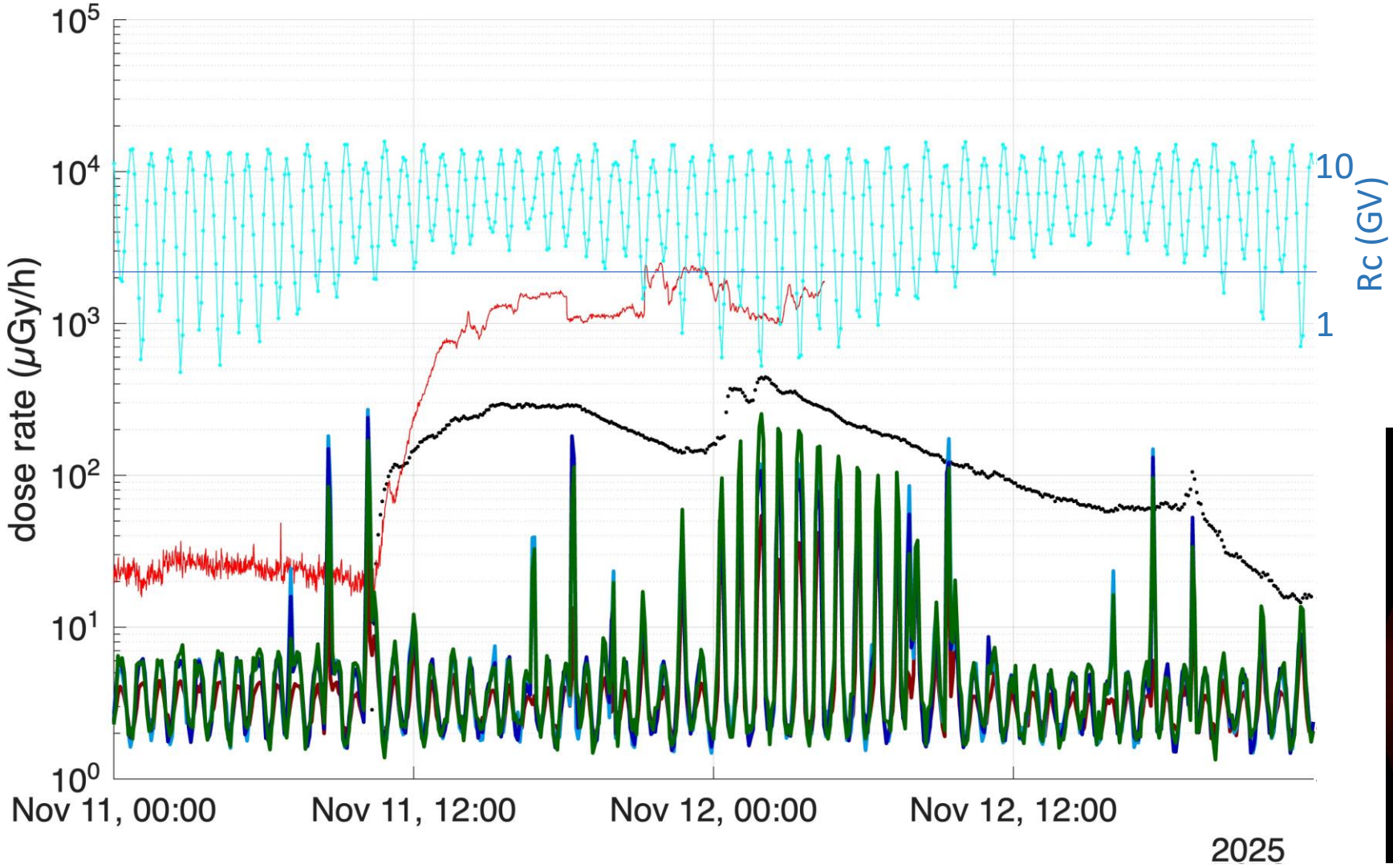
EFFECTS:
Detrimental impacts to some of our critical infrastructure technology are possible, but mitigation is possible. The general public should visit our webpage to keep properly informed. The aurora may become visible over much of the northern half of the country, and maybe as far south as Alabama to northern California.

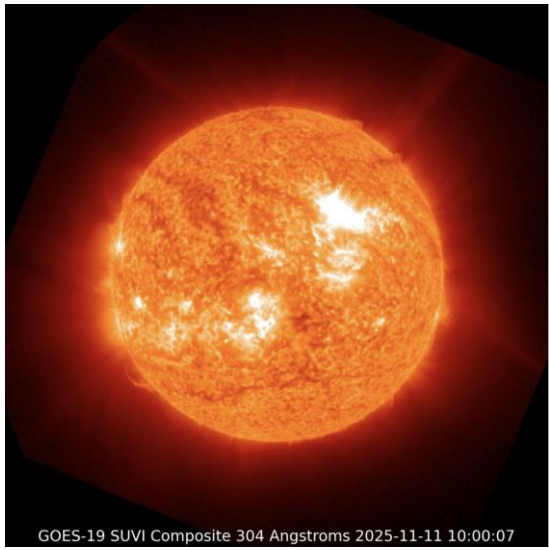
National Oceanic and Atmospheric Administration
U.S. Department of Commerce

Safeguarding Society with Actionable Space Weather Information

Space Weather Prediction Center
Boulder, CO

The November 2025 SPE





A RadLab based paper?

To do list

- fill with new data so to cover the November 2025 period (DORELI, Biosentinel, etc.)
- prepare and fill with GOES data
- prepare and fill with CRaTER data
- look for, prepare and fill with MSL-RAD data and TGO data (LND?)

Thank you for your ….

CONTRIBUTION!!