EVIDENCE REVIEW · SO NEWS, 28 OCTOBER 2026

S0 News, October 28, 2026: Lumina simulates the first 2.15 billion years, not up to now

On October 28, 2026, S0 News called Lumina "the newest cosmological simulation", showing where we stand in "being able to supercompute the universe from start to now" [1 00:01:23-00:01:37], and saw "No solar flares, no sunspots" [1 00:00:30-00:00:32]. Lumina's full run ends at redshift β [5 Abstract][4], about 2.15 billion years after the Big Bang by our calculation [5 Table 2][8 §10]. Our paper checks over the episode's three other lines: this page checks its Lumina, its Sun and its account of the storm of November 11, 2025 [1 00:01:55-00:02:07].

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OUR ANALYSIS marks our own reasoning and calculations, and the verdicts are our assessment. Everything else comes from the numbered sources. For the episode [1], times are positions in the video; for the papers, Abstract names the part we used, § a section, p. a page and Table a table. The lower weather centres' times are UTC.

A nearly quiet Sun, a simulation of the first 2 billion years, and a 2025 storm described right

OUR ASSESSMENT

9
Our analysis: flares GOES-18 logged in the 24 hours before the upload, eight of class B and one C1.0, seven of them from a region rotating behind the Sun's west limb [15][14]. None reached class M all week [15].

2.15 billion years
Our analysis: the age of the universe at redshift β, where Lumina's full run stops, by the simulation's own parameters; 13% of the way from the Big Bang to today [5 Table 2][8 §10].

4
Our analysis: storms of this sunspot cycle that reached Kp 9− or more in GFZ's record, in May and October 2024, November 2025 and January 2026. Only May 2024 reached Kp 9, NOAA's G5 [29][14].

THE EPISODE'S CLAIMS

PARTLY TRUE

No solar flares, no sunspots

"No solar flares, no sunspots. Plasma filaments are stable. That central coronal hole is likely to amplify solar wind conditions towards the end of the week, but that is also expected to be mild." [1 00:00:30-00:00:41]

The second half holds: no filament eruption was listed [14], a coronal hole sat across the centre of the disk [16], and its stream was expected "by late on 30 Oct", with "Unsettled levels" possible [12]. The first half doesn't. GOES-18 logged nine flares in the 24 hours before the upload, among them a C1.0 [15], seven from a region rotating behind the west limb [14], and SWPC listed a sunspot region on the disk, with "New spots" besides [13][12]. SIDC's sunspot number was 16, then 3–6, not 0 [18][19]. See section 3.

TRUE

Severe flare, huge proton storm

"It was a severe ex-class solar flare that drove a huge proton storm" [1 00:01:37-00:02:10]

On November 11, 2025, Region 4274 produced an X5.1 flare, by our ranking the largest of 2025 [22]. Protons above 10 MeV peaked at 1,460 particle flux units [24], the third-largest event of the cycle by the same ranking [26], and the 77th ground level enhancement began at about 10:20 UTC [2 Abstract], the strongest since 2006 by integral intensity [28 p. 9765]. NOAA rated the flare R3 and the proton storm S3, both "Strong", one step below "Severe" [20][24]. See section 5.

MISREAD

Supercomputed from start to now

"This is Lumina, the newest cosmological simulations. They scale over distance and time and have several brand new visualizations out showing where the entirety of astronomical data puts us in terms of being able to supercompute the universe from start to now." [1 00:01:21-00:01:37]

Lumina follows the universe "from the cosmic dark ages to z = 3" [4]; from 48 million to 2.15 billion years after the Big Bang by its own parameters, about 16% of cosmic history, stopping 11.7 billion years before today (Our analysis) [5 Table 2][8 §10]. Only two companion runs of dark matter alone go on to the present [4]. Its pictures show a simulation started from Planck's parameters, not a measure of what "the entirety of astronomical data" allows [4][5 Table 2], and newer simulations have followed it [16]. See section 4.

TRUE

One of four super-aurora storms

"as part of one of the four solar storms this sunspot cycle that created low latitude super aurora." [1 00:02:10-00:02:07]

"Four" rests on Kp: four storms of this cycle reached Kp 9− or more, November 12, 2025, among them (Our analysis) [29], the same four a 2026 study of ozone loss picked as "four large geomagnetic storms of Solar Cycle 25" [27]. By Dst only two were supersterms, in May and October 2024 [30][31]. On November 11–12, "aurora was visible in the furthest south U.S. states and below" [32 Abstract]. See section 5.

1 · THE EPISODE

A quiet Sun, a cosmic simulation and last November's storm, in three minutes

The episode of October 28, 2026, ran 3 minutes 9 seconds under the title "They Should Have Warned the Airline" and linked four items: a paper on the radiation measured during the ground level enhancement of November 11, 2025 [2], a preprint on earthquakes and planetary configurations [4], a 2018 Russian paper on temperature during geomagnetic disturbances [7] and the website of the Lumina simulation [4] [1].

In the episode's words

Quoted from the automatically generated transcript, "ex-class" is its rendering of X-class, "diameters" of dosimeters, "supercomput" of supercompute and "Lumina" of Lumina; two phrases about the planetary paper, "the scapetta run" and "Protea", are unclear and are left as transcribed. The sign-off's "5:00 a.m." names no time zone; the video went up at 10:45 UTC [1].

> *"Good morning, folks. Welcome aboarrrrd. It's Wednesday, October 28th, 2026, and today we've got some epic cosmic eye candy from Lumina. We've got solar forcing of weather, planetary alignments and earthquakes, and a solar storm warning for airlines that never went out. We're starting as always with the last 24 hours on our star and we can see that sun slept through class. No solar flares, no sunspots. Plasma filaments are stable. That central coronal hole is likely to amplify solar wind conditions towards the end of the week, but that is also expected to be mild."*
>
> S0 News [1 00:00:12-00:00:41]

> *"Up next, folks, some eye candy. This is Lumina, the newest cosmological simulations. They scale over distance and time and have several brand new visualizations out showing where the entirety of astronomical data puts us in terms of being able to supercompute the universe from start to now. Observers know you have links to everything I say and show here in the morning news, every article, every day, and that includes this Luminina project. But a word of caution, you can get a little lost in that website if you have a habit of losing track of time while entertained."*
>
> S0 News [1 00:01:18-00:01:52]

> *"Now, we're going back to November 11th, 2025, almost a full year ago. It was a severe ex-class solar flare that drove a huge proton storm as part of one of the four solar storms this sunspot cycle that created low latitude super aurora. Here they're saying that while no official radiation warnings went out, there were in fact flights whose dosimeters showed the airline should have been warned and redirected on their flight path away from the radiation bombardment at high latitude. Now, as if that's not bad enough, the reason they didn't warn was because the models said they didn't have to. But high energy protons penetrated deep anyway. Who can tell me why?"*
>
> S0 News [1 00:01:55-00:02:36]

2 · THE PAPERS

Four links, and what the episode made of them

Three of the links are papers checked on their own pages; the cards below repeat those pages' verdicts, with the episode's words about each. The fourth, Lumina, is rated here, and so are the episode's Sun and its account of the November 2025 storm.

Radiation on airliners and balloons during GLE 77

WHAT IT IS

A peer-reviewed article in *Space Weather*, October 2026, by F. Baird and 17 colleagues, open access under CC BY 4.0 [2]: measurements from balloons and airliners in the Arctic, Antarctic and the Netherlands, and radiation monitors on two flights from London Heathrow to New York during the ground level enhancement of November 11, 2025 [2 Abstract]. The episode's link "Solar Storm Missed Airline Warning" [1].

WHAT THE AUTHORS REPORT

"During the event no international radiation advisories were issued for aircraft; the measurements show that a moderate advisory should have been issued" [2 p. 1]. Balloons from Lerwick, in Shetland, crossed ICAO's thresholds at business-jet and supersonic altitudes for "several hours in the airspace above Shetland" [2 p. 14], and at the event's peak the paper estimates about 58 μSv an hour at 42,000 feet, within the airlines' range of about 36,000 to 42,000, "very far above the moderate threshold of 30 [2 p. 12][2 p. 2]. The two flights' own monitors stayed below the thresholds: on the Heathrow–New York flight "ICAO moderate was not exceeded" [2 p. 14], and the Heathrow–Newark flight saw no significant increase [2 p. 11].

WHAT THE EPISODE SAID

"a solar storm warning for airlines that never went out" [1 00:00:23-00:00:26]

"Here they're saying that while no official radiation warnings went out" [1 00:02:10-00:02:12]

"there were in fact flights whose dosimeters showed the airline should have been warned and redirected on their flight path away from the radiation bombardment at high latitude." [1 00:02:14-00:02:22]

"the reason they didn't warn was because the models said they didn't have to." [1 00:02:26-00:02:30]

"But high energy protons penetrated deep anyway." [1 00:02:30-00:02:33]

In our check of Baird et al. (2026), which read it in full: "No airline warning went out" True; "No official radiation warnings" Partly true; "Planes should have been rerouted" Misread; "Models said no warning needed" True; "High-energy protons went deep" True; "Thresholds topped over Shetland" True (the paper's own claim). The paper blames the advisory service, which "relies entirely on numerical models" [2 p. 12], and never mentions rerouting. NOAA's Space Weather Prediction Center issued no advisory, and the paper's authors call for "a dedicated operational product" [2 p. 14], for more data from balloons and aircraft, and