

# Rocket science: Alaska sky spiral caused by SpaceX fuel dump

April 18 2023, by Mark Thiessen

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In this photo provided by Todd Salat, northern light enthusiasts got a surprise early April 15, 2023, when something odd was mixed in with the green bands of

light dancing above the Donnelly Dome near Delta Junction, Alaska. A light baby blue spiral resembling a galaxy appeared amid the aurora for a few minutes. The spiral was formed when excess fuel that had been released from a SpaceX rocket that launched from California about three hours earlier turned to ice, and then the water vapor reflected the sunlight in the upper atmosphere.

Credit: Todd Salat via AP

Northern lights enthusiasts got a surprise mixed in with the green bands of light dancing in the Alaska skies: A light baby blue spiral resembling a galaxy appeared amid the aurora for a few minutes.

The cause early Saturday morning was a little more mundane than an alien invasion or the appearance of a portal to the far reaches of the universe. It was simply excess fuel released from a SpaceX [rocket](#) that launched from California about three hours earlier.

Sometimes rockets have fuel that needs to be jettisoned, said space physicist Don Hampton, a research associate professor at the University of Alaska Fairbanks Geophysical Institute.

"When they do that at [high altitudes](#), that fuel turns into ice," he said. "And if it happens to be in the sunlight, when you're in the darkness on the ground, you can see it as a sort of big cloud, and sometimes it's swirly."

While not a common sight, Hampton said he's seen such occurrences about three times.

The appearance of the swirl was caught in time-lapse on the Geophysical Institute's all-sky camera and shared widely. "It created a bit of an internet storm with that spiral," Hampton said.



Photographers out for the [northern lights](#) show also posted their photos on social media.



In this photo provided by Christopher Hayden, a light baby blue spiral resembling a galaxy appears amid the aurora for a few minutes in the Alaska skies near Fairbanks, Saturday, April 15, 2023. The spiral was formed when excess fuel that had been released from a SpaceX rocket that launched from California about three hours earlier turned to ice, and then the water vapor reflected the sunlight in the upper atmosphere. Credit: Christopher Hayden via AP

"This all happened as it passed over Alaska during a beautiful aurora display, stunning many night-watchers including myself," professional

photographer Todd Salat, known for stunning aurora images, told The Associated Press in an email.

"Trust me, at first, I was totally bewildered," he said. "I now know it can be explained with rocket science, but during and immediately after the experience, I thoroughly enjoyed the mysterious feeling of the unknown."

The rocket took off from Vandenberg Space Force Base in California on Friday night with about 25 satellites as its payload.

The timing of the fuel dump and the fact that it was a polar launch made the blue spiral visible over a large swath of Alaska. "And we got that really cool looking spiral thing," Salat noted.

In January, [another spiral was seen](#), this time over Hawaii's Big Island. A camera at the summit of Mauna Kea, outside the National Astronomical Observatory of Japan's Subaru telescope, captured a [spiral](#) swirling through the night sky.

Researchers have said it was from the launch of a military GPS satellite that lifted off earlier on a SpaceX rocket in Florida.

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