Detect mysterious 10,000 ° C hot plasma penetrating Earth's atmosphere

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For the first time, scientific researchers discovered *supersonic plasma jets* on the Earth's high atmosphere. What is especially remarkable is that the temperature of these supersonic plasma beams reaches 10,000 ° C (*18,032 ° F*).

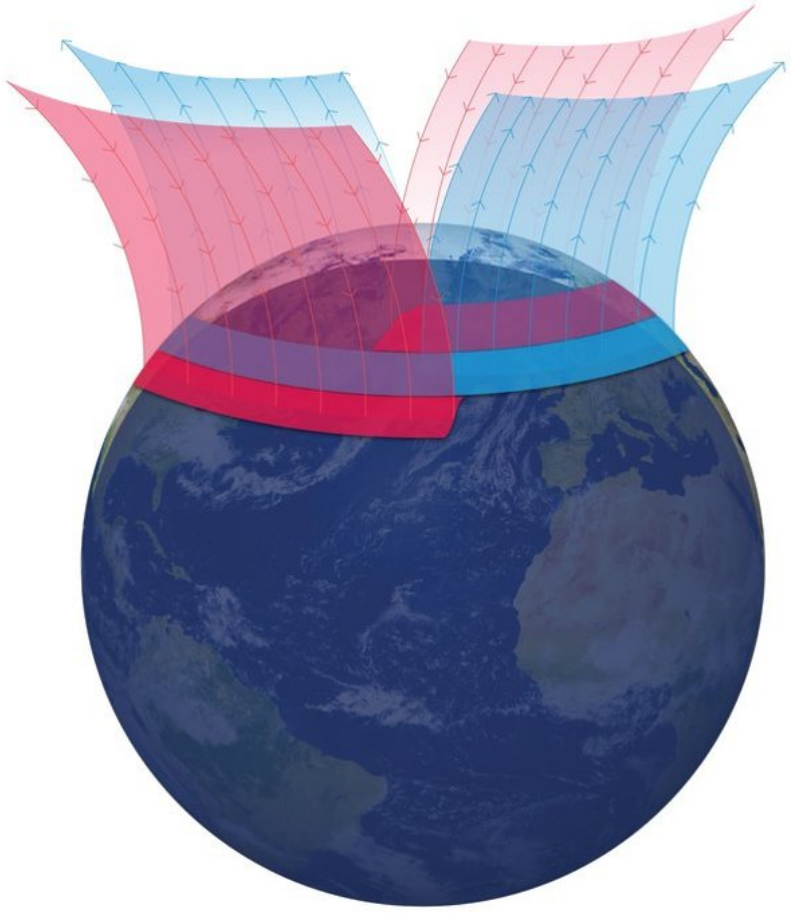
These supersonic jet rays not only change the chemical composition of the *Earth's ionosphere* - but actually, they push this atmosphere higher, some atmospheric material. of the planet is leaking out into space.

More than a decade ago, Norwegian scientist Kristian Birkeland suggested that large currents of electrons supplied by solar storms pass through the Earth's ionosphere, crossing the barrier of magnetism. Earth.

The ionosphere is an atmosphere of elevation between 75 and 1,000 km (*46 to 621 miles*) from the Earth's surface. In 1970 when scientists brought the satellite to this height, the existence of new streams of electrons was confirmed. These electron currents are also known as " *Birkeland electric current* " (*named after Norwegian*

physicist Kristian Birkeland), carrying energy up to 1 TW - equal to one third of the US energy consumption. in a year. They are also responsible for the aurora at the extreme and the North at the hemisphere.

Recently, scientists from the *European Space Agency (ESA*) have put **the Swarm trio of satellites** into the magnetosphere and electrolysis to investigate Birkeland's current. Finally, these satellites discovered an incredible giant electric field generated in the ionosphere interacting with **Birkeland current** as shown below:



Now the three Swarm satellites have discovered that these mysterious electric magnetic fields are the *supersonic plasma jets* - named " *near Birkeland - Birkeland current boundary flows* ".

" *Using data from Swarm satellites, we have discovered extremely strong currents from supersonic plasma rays. They can make the ionosphere reach temperatures near 10,000 degrees Celsius and change the structure. Besides, they also cause the ionosphere to be stretched higher, which can leak atmospheric materials into space* ", Bill Archer from the University Calgary (*Canada*) study group said:

Not only on the ground, thanks to some recent observations from Swam satellite, we now know that mysterious Plasma lines also penetrate into the ground.

In December 2016, a European *Space* Agency (*ESA*) team announced that Swarm satellite also discovered the appearance of a *molten* ion (*molten iron*) line stretching 3,000 km (*1,864 miles).*) below the surface of the Earth, below Alaska and Siberia. They realized that with a width of up to 420 km (*260 miles*), this ion flow is also tripling in just two decades and heading straight to Europe.

Similar to the supersonic plasma flow in the atmosphere above the surface of the Earth that is emitting out of the high atmosphere, fast moving iron currents are also involved in the Earth's volume. The difference between them is the temperature, pressure and composition of the outer core components that create the motion and whirlpool in liquid metal. Along with the rotation of the Earth, they produce an electric current that makes up the magnetic field.

Now, when the outer core of Earth and high-level atmospheric currents are discovered, researchers will be better equipped to predict what our magnetic field will do next and that is very important. because it seems that the North Pole is actually in the process of transition as we mentioned.

As we explained last year, the Earth's magnetic field seems to weaken at a rate of about 5% in every century, the magnetic field is expected to reverse, at that time the magnetic field in the north and south pole will " *trade places* ".

" *More surprises can happen. The magnetic field is always changing and this is even more difficult to make the supernatural navigation* ," said Rune Floberghagen, manager of the Swarm task of ESA, said at the time that point.

In recent years, the Earth's magnetic field is gradually weakening and experts predict the polarity phenomenon may occur in the near future. Is that the reason why Plasma flow from solar storms easily attacks and penetrates the magnetosphere as well as the Earth's ionosphere, even deep into the ground.

If that is so, the consequences it can cause for life on Earth including humans are hard to predict.

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