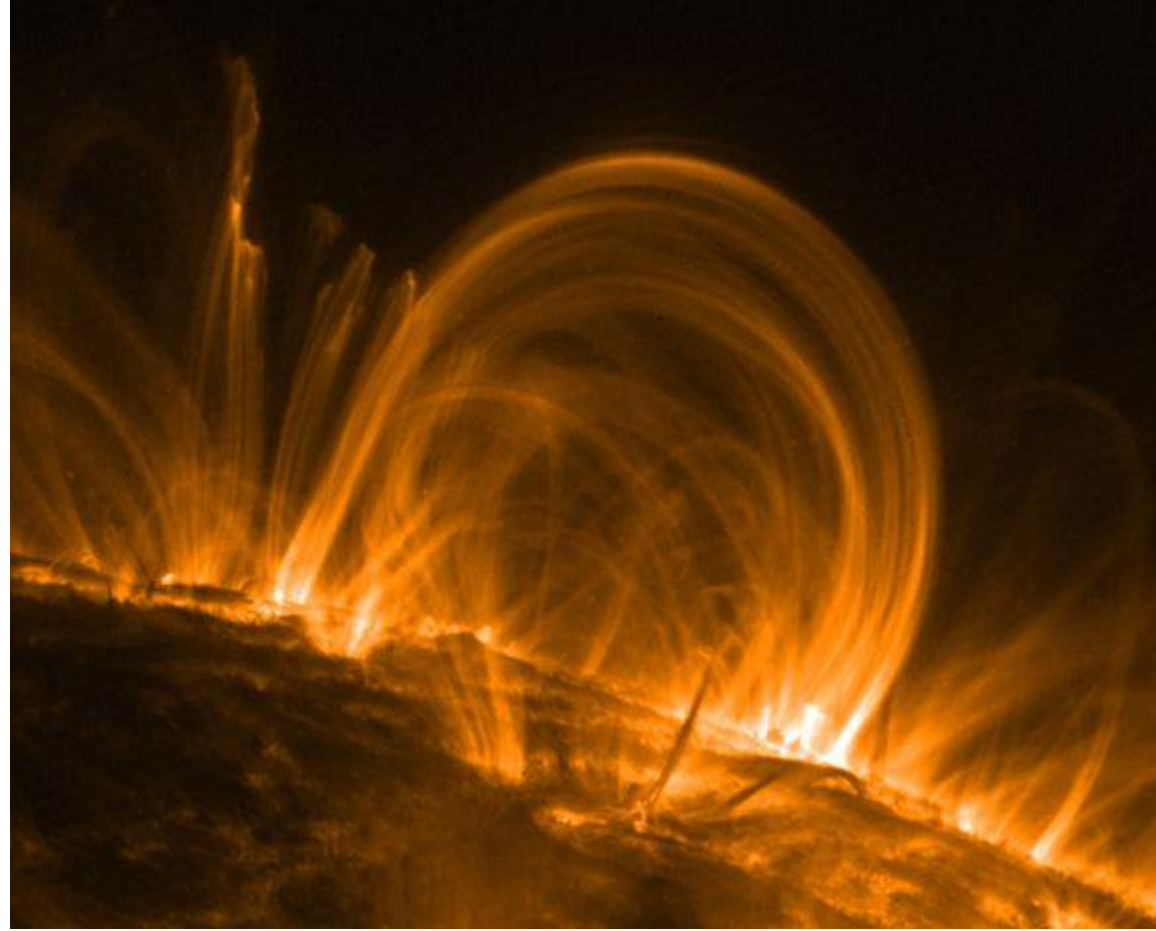


**New Ice Age Ahead**

# **Electric Energy that powers the Sun**



[TRACE / NASA](#)

**the same energy that powers the Sun also surrounds the Earth  
though with lesser intensity**

## **Electric energy powers the Universe it also lights up every sun**

The apparently vast empty space that our Universe is to the eye, isn't really empty at all, but is teeming with an electric 'fluid' of great power, called plasma. The Sun of our solar system is radiantly interactive with this electric plasma in space that is surrounding it, which it attracts. Large streams of electrically charged particles flow into our sun, interact with it, erupt into giant loops at its surface by the sheer energy involved, and flow away from it in streams of plasma that accelerate as they move away, and heat up as they do, to temperatures a thousand times hotter than the surface of the sun itself.

Nor is the Sun electrically inactive. The immense looping prominences are signs of large electric currents flowing at the surface of the Sun, or if need be above the surface. Loops of electric currents in plasma are common phenomena that are more easily produced than prevented as in the case below at the 500 kV Eldorado Substation near Boulder City, Nevada.



See: [Electrical Overload](#)

These phenomena are typical only for electric powered interaction, or electric plasma actions, and cannot be rationalized on a non-electric platform. So, why isn't the Sun seen that way? Can we really begin to understand the Universe without first understanding our Sun?

"The key to understanding our star, and the first stepping-stone to understanding the electric universe, is that stars are an electrical phenomenon!

"The thermonuclear model of stars is a product of its time — the early 1900's. That it remains essentially unchanged into the new millennium is a measure of the rigidity of the peer structure and narrow focus within academia. We have since discovered that space is full of charged particles (plasma) and magnetic fields. The Sun is a ball of plasma and its behavior more complex than was dreamt a century ago. Eddington, who gave us the standard solar model, did so using gravity and ideal gas laws. He did not know that space is threaded with magnetic fields and flows of charged particles (electric currents), with the Sun as a focus. A beneficiary of Eddington's model, George Gamow, was moved to write effusively:

"According to a Greek legend, Prometheus flew all the way to the Sun in order to bring back to mortals some of the heavenly fire. But even Prometheus would not risk diving into the Sun's photosphere to see what was under it. However, this feat was carried out by the British astronomer Sir Arthur Eddington, who was able to find out everything about the interior of the Sun and other stars without leaving his comfortable study at Cambridge University. "It should not be too difficult," Sir Arthur used to say, "to understand such a simple thing as a star." And he had very good reasons for that statement. Indeed, while geophysicists are still unable to agree on the exact value of the temperature in the center of the Earth, which is only about four thousand miles below our feet, astronomers can tell the temperature of the central regions of the Sun and of many other stars within a few percentage points and be quite sure about the figures they quote. [A Star Called the Sun, George Gamow, p.93.]

"I included Gamow's comments as an example of the hubris of mathematical physicists, and as a warning. It can be argued that astrophysics is in worse shape than geophysics. There is absolutely no way that anyone can be sure about the temperature of the center of the Sun. Yet confident statements like this are reported daily in the media as fact. It has resulted in the science fiction cosmology of today. More caution would be welcome. The visible activity on the surface of the Sun remains a puzzle. Sunspots are an enigma. When we look through the centers of dark sunspots it is thousands of degrees cooler beneath the bright photosphere.

"If we do not understand the Sun, we know nothing about the universe." - by Wallas Thornhill

See: 09 November 2003 - [THE SUN — Our Variable Star](#) (with extensive details on the electric sun model)

**Trapped into the fusion Sun by consensus academia**

The fusion sun is a miracle machine. It produces magnetism without electricity. It produces nuclear-fusion power by gravity, the weakest of the universal forces. In the fusion sun two atoms of hydrogen are combined to create helium-4 and energy in several steps. The created helium-4 atom is deemed less massive than the two hydrogen atoms that started the process, so, theoretically, the difference in mass is converted to energy as described by Einstein's theory of relativity ( $E=mc^2$ ). The fusion process is envisioned as follows.

1. Two protons from hydrogen combine to form a deuterium [atom](#) (a hydrogen atom with one neutron and one proton). A positron is released (a particle similar to electron, but with a positive charge) and a neutrino.
2. A proton from another hydrogen atom, and a deuterium atom (from step 1) combine to form a helium-3 atom (helium-3 has two protons with one neutron). The forming of the atom releases a gamma ray.
3. Two helium-3 atoms (from step 2) combine to form a helium-4 atom (two protons and two neutrons) and two protons.

The concept of the fusion sun is based on the theory that in atomic physics, binding energy is the [mechanical energy](#) required to disassemble a whole into separate parts, because a [bound system](#) typically has a lower [potential energy](#) than its constituent parts. The lower energy state is understood to keep a bound system intact as energy is required to take it apart. This means that energy is released by the creation of a bound state (fusion). However, in the process of fusion, neutrons are created by the transformation of protons into neutrons. Since the neutrons have a greater mass, energy is required to accomplish the transformation.

The [neutron](#) is a [subatomic particle](#) with no net [electric charge](#) and with a [mass](#) slightly larger than that of a [proton](#). In the building of a neutron energy is invested. While bound neutrons (into nuclei) are stable, free neutrons are unstable; they undergo [beta decay](#) in which they radiate energy. Outside of the nucleus the neutron has a [mean lifetime](#) of just under 15 minutes ( $885.7 \pm 0.8$  s), in which the energy invested to build it is released.

Also a significant amount of energy is required to cause hydrogen atoms to fuse against coulomb barrier. The energy balance sheet is deemed to add up in such a manner that a net energy production results, which is deemed to heat the Sun from the inside..

## **Solar fusion is a great-sounding dogma. But it cannot be proved.**

A theory becomes a dogma when proof is not possible. The fusion theory is that the temperature in the core of the Sun is greater than 15 million degrees Kelvin, all produced by the pressure of [gravity](#). The pressure is deemed high enough to force atoms of hydrogen to come together in a nuclear fusion reaction. Proof is not possible here, since the required pressure cannot be produced or simulated. This means that the entire fusion sun concept becomes a matter of faith. The theory becomes a dogma, and a weak one at that. The flood of neutrinos that step 1 is deemed to produce has not been detected either, in spite of great efforts being made.

## **The missing neutrinos**

The word, Neutrino, means the "small neutral one". It is an [elementary particle](#) that usually travels close to the [speed of light](#), is [electrically neutral](#), and is able to pass through ordinary [matter](#) almost unaffected. This makes neutrinos extremely difficult to detect.

In 1993 the Baikal Deep Underwater Neutrino Telescope (BDUNT) was constructed with its sensors located 1.1 km below the surface of [Lake Baikal](#) to shield them from cosmic radiation, but the expected neutrinos were not detected. In 1997 the telescope was upgraded to 192 sensors, which produced essentially the same result. BDUNT picks up a lot of atmospheric neutrinos created by solar winds interacting with the atmosphere, but not the expected flood coming from the Sun. Electron neutrinos (or antineutrinos) are generated whenever [protons](#) change into [neutrons](#), or vice versa—the two forms of [beta decay](#).

The solar neutrino problem was a major discrepancy between measurements of the numbers of [neutrinos](#) flowing through the [Earth](#) and theoretical models of the [solar](#) interior. Only one third to one half of



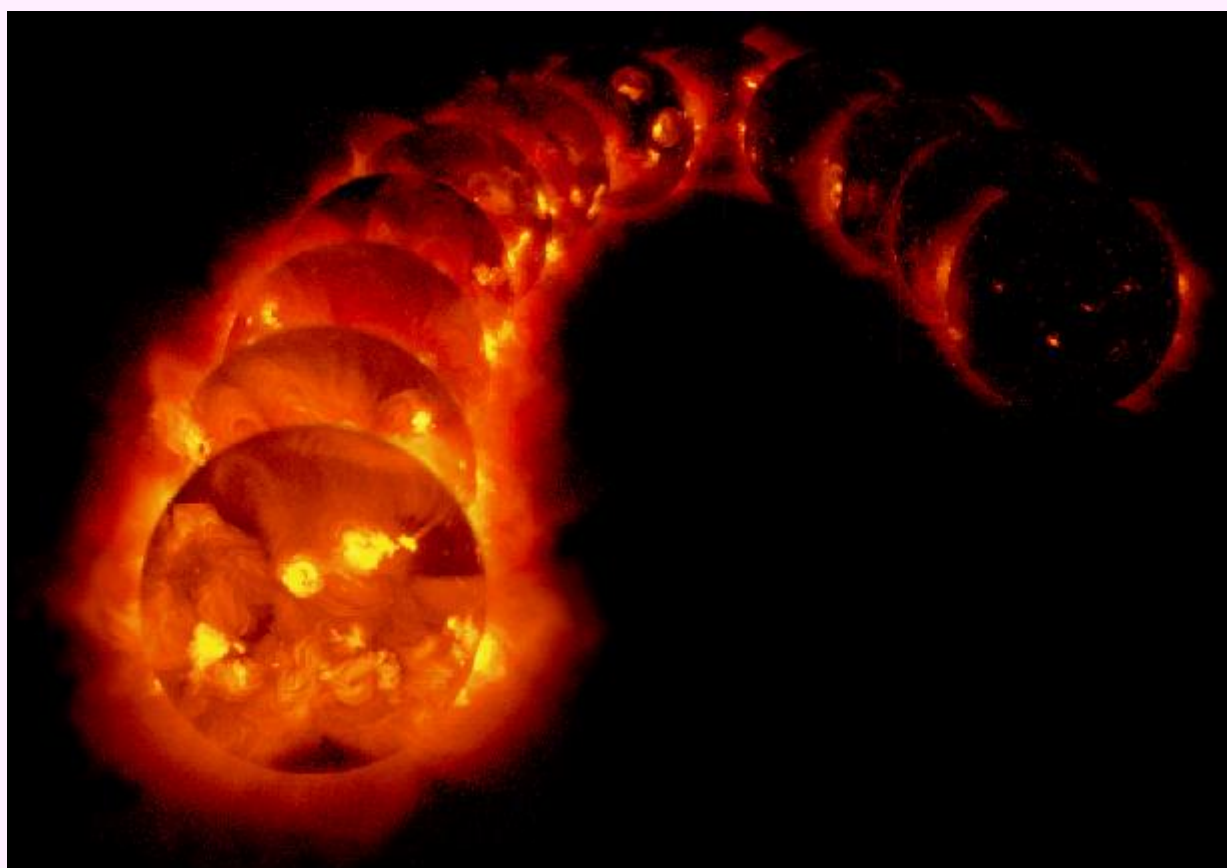
predicted number of electron neutrinos were detected. The discrepancy lasted from the mid-1960s to about 2002. The discrepancy has since been resolved by a new understanding of [neutrino](#) physics. It required a modification of the [Standard Model](#) of [particle physics](#). Early attempts to explain the discrepancy proposed that the models of the Sun were wrong.

Currently, the solar neutrino problem is assumed to have resulted from an inadequate understanding of the properties of neutrinos. It is recognized that neutrinos come in different flavors for which different sensors are required. In 2001 the first direct evidence of solar neutrino of the different flavors was detected by the [Sudbury Neutrino Observatory](#) (SNO) in [Canada](#). It detected all the types of neutrinos coming from the Sun. After extensive statistical analysis, it was found that the total number of detected neutrinos "agrees quite well" with the earlier predictions from nuclear physics, based on the fusion reactions inside the Sun.

### Did the discovery of the missing neutrinos prove the fusion-sun model?

Did it prove the fusion-sun model? No it didn't. The intensely energetic electric interaction at the surface of the Sun where atoms are created by electromagnetic processes, with the same intense energy output as the fusion-sun model, would generate just as many neutron conversions in the vast chain of fusion reactions that are evidently going on at the surface of the Sun where the presence of 68 of the over 90 basic elements have been detected. Evidently far more complex fusion processes are happening there than the P-P fusion model envisions for the fusion-powered Sun.

When the neutrino problem was solved in 2001, it only solved one of the problems that existed inside the box of the electric-dead universe, the gravity-only universe. Two huge problems remain unresolved there. The gravity-only model cannot explain the immense acceleration of the solar winds speeding away from the Sun against the pull of gravity, becoming accelerated to 800 km/sec, on average. Nor can the gravity model explain the heating of the solar winds from 5,800 degrees at the solar surface, to several million degrees in the corona. Nor can it be explained inside the box why the sunspots that rip a hole into the photosphere reveal the lower layers as being substantially colder. Nor can it be explained inside the box how the surface of the Sun can be vibrant with X-ray and UV light when the heat source is deep inside the Sun itself. Neither can the gravity model explain the immense energy fluctuation x-ray and UV 'light' during the 11-year solar activity cycle.



X-ray images of the Sun captured 4 months apart between 1991 and 1995 by the Yohkoh spacecraft

While the Sun's visible light output varies by only tenths of a percent, its energy in UV and X-rays varies by a factor of 20! The 20-fold difference between bright and dim defies the gravity model, but is easily explained in the electric model where external electric density (powering the Sun) determines its energy

output, especially at the high-energy spectrum of the scale.

See: [Our Variable Sun](#)

## 99.999% of all the mass in the Universe exists in the form of plasma

Plasma is a unique state in physics where the 'atomic' particles are not bound into atoms, but are free flowing like a 'soup' consisting of the basic building blocks that the atoms are made of that constitute our terrestrial world. It is generally accepted that 99.999% of all the mass in the Universe exists in the fluid state, or plasma state, rather than in the form of atoms that make up the planets. Since, in the fluid state, the various particles are all electrically charged, they carry an electric current, whereby they become nearly perfect electric conductors. With these, the Universe provided itself interconnecting channels that carry enormous electric currents over large distances, and on a scale that a wisp of one of them lights up our Sun and powers our solar system, just as the hundreds of billions of solar systems are so powered that make up our galaxy that to us appears as but a haze of stars.

Here is how the Electric Universe theory describes the phenomenon that we call our Sun, which should be called a star, one of several hundred billion in our galaxy.

### Electric Stars in Action

From an Electric Universe point of view, some stars are formed in a "pinch." Large magnetic fields have been detected in galaxies, and these fields indicate that huge electric currents flow in circuits through the galaxies. These current-induced magnetic forces constrict the currents into filaments, twist the filaments around each other in spirals, and "pinch" the galactic plasma into balls, pulling in any matter in the neighborhood until the internal pressure balances the magnetic "pinching" pressure. This pinch effect is far more effective than gravity in gathering and concentrating matter. And, unlike gravity, it can remove angular momentum that tends to prevent collapse. Stars will form like beads along a galactic wire.

One possibility, popular in some plasma cosmology circles, is that once the material for a star is gathered and concentrated by the pinch, gravity takes over and squeezes the star until its interior lights up as a nuclear furnace, forming a conventional nuclear star.

In the 1970's, the late Ralph Juergens, an engineer from Flagstaff, Arizona, took the next mental leap to suggest that the electrical input doesn't stop when a star is formed. In fact, stars are both sparked and powered by the same electric currents. Stars behave as electrodes in a galactic glow discharge. Bright stars like our Sun are concentrated balls of lightning! The many surface phenomena we see on the Sun (see SOHO image above) such as the hot corona, sunspots, prominences, flares, and granules are all explained by an electrically driven Sun, but are difficult to understand from the nuclear furnace point of view. Even the nuclear reactions whose neutrino traces we see (although not in the quantities predicted by the nuclear theory) are explained by electric stars. Nuclear reactions take place on the surface, not in the core, of the Sun, explaining why neutrino numbers vary with the sunspot cycle. Nuclear reactions are produced the same way we produce nuclear reactions in the lab -- by accelerating particles in an electric field.

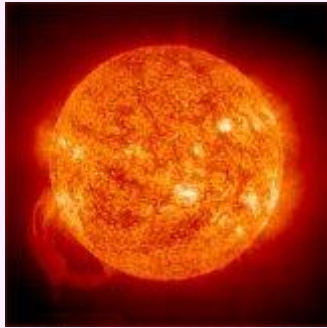
The matter inside stars becomes positively charged as the lighter electrons drift toward the surface, leaving the heavier positive ions behind. The resulting internal electrostatic forces prevent stars from collapsing gravitationally and occasionally cause them to "give birth" by electrical fissioning to form companion stars and gas giant planets. Sudden brightening, or a nova outburst, marks a fission event. That explains why about half of the stars have partners and why most of the giant planets so far detected closely orbit their parent star.

Electrical engineers and plasma cosmologists have a unique viewpoint based on their familiarity with the behavior and mathematics of plasma. Now that the space age has revealed the extent of plasma in the universe, it would behoove both sides to compare notes. Stars, galaxies, nebulae, and planets are all affected by electric currents in the plasma through which they move. There's a whole new universe waiting to be discovered.

See: Jan 10, 2005 [Electric Stars in Action](#)

Also, see more about Electric Stars and the Electric Universe at: <http://www.holoscience.com/synopsis.php>

In recent years the great plasma loops that are routinely observed above the surface of the Sun have caused some puzzlement in the scientific community that sees only gravity originated nuclear fusion power erupting on the Sun, like hydrogen bombs continuously exploding inside of it. They are termed "magnetic" prominences with the E word (Electricity) being carefully avoided as a politically bad word that must never be spoken, while it is a well-established basic fact of physics that magnetic phenomena are exclusively the result of the motion of electric currents. Here politics mingle with physics and shroud the reality in order to protect fragile political structures.



NASA

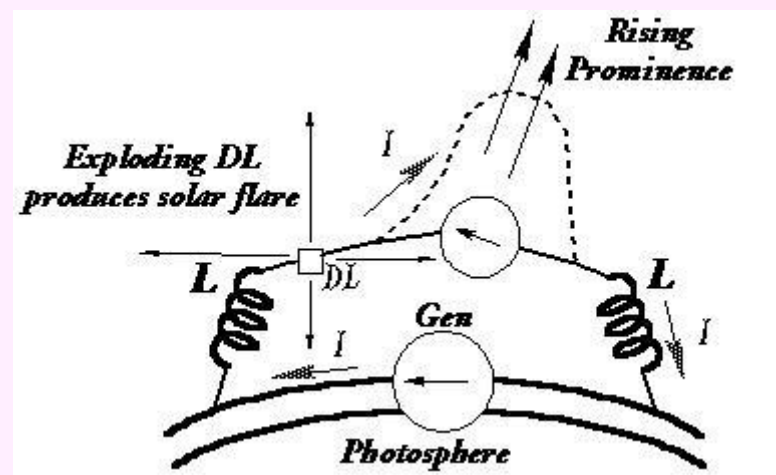
In modern cosmology, the non-entropic Electric Cosmology, the Sun is no longer regarded as an isolated self-powered entity being heated from the inside with a hydrogen bomb furnace continuously 'exploding' in its interior. Instead, the Sun is becoming recognized as electrically by galactic electric currents flowing into it. The plasma currents are evidently also attracted by gravity as well as by the attracting electric potential. At a certain density the plasma forms a double layer electric sheet around the Sun where charge separation takes place that enables electric arcing to be happening onto the Sun's photosphere.

The incoming electric current density is such that the outer layer of the Sun is heated to a temperature of 5,800 degrees Kelvin, as if it was hit by a constant barrage of 'lightning bolts.' The process is comparable to electric arc furnace. (Electric arc furnaces currently produce 40% of the world's steel - a 300 ton load can be melted in 37 minutes, and be heated to up to 1,800 degrees.)

The electric energy interaction is not always distributed evenly. In some cases enormous plasma flows converge, and cause the eruption of gigantic 'prominences' that are driven by magnetic fields resulting from immense plasma currents (see the top image). All magnetism in the Universe results from flowing electric currents. Wherever one encounters magnetic phenomena, one witnesses the result of electric currents, or simply put, electricity in motion. Every form of magnetism, no matter where it is found in the Universe, has an electric cause. No other cause for magnetism exists. No do electric currents flow anywhere in the Universe that do not generate a magnetic effect. Electricity and magnetism are one. Thus we speak of the "electro-magnetic force" (in combination), as one of the basic forces of the Universe. And as you can see, there are huge electro-magnetic effects visible on the Sun, activated by vast flows of electricity, such as the phenomena resulting into the giant 'prominences' that are often larger in size than the Earth, caused by an interaction of the electric force and the electro-magnetic force, two of the five root-forces of the Universe (apart from the nuclear-strong force, the nuclear weak-force, and the force of gravity, the weakest of them all).

In the highly 'active' regions on the surface of the Sun, the powerful interactions frequently raise up loops of plasma (electric) currents. If these extend high enough to rupture the double-layer electric sheet around the Sun, the double-layer field (an electrostatic field) is broken (generally termed the chromosphere). The consequence of the rupture is an explosive outpouring of electrically charged particles in the form of solar flairs. The dynamics of these eruptions has been defined by Hannes Alfvén a few decades ago as a simple electro-magnetic phenomenon.

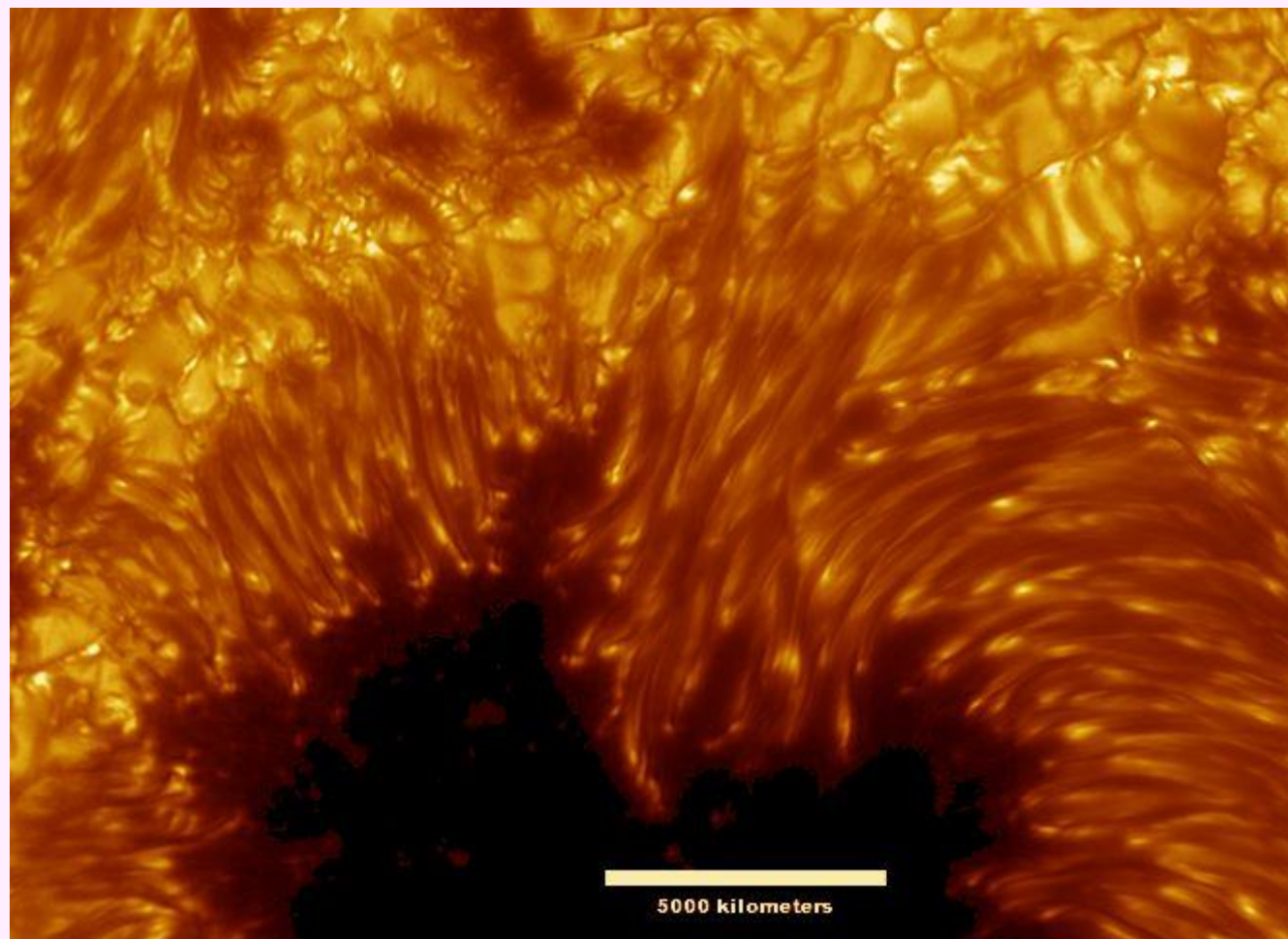




[Hannes Alfvén's Solar Prominence Circuit](#)

The violent process of a strong prominence exploding into space, ends up 'ripping' a hole into the photosphere where the electric-arc heating of the Sun normally takes place. The eruptions leave behind holes in the photosphere that are termed, sunspots. The sunspots remain until the double layer and the photosphere become reestablished.

For more, see: [Solar Lightning](#)



[A sunspot highly magnified](#)

The sunspots are our typical indicators of extreme solar actions, and are therefore an indication of the intensity of the solar activity. The massive solar flairs that leave 'giant' sunspots in their wake, have a positive effect on the Earth in that they add to the effect that deflects to some degree the ever-present cosmic radiation that the Earth is nevertheless bombarded with. With fewer sunspots occurring (less solar activity), the climate on the Earth gets colder, because increased cosmic radiation intensifies the cloud formation process as an effect of increasing water vapor ionization in the the Earth's troposphere. See: [The Electric Climate](#)

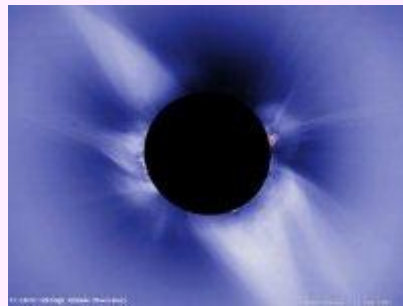
The sunspots also tell us a more significant story. They tell us clearly that the Sun is not heated from the inside out, but is surface heated. The evidence is seen in the sunspots (the holes in the luminous surface layer) that enable us us look below the active layer onto the layer below. The lower layer should be hotter and brighter if the Sun was heated from the inside. Instead the inner layer is colder (a mere 3,000 degrees vs. 5,800 degrees at the luminous surface). Being colder, the inner layer is darker, as is clearly evident in the enlarged image of a sunspot above. If the luminous layer was peeled away, the Sun would be as dim as the moon. By the same token, if the Sun was heated for the inside, the sunspots would be immensely

more-brilliant, rather than being darker.

The enormously powerful electric interaction that heats up the surface of the Sun also causes some nuclear fusion to take place within the zone of the interaction. The fusion, however, is of a type that is constructive. It combines the inflowing plasma into atoms. Traces of sixty eight of the ninety two naturally occurring elements that exist, have been detected in the Sun's 'atmosphere.' The Sun thereby comes to light as an atomic producer, rather than a consumer. Its operation is the opposite to entropy. The Sun is intensely powered by vast streams of inflowing electric energy, attracted by its powerful gravity. (all electrically charged particles, protons and electrons, have a mass, and are thereby subject to gravity - which is an unavoidable interaction in space.) The Earth is subject to the same principle that causes electricity to be attracted by its gravity, though to a correspondingly lesser degree. Instead of heating the entire surface, as in the case of the Sun, all that we experience on Earth is the occasionally lightening bolt when uprising moist air reaches high enough for electric flows from the ionosphere to happen, that are then accumulated and transmitted by the clouds in the form of lightning.

Also, the immense plasma-electric interaction at the surface of the Sun causes a certain (partial) outflow of electrically charged particles to happen, typically expelled protons and ions, summarily called the solar wind. The solar wind flows in all directions. Its electric particles become accelerated as they move away from the Sun.

The solar wind has been measured in near Earth space at speeds, varying between 200 and 1000 km/second (several million km/hr), and also the particles are heating up in the process of their acceleration, gaining temperatures in the range of millions of degrees. They give rise to the visible corona. In a gravity-only Universe, these accelerating and heating effects are not explainable, but in an electric Universe these types of effects from electromagnetic interactions are expected.



[See a larger photograph of the solar winds in the corona](#)

Nothing but electric interaction can explain the increase in speed of the solar wind as it moves away from the Sun. In a gravity-only Universe, one would observe that the winds slow down, and the particles fall back to the Sun. In real terms the opposite happens.

In real terms, the interaction of the plasma currents with the solar wind extends far beyond the visible corona. It extends to double the distance to Pluto, to as far as 100 AU (1 AU is ~150 million kilometers, the mean distance from the Earth to the Sun). In a very real way the solar winds create an electric weather system around the Sun, called the heliosphere that ends only when the solar winds are 'stopped' by the interstellar winds, this happens typically after their traveling for one roughly one year (based on 500km/sec). None of this would be possible in an environment where gravity is the only acting force. But it normal in an electric-powered Universe where the electric force exists and is 39 orders of magnitude stronger than gravity.

## **The Sun is electrically powered, because nuclear-fusion is not an energy source**

The phenomenon of a fusion-powered sun is not actually possible in the real Universe, because nuclear fusion is inherently an energy consuming process. The energy that is derived from nuclear fusion experiments on Earth, or is unleashed as the fury of the hydrogen bomb, actually results from a process of nuclear fission of one of the two heavy isotopes of hydrogen that the so-called nuclear-fusion fuel is made of. The heavy



isotopes that this fuel is made of, are overbuilt atoms, born in the intensely energetic electric interaction at the surface of the Sun. We find the accumulated in seawater, or water in general.

In the process of fusing the overbuilt isotope atoms, the atoms fission, and one of the overbuilt elements thereby splits off with the corresponding release of the energy that was previously invested in the overbuilding process. In this sense the heavy isotopes can be compared to charged up batteries, charged by the Sun. A "fusion-powered Sun" is thereby a contradiction in terms.

Fusion power is possible on Earth by collecting the charged up batteries that have been accumulating in the waters on Earth. However, it takes the processing of half a million tons of seawater to produce enough of one of the heavy isotopes to produce a single ton of fusion fuel, and in addition the processing of another ten million tons of seawater to extract lithium that can be charged up in a nuclear reactor to produce the second part of this single ton of fusion fuel. The resulting single ton of fusion fuel would be sufficient to power a one-gigawatt reactor for a year, if the nuclear fusion process was actually workable, which it is not. The Universe has created strong barriers against nuclear fusion to be happening, perhaps as principle of self-protection. And so, the nuclear fusion process as an energy producing engine isn't happening anywhere in the natural Universe. While it is possible to overpower the natural barriers in the laboratory, with immense energy inputs by technological means, the recovered energy is typically far less than what is required to drive the process, and even then, the extracted energy is of a type that is destructive to the materials that the reactors are made of.

The bottom line is, that what we see when we look at the Sun, or sunbath in on summer days, is the result of electricity in motion, rather than a big fusion furnace burning itself out over the next few billion years. By seeing the Sun as a fusion furnace in our mind, we blind ourselves mentally with a mythological concept that prevents us from utilizing the galactic energy resources that the Universe has created for powering itself with, as a single interconnected whole that is not winding itself down, but is instead expanding. Of course the mythological concept of the isolated fusion-powered Sun, like any other mythology, can be broken at the moment when we enable ourselves to look with the mind's eye at the evidence in the Universe whereby we gain not only a more truthful perception of our world and ourselves, but also gain access to the vast energy resources that literally lay at our feet.

[Continue: to explore Solar Cycles](#)

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While the technology does not yet exist that enables mankind to tap into the galactic electric energy that surrounds our planet and is evident in so many ways, a breakout can be enabled that gets the needed development started. One of the big blocking factors here, is the iron-clad hold on science that the masters of empire exercise, who would lose their control over mankind if real scientific development was to happen

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