

For all the crazy people who believe a bubble/globe surrounds the earth...

From M.I.T.

Invisible Plasma Shield, Which Protects Earth from Radiation, Discovered 7,200 Miles Above Planet

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Scientists have discovered a sharp boundary above the Earth's surface that blocks the ultrafast electrons from entering Earth's atmosphere. Photo: Reuters

The Earth is protected from fast-moving "killer electrons" by an invisible plasma shield, which is located thousands of miles above the planet's surface, according to researchers at the Massachusetts Institute of Technology (MIT) and the University of Colorado Boulder.

High above the Earth's atmosphere, harmful electrons that make up the outer band of the Van Allen radiation belt travel at nearly the speed of light, pelting everything in their path. Exposure to such high-energy radiation can harm satellite electronics and pose serious health risks to astronauts. However, despite their intense energy, these electrons -- circling around the planet's equator -- cannot come below 7,200 miles from the Earth's surface due to the shield, scientists said in a study, published in the journal *Nature* on Thursday.

"It's almost like these electrons are running into a glass wall in space," Daniel Baker of the University of Colorado Boulder and the study's lead author [said, in a statement](#). "Somewhat like the shields created by force fields on *Star Trek* that were used to repel alien weapons, we are seeing an invisible shield blocking these electrons. It's an extremely puzzling phenomenon."

The invisible shield, dubbed the "plasmaspheric hiss," is made up of very low-frequency electromagnetic waves in the Earth's upper atmosphere. Scientific data and calculations have helped researchers deduce that the hiss deflects incoming electrons, causing them to smash into neutral gas atoms in the Earth's upper atmosphere, and ultimately disappear.

"It's a very unusual, extraordinary, and pronounced phenomenon," John Foster, associate director of MIT's Haystack Observatory, [said in a statement](#). "What this tells us is if you parked a satellite or an orbiting space station with humans just inside this impenetrable barrier, you would expect them to have much longer lifetimes. That's a good thing to know."

The latest study is based on data collected by NASA's Van Allen Probes that are orbiting within the harsh environments of the Van Allen radiation belt. During the study, the researchers observed an "exceedingly sharp" barrier against harmful electrons, which was steady enough to withstand a solar wind shock in October 2013. To

determine what could create and maintain such a barrier, the researchers considered a few possibilities, including effects from the Earth's magnetic field and radio signals from human transmitters on Earth.

"It's like looking at the phenomenon with new eyes, with a new set of instrumentation, which give us the detail to say, **'Yes, there is this hard, fast boundary,'**" Foster said.

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With much talk focused on the Van Allen Belt, has anyone ever wondered whether we contributed to this effect by launching and detonating nuclear weapons in space? Naturally it'll be claimed the sun gives-off a greater volume anyhow.

We have two notable tests to analyze. Firstly, on August 1 and 12, 1958, nuclear warheads were detonated in missiles over Johnston Island in the Pacific. These detonations were accompanied by impressive visual displays seen over wide areas, leading observers to the opinion that the detonations took place at very high altitudes. These displays were even seen on Samoa, some 2,000 miles from Johnston Island.

Secondly, in 1962 starfish prime test detonated a 1.4 megaton bomb 400 km over the central pacific. (100 X's more powerful than the Hiroshima bomb). The electromagnetic pulse (called an EMP) damaged communications and electronics from Hawaii to New Zealand (a distance of 7000 km).

If this was done today it would cause billions of dollars in damages by wiping out computer systems and satellites over an area of millions of square kilometers. The gamma energy of a nuclear weapon causes heat when exploded in the atmosphere, howbeit in space there exists no atmosphere to heat-up. Therefore, the gamma energy is turned into an EMP that fry's electronics.

Just one bomb exploded over the United states at 500 km would destroy all computers and electronics that were turned on at the time in the entire country. Military electronics are supposedly hardened against this

Although, the U.S. continues underground nuclear weapon testing in Nevada northwest of Las Vegas, testing nuclear weapons in space is currently banned. Until November 1962, the vast majority of U.S. nuclear tests were above ground. After the acceptance of the Partial Nuclear Test Ban Treaty tests were moved underground. Both the Soviet Union and USA tested many nuclear weapons above ground from 1958-62. It was around this period of 1962-63, that many cases of cancer began to be discovered across the United States. It's now estimated the U.S. has produced 70,000 nuclear warheads and conducted over one thousand tests.

By February 2006 over \$1.2 billion in compensation had been paid to U.S. citizens exposed to nuclear hazards as a result of the U.S. nuclear weapons program, and by 1998 at least \$759 million had been paid to the Marshall Islanders in compensation for their exposure to U.S. nuclear testing.
