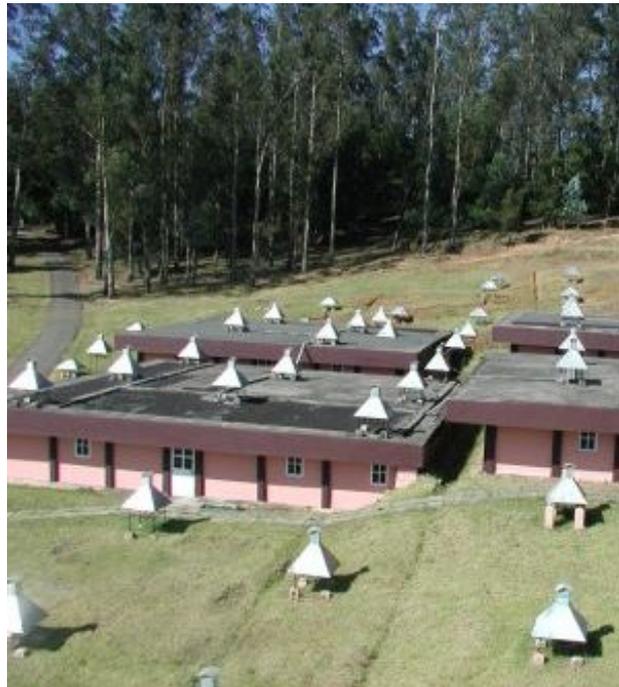


# Earth's magnetic field: There was a crack in the Earth's protective shield

 [revealedtheninthwave.blogspot.in/2016/10/blog-post\\_708.html](http://revealedtheninthwave.blogspot.in/2016/10/blog-post_708.html)

Observations made with the Cosmic Ray Telescope India show that the Earth's magnetic field weakened during a geomagnetic storm of 2015, which enabled the penetration of cosmic rays on the Earth's surface.

In the early hours of June of 2015, a giant cloud of magnetized plasma blasted from the Sun in a solar eruption. Forty hours later, these particles hit the Earth's magnetosphere, triggering a severe geomagnetic storm pulled knocked out radio signals to North and South America. New observational data from cosmic ray telescope, [GRAPES-3](#) (Gamma Ray Astronomy PeV EnergieS phase-3), in India, show that during this storm, an unusually high flux of cosmic rays break the magnetosphere. Simulations executed by cooperation GRAPES-3, which includes researchers from India and Japan indicate that the outbreak of cosmic rays allowed to enter, because the geomagnetic storm temporarily weakened the polar magnetic field of the Earth.



The Earth's magnetic field deflects more cosmic rays, protecting the living matter from harmful radiation. But major geomagnetic storms can reconfigure this protective shield, creating weak areas leaving radiation and cosmic rays to pass through them. This failure can occur when magnetized plasma from Sun deforms the magnetic field, stretching the shape of the poles and by reducing its ability to deflect the charged particles. Numerical simulations performed by researchers of GRAPES-3 indicate that this is exactly what happened after the solar explosion 21<sub>is</sub> June, allowing the rupture of the cosmic rays in the telescope detected.

**Source :** [APS](#)

**More to the publication :** [Transient Weakening of Earth's Magnetic Shield Probed by a Cosmic Ray Burst](#) .  
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