

Forecast: Extreme Weather
Anomalies as New Exhibit Enters
Museum of Life and Science
*Electric Space: Bolts, Jolts and
Volts from the Sun*

On exhibit February 1-April 30

Have you ever found yourself surrounded by solar flares, in the dark during an eclipse, or carried away by a gust of solar wind? You just might when you visit *Electric Space: Bolts, Jolts and Volts from the Sun* at the Museum of Life and Science February 1 through April 30. What causes such phenomena? Coming to the Museum directly from Spa[®] Center Houston, *Electric Space* answers questions about all kinds of "space weather," including solar winds, solar flares, and magnetic storms.

"*Electric Space* is a true multimedia experience with haunting sounds from space and eye-catching graphics, plus alluring hands-on devices," says Museum President and CEO Dr. Thomas Krakauer. "*Electric Space* explores the mysteries of a subject that seems out-of-reach in a way that people of all ages and interests can understand and enjoy."

Northern Lights--Earth's Greatest Light Show

Fascinating interactive devices and amazing visual imagery will encourage visitors of all ages to take a closer look at the effect "space weather" has on technology and how solar winds, can cause Earth's greatest light show, the polar aurora, better known in this hemisphere as the Northern Lights.

Visitors will discover that the space environment includes not only planets and stars, but also invisible magnetic fields, fast-moving electrically-charged particles, and plasma, which is the most common form of matter in the universe. Space weather results when plasma interacts with the Earth's magnetic field. Perhaps the most dramatic example of space weather manifesting itself in nature are the mysterious and beautiful Northern Lights, or polar "aurora." Scientists have discovered that these shimmering lights are caused by solar winds.

Visitors Create Luminous Light Shows

Striking representations of aurora, in full color murals and a high resolution, interactive video display will prompt visitors to try their hand at creating their own light shows, not with solar winds whipping through the Museum, but with a 30-inch-diameter aurora terrella, a device that simulates aurora as seen from space.

Visitors can also touch the surface of a plasmasphere and manipulate lightning-like beams of plasma as they learn how we use plasma to light up our world in the form of fluorescent and neon light.

The exhibit features the Sun and its role in the way we live and work on the Earth. At Our Dynamic Sun, visitors can track the Sun's patterns and motion on a video with spectacular imagery of sunspots, giant solar eruptions, solar flares, X-rays, and a solar eclipse. These occurrences are all types of space weather, and have a variety of effects on us and on our planet.

At Planet Earth, A Great Magnet, visitors discover magnetism and how it relates to electricity and to plasma. They'll find that the Earth acts as a giant magnet, and that the area of space around the Earth is controlled by Earth's magnetic field. This area, known as Earth's magnetosphere, protects our planet from the danger of the Sun's solar wind.

Plasma Storms Affect Technology

Solar wind energy in our magnetosphere can result in devastating space plasma storms. These storms have the potential to cause communication and science satellites to fail, and damage electric power systems on the surface of the Earth. In fact, during periods of gusty solar wind, powerful magnetic storms in space near the Earth are responsible for radio and television static, power blackouts, navigation problems for ships and airplanes with magnetic compasses, and damage to spacecraft, as well as the creation of the vivid polar aurora.

Visitors will experience firsthand the effect space plasma storms have on radio waves by comparing a "normal" transmission of a radio broadcast to one that has been interrupted by such storms. They can experiment with a Geiger counter to detect and measure radiation. A high-resolution, interactive video presentation on the Northern Lights features stunning footage of early evening auroras, auroral breakup, and the magnetosphere.

Reaching Toward the Stars, the final exhibit station, presents the region in space dominated by the Sun, called the heliosphere. Visitors can listen to sounds from Jupiter, Saturn, and Earth's space environments and learn about the important implications space physics has for our broader understanding of the universe.

The Museum has planned special events to enhance your visit to *Electric Space*, including events with the Raleigh Astronomy Club, a visit from CHAOS (Chapel Hill Observation and Astronomical Society) members, a talk on the recent discovery of a magnetar (a new kind of star), solar observation sessions, and a look at telescope operation over the Internet.

Electric Space: Bolts, Jolts and Volts from the Sun was developed by the Space Science Institute in Boulder, Colorado, and the Franklin Institute Science Museum in

Science Initiative of the General Assembly. The Museum of Life and Science is a regional science-technology center dedicated to furthering education in the natural and physical sciences for people of all ages. The Museum is open 10am to 5pm, Monday through Saturday, and on Sundays from noon to 5pm. Admission to *Electric Space* is free with general admission. General Museum admission is \$6 for adults, \$4 for children 3-12 and seniors, and free to ages 2 and younger.

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