



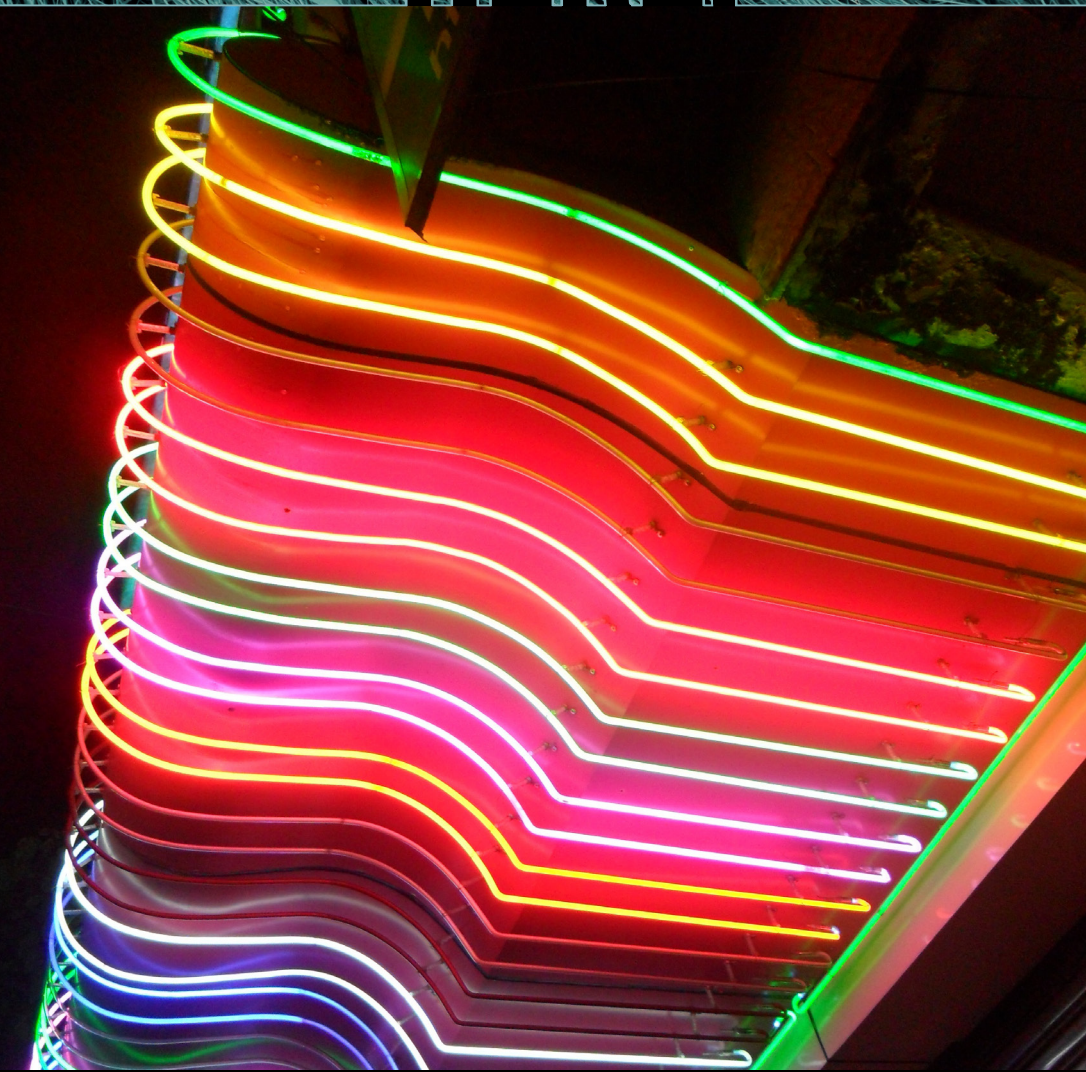
HERE.



THERE.



EVERYWHERE.



Neon Sign.

In a neon sign, an electric current runs through a tubular glass fixture that is filled with gas. This electric current causes collisions between the electrons and atoms in the neon gas. When various electrons relax, the energy released produces light that has a very specific color that invite us through the diner door.

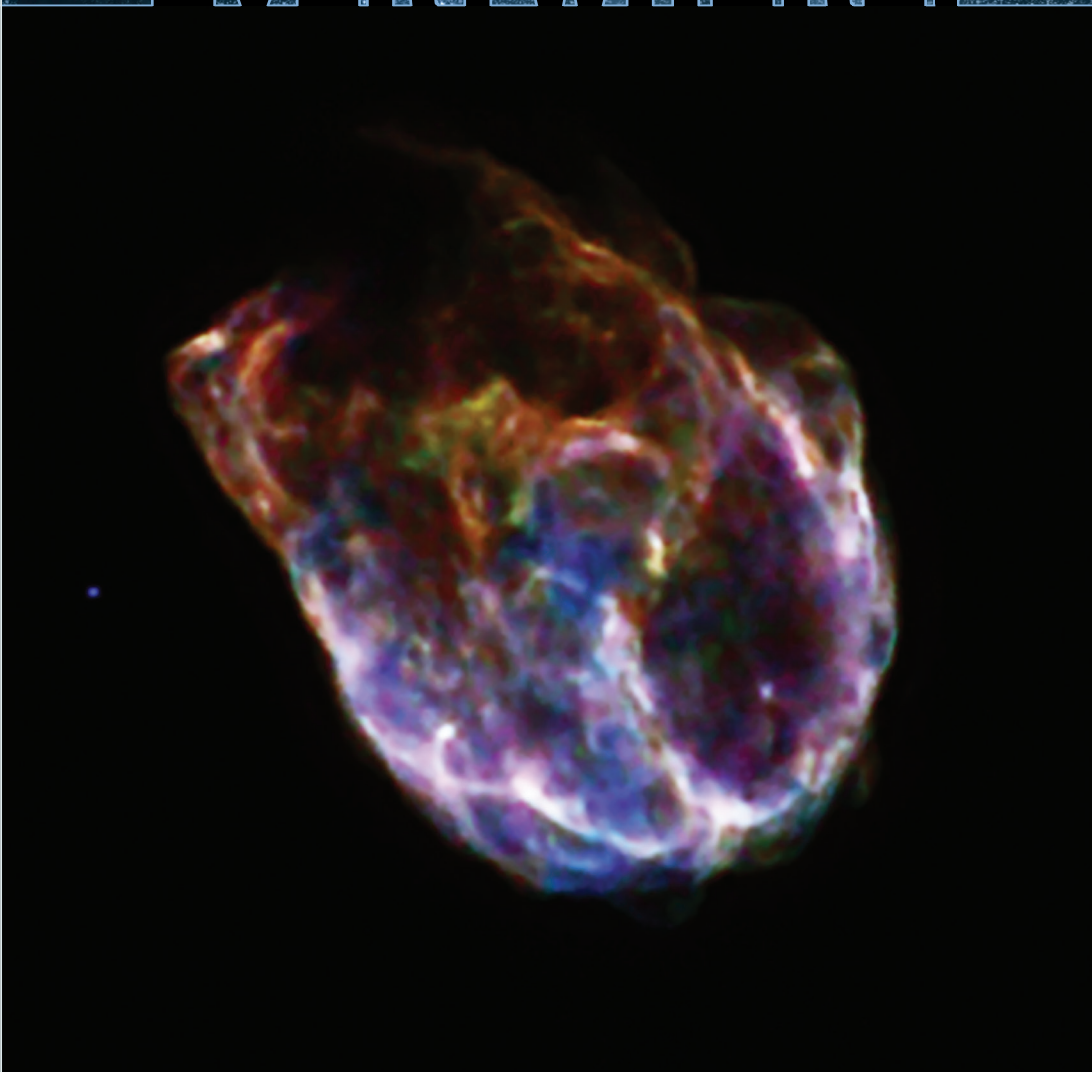
(Credits: Wikimedia Commons)



Aurora.

Streams of particles with electric charge are continually leaving the Sun and traveling through the Solar System. As these particles approach the Earth, some of them are channeled by the planet's magnetic field toward the North and South poles where they collide with atoms in the Earth's atmosphere. This produces the famous light shows we call auroras, or, more commonly in the Northern Hemisphere, the "Northern Lights."

(Credits: Wikimedia Commons)



Supernova Remnant.

When a massive star explodes, it generates an outgoing blast wave that travels through the space around the now-dead star. This wave heats the gas in this region to a temperature of several million degrees, making the molecules and atoms in the gas vibrate and collide. When the electrons in this superheated gas relax, they release their excess energy mostly in the form of X-ray light.

(Credits: NASA/CXC/NCSU/K.J.Borkowski et al.)

ATOMIC LIGHT SHOW Atoms, the building blocks of matter, are constantly in motion, moving around at speeds that are thousands of miles per hour at room temperatures, and millions of miles per hour behind a supernova shock wave. In a collision of an atom with another atom, or with a free-roaming electron, energy can be transferred to the atom. This extra energy can then be released in the form of a light wave.

www.nasa.gov

<http://hte.si.edu/atoms>

**BECAUSE WHAT HAPPENS HERE,
HAPPENS THERE,
HAPPENS EVERYWHERE.**

