



HERE.



THERE.



EVERYWHERE.



Arc Welder.

Because of the large electric voltage between the welder's tool and the metal, sparks fly and a strong electric current flows, generating a brilliant light display and enough heat to melt the metal and allow it to bond to another metallic surface.

(Credits: Wikimedia Commons)



Lightning.

In massive storm clouds, the friction between large particles composed of many atoms builds up a large separation of electric charge, and creates voltages approaching 100 million volts. When the voltage becomes this large, it can cause an explosive electric discharge observed as a lightning bolt.

(Credits: Wikimedia Commons)



Spinning Stars.

An electric voltage can also be produced by the rotation of a magnet in the presence of an electrical circuit. This is the principle behind a generator. Rapidly spinning, highly magnetic neutron stars can act as generators and produce electric voltages in excess of a trillion volts. The energy released by these cosmic super-generators can light up clouds that extend over several light years.

(Credits: NASA/CXC/SAO/P.Slane, et al.)

ZAP! You shuffle along a carpet, reach out to touch a doorknob and—zap!—a sudden flow of current, or electric discharge, gives you a mild shock. The cause? Friction between your feet and the carpet built up negative electric charge on your body. Electric discharges can occur wherever there is a large build-up of electric charge, and can create spectacular displays of sudden energy release on Earth and in space.

www.nasa.gov

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

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

