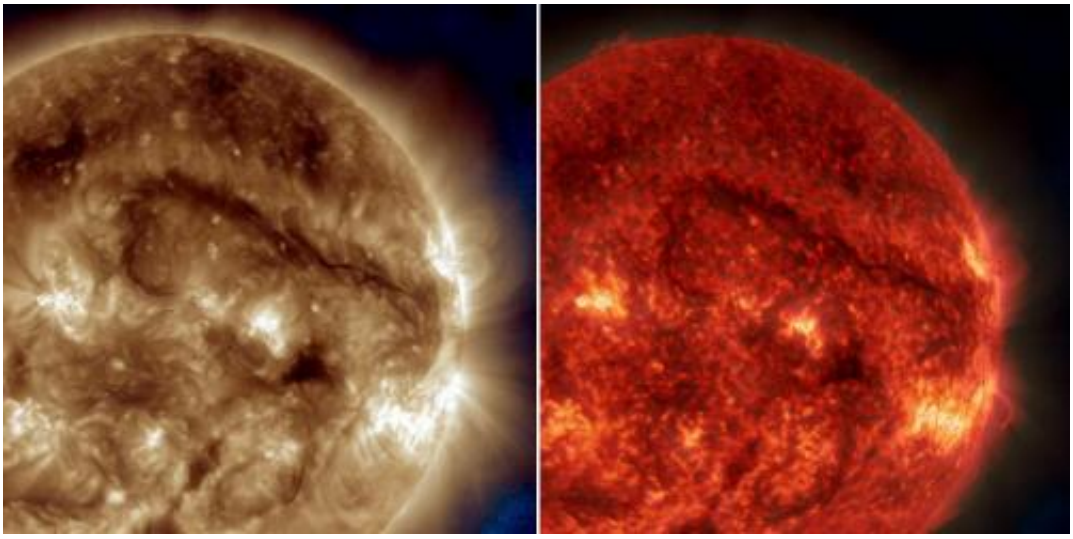
SDO watches giant filament on the Sun

October 3 2014, by Steele Hill



A dark snaking line in the upper right of these images on Sept. 30, 2014, show a filament of solar material hovering above the sun's surface. NASA's SDO captured the images in extreme UV light -- different colors represent different wavelengths of light and different temperatures of solar material. Credit: NASA/SDO

A snaking, extended filament of solar material currently lies on the front of the sun— some 1 million miles across from end to end. Filaments are clouds of solar material suspended above the sun by powerful magnetic forces. Though notoriously unstable, filaments can last for days or even weeks.

NASA's Solar Dynamics Observatory, or SDO, which watches the sun 24 hours a day, has observed this gigantic filament for several days as it

rotated around with the sun. If straightened out, the filament would reach almost across the whole sun, about 1 million miles or 100 times the size of Earth.

SDO captured images of the filament in numerous wavelengths, each of which helps highlight material of different temperatures on the sun. By looking at any solar feature in different wavelengths and temperatures, scientists can learn more about what causes such structures, as well as what catalyzes their occasional giant eruptions out into space.

Look at the images to see how the filament appears in different wavelengths. The brownish combination image was produced by blending two wavelengths of extreme UV light with a wavelength of 193 and 335 Angstroms. The red image shows the 304 Angstrom wavelength of extreme UV light.

Provided by NASA's Goddard Space Flight Center