A view of space
from cyberspace

If you intend to use the Internet for space-related investigative and graphical work, you'll need to know where to look—and (perhaps even more importantly) how to look.

There are formats and encoding methods that you've probably never seen before, bizarre user interfaces to semi-secret government web sites, and views of Earth and space you'd never have imagined.

Fascinating new images are delivered to the web on a daily basis by a vast host of land- and space-based observatories, like the much-touted Hubble Space Telescope. And best of all, some of these images can be used with no royalty fee, but be certain to check the posted copyright notices to ensure that you're not breaking the law.

Our eyes see the world through a fairly narrow spectrum—what we refer to as *visible light*. This range extends from violet to red before it disappears into the ultra and infra registers, respectively. Beyond the realm of visible color resides the remainder of wave-related energy phenomena—radio, microwave, X-rays, gamma rays, etc.

Scanning the heavens only for objects which our limited eyesight can perceive would prevent us from "seeing" the majority of the cosmos that surrounds us. By filtering out unwanted wavelengths, the CCD capture array (a more expensive cousin of the humble version in your desktop scanner) records only the specific 'light' that was targeted.

A broad range of wavelength 'samples' may be taken during the exposure, similar to the way that your scanner grabs images in their Red, Green and Blue transmissive primaries. After the exposure, the separate color channels can either be automatically merged, or delivered back to an Earth-based computer for post-processing. The main goal is to deliver a pleasing and informative image for our consumption. While scientists would opt for *informative* over *pleasing*, most web viewers would just like to see some cool pics. So, some of the images you find may portray the subject matter from a natural perspective, while others attempt to differentiate between its noteworthy scientific aspects.

Great examples of split-wavelength imaging are the EIT solar images which are captured by SOHO (Solar & Heliospheric Observatory) which display different characteristics of the Sun's activity in each of the four shots which span a part of the spectrum from 171 to 304 nanometres. The SOHO platform is a satellite which is positioned about 1.5 million kilometers from Earth at one of the Lagrangian points. This is where the gravitational pull of the Earth and Sun are balanced, allowing the craft to easily maintain in a position where it has an unobstructed view of our star.

You shouldn't bemoan the fact that your eyes can only see a thin slice of the energy spectrum. If you were able to see radio waves, you'd likely see little else because the air is just packed full of them. Talk about clutter—what a mess!

Check out the next issue of Graphic Exchange when the intrepid José Chung (official GX correspondent for all things bizarre) explores these and other cosmic issues that impact on the graphics industry.

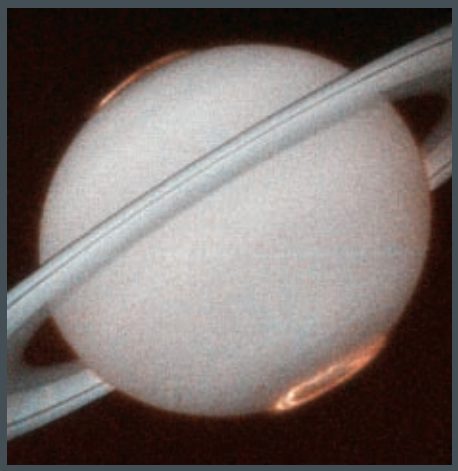
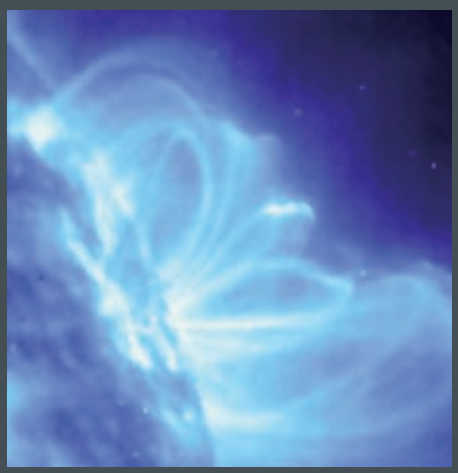


IMAGE COURTESY STSCI WWW.HUBBLESITE.ORG



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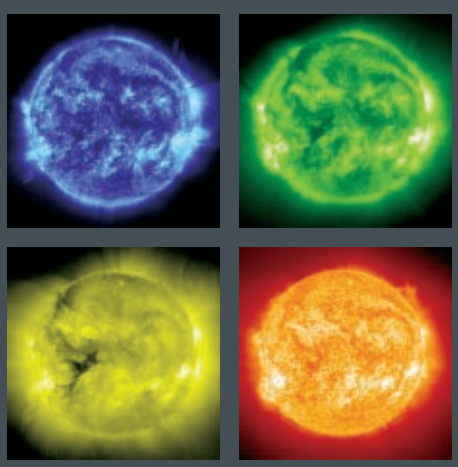

The Hubble shot of *SATURN* (top) is optimized to show the planet's polar auroras. A high-resolution SOHO EIT image (centre) gives us a great view of some *SOLAR LOOPS* (or filaments) that frequently leap up from the surface of the sun. The four EIT images of the sun (171, 195, 284, 304 nm) at the bottom each have unique attributes that are invisible at other wavelengths.