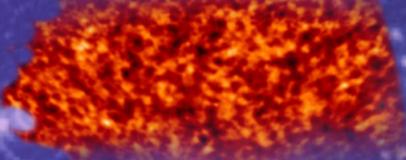
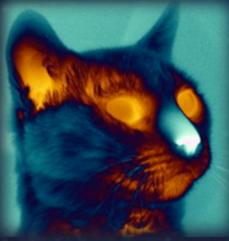
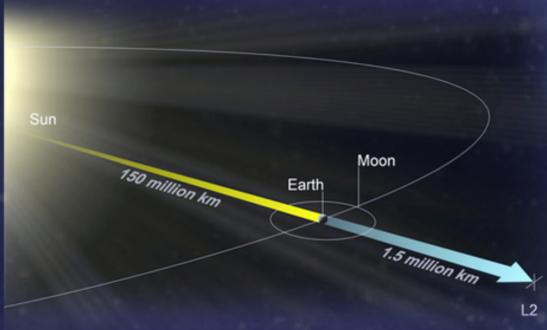
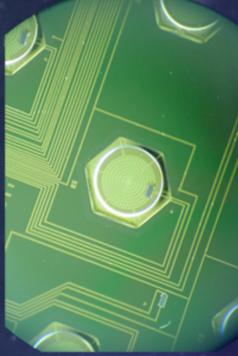
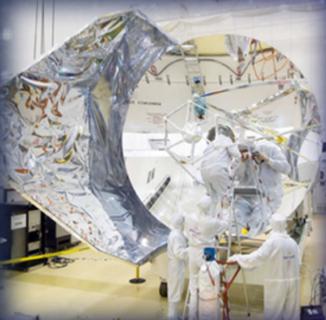


HERSCHEL/PLANCK cheat sheet

Though they'll be launching into space on the same rocket and will have similar orbits in space, Herschel and Planck are two very different missions that promise to dramatically change what we know about the history of the universe and our own Milky Way galaxy. The chart below shows how these important missions differ from one another.

MISSION:	HERSCHEL	PLANCK
WHO WAS...?	<p>William Herschel (1738-1822) was a British astronomer who discovered infrared radiation and the planet Uranus. He also discovered many moons, comets and nebulae.</p> 	<p>Max Planck (1858-1947) was a German physicist who founded quantum theory, which explains the universe at an atomic level. He is considered one of the greatest physicists of the twentieth century.</p> 
WHAT DOES IT DO?	<p>Herschel will teach us about the birth and death of stars in the Milky Way, and about the formation of galaxies billions of light-years away.</p> 	 <p>Planck will teach us about the explosive birth of our universe, an event that occurred nearly 14 billion years ago in what's known as the Big Bang.</p>
HOW BIG ARE THEY?	 <p>35 feet</p>  <p>29.53 feet</p>	 <p>13.12 feet</p>  <p>16 feet</p>
WHICH WAVELENGTHS OF LIGHT DO THEY OBSERVE?	<p>Herschel will observe infrared and submillimeter light with wavelengths of 57 to nearly 700 microns.</p> 	 <p>Planck will observe millimeter and microwave light with wavelengths of 350 microns to 1 centimeter.</p>
WHERE ARE THEY GOING?	<p>Herschel and Planck will both orbit the second Lagrange point of the Sun-Earth system -- a spot farther away than the moon and on the other side of Earth from the sun.</p> 	
WHAT'S NASA'S ROLE?	<p>NASA is providing the JPL-built mixers, local oscillator chains and power amplifiers for one of Herschel's three instruments, and bolometer detector arrays and readouts for another one of the instruments. NASA also operates the NASA Herschel Science Center at Caltech.</p> 	<p>NASA is providing the JPL-built cooler and bolometers for Planck. It developed receivers, transistors and amplifier technology. NASA operates the U.S. Planck Data Center at Caltech.</p> 
WHAT'S THE COOLEST FEATURE?	<p>Herschel has the largest astronomy mirror ever launched into space -- 3.5 meters as opposed to Hubble's 2.4-meter mirror.</p> 	<p>One of Planck's instruments will be chilled to just 0.1 Kelvin. That's almost absolute zero - the coldest theoretical temperature in the universe.</p> 