

**The target is the launch of the Kepler Mission to look for life on other planets. The launch was on 6 March, 2009.**

**Event: The launch, itself.**

**Location: Cape Canaveral AF Station, Florida.**

**Items: Delta II rocket.**

**Other viewable aspects: Basic level viewers should be expected to get the launch with associated sounds, smells, dimensional descriptors, locational descriptors (both physical descriptors, as well as “nighttime”, etc.), etc.**

**Intermediate level viewers should be expected to get much more detailed information about each of the previous aspects, along with purposes, associations, reasons for the target, impressions of people at the location, etc.**

**Advanced level viewers should be expected to get details about exact sizes (of rocket, instrument packages, location, etc.), exact weights, times involved in the launch, project ramifications, etc.**

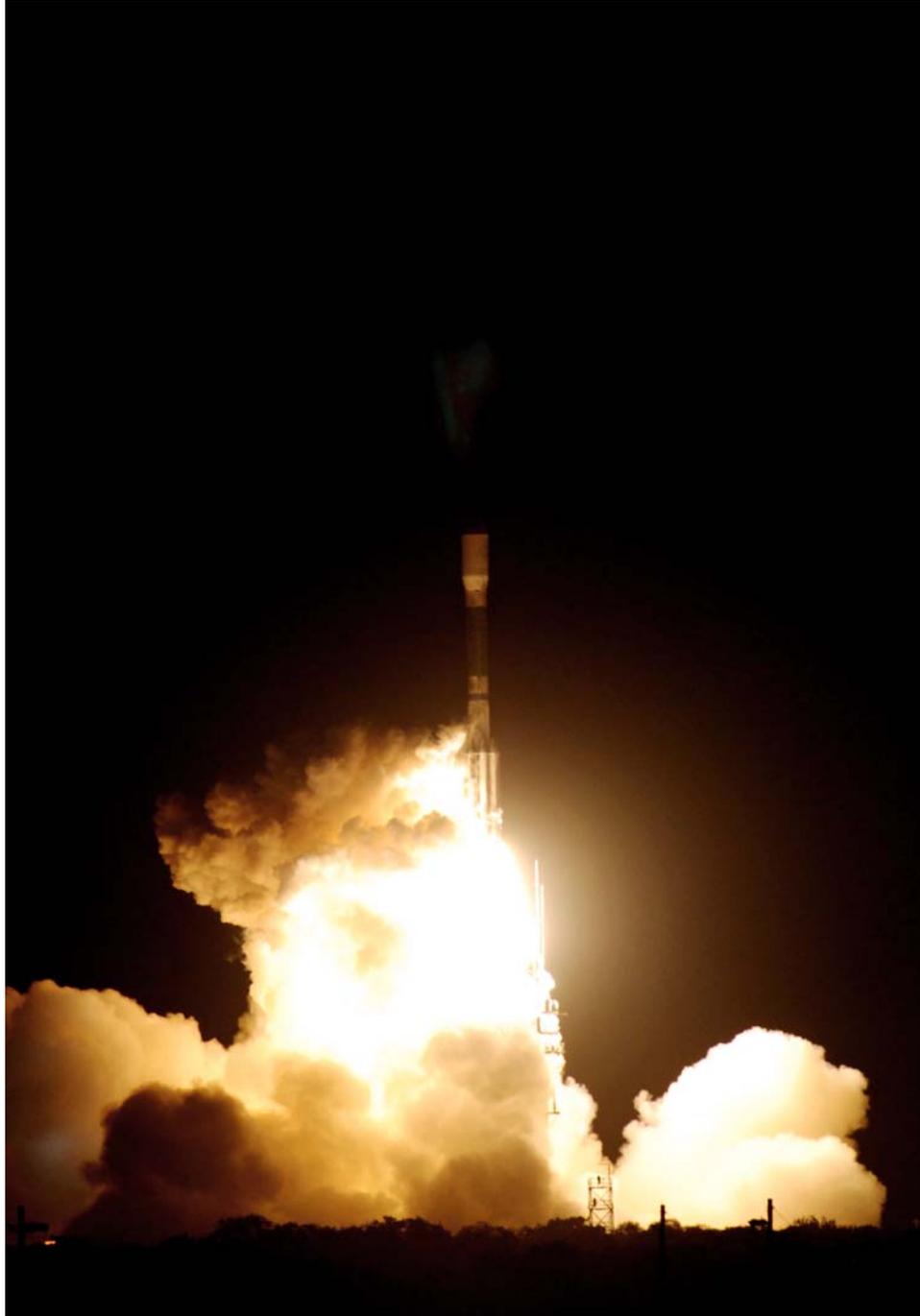
**URL:**

**[http://discoverynewfrontiers.nasa.gov/news/Discovery/2009/news\\_030609.html](http://discoverynewfrontiers.nasa.gov/news/Discovery/2009/news_030609.html)**

### **Kepler Mission Rockets to Space in Search of Other Earths 03.06.09**

NASA's [Kepler](#) mission successfully launched into space from Cape Canaveral Air Force Station, FL, aboard a Delta II rocket at 10:49 p.m. EST, Friday. Kepler is designed to find the first Earth-size planets orbiting stars at distances where water could pool on the planet's surface. Liquid water is believed to be essential for the formation of life.

"It was a stunning launch," said Kepler Project Manager James Fanson of NASA's Jet Propulsion Laboratory in Pasadena, CA. "Our team is thrilled to be a part of something so meaningful to the human race -- Kepler will help us understand if our Earth is unique or if others like it are out there."



Liftoff of the Delta II rocket carrying NASA's Kepler spacecraft.  
**Image credit:** NASA/Jack Pfaller

Engineers acquired a signal from Kepler at 12:11 a.m. Saturday, after it separated from its spent third-stage rocket and entered its final Sun-centered orbit, trailing 950 miles behind Earth. The spacecraft is generating its own power from its solar panels.

"Kepler now has the perfect place to watch more than 100,000 stars for signs of planets," said William Borucki, the mission's principal investigator at NASA's Ames Research Center at Moffett Field, CA. Borucki has worked on the mission for 17 years. "Everyone is very excited as our dream becomes a reality. We are on the verge of learning if other Earths are ubiquitous in the galaxy."

Engineers have begun to check Kepler to ensure it is working properly, a process called "commissioning" that will take about 60 days. In about a month or less, NASA will send up commands for Kepler to eject its dust cover and make its first measurements. After another month of calibrating Kepler's single instrument, a wide-field charge-couple device camera, the telescope will begin to search for planets.

The first planets to roll out on the Kepler "assembly line" are expected to be the portly "hot Jupiters" -- gas giants that circle close and fast around their stars. NASA's Hubble and Spitzer space telescopes will be able to follow up with these planets and learn more about their atmospheres. Neptune-size planets will most likely be found next, followed by rocky ones as small as Earth. The true Earth analogs -- Earth-sized planets orbiting stars like our Sun at distances where surface water, and possibly life, could exist -- would take at least three years to discover and confirm. Ground-based telescopes also will contribute to the mission by verifying some of the finds.

In the end, Kepler will give us our first look at the frequency of Earth-size planets in our Milky Way galaxy, as well as the frequency of Earth-size planets that could theoretically be habitable. "Even if we find no planets like Earth, that by itself would be profound. It would indicate that we are probably alone in the galaxy," said Borucki.