



# Kepler

The word "Kepler" is written in a large, blue, 3D-style font. A yellow orbital path with a small blue and white Earth globe at one point is superimposed over the letters.

## The Kepler End-to-End Data Pipeline: From Photons to Far Away Worlds

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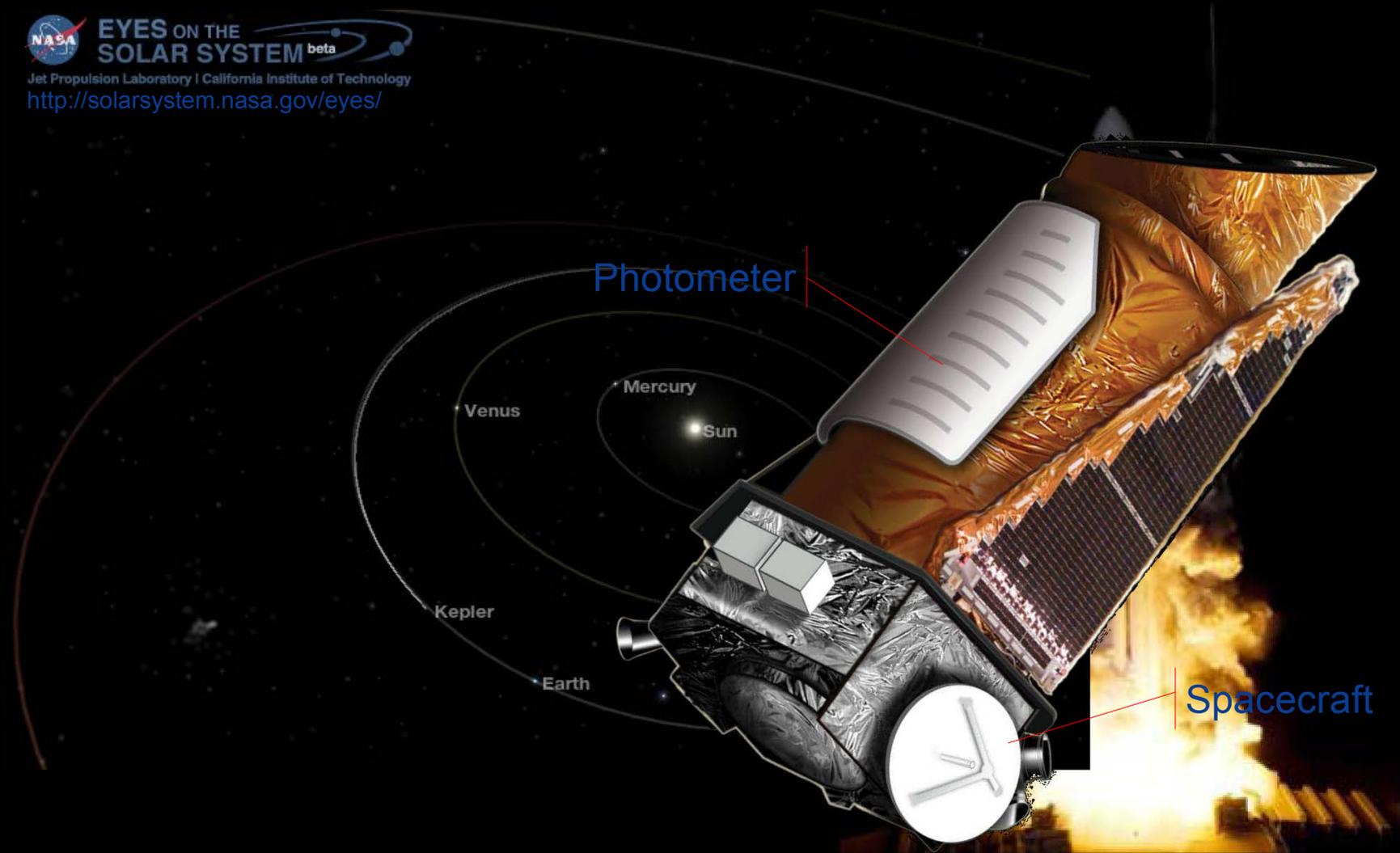
Jet Propulsion Laboratory  
California Institute of Technology  
Pasadena, CA



# Kepler Mission Overview

*Kepler*

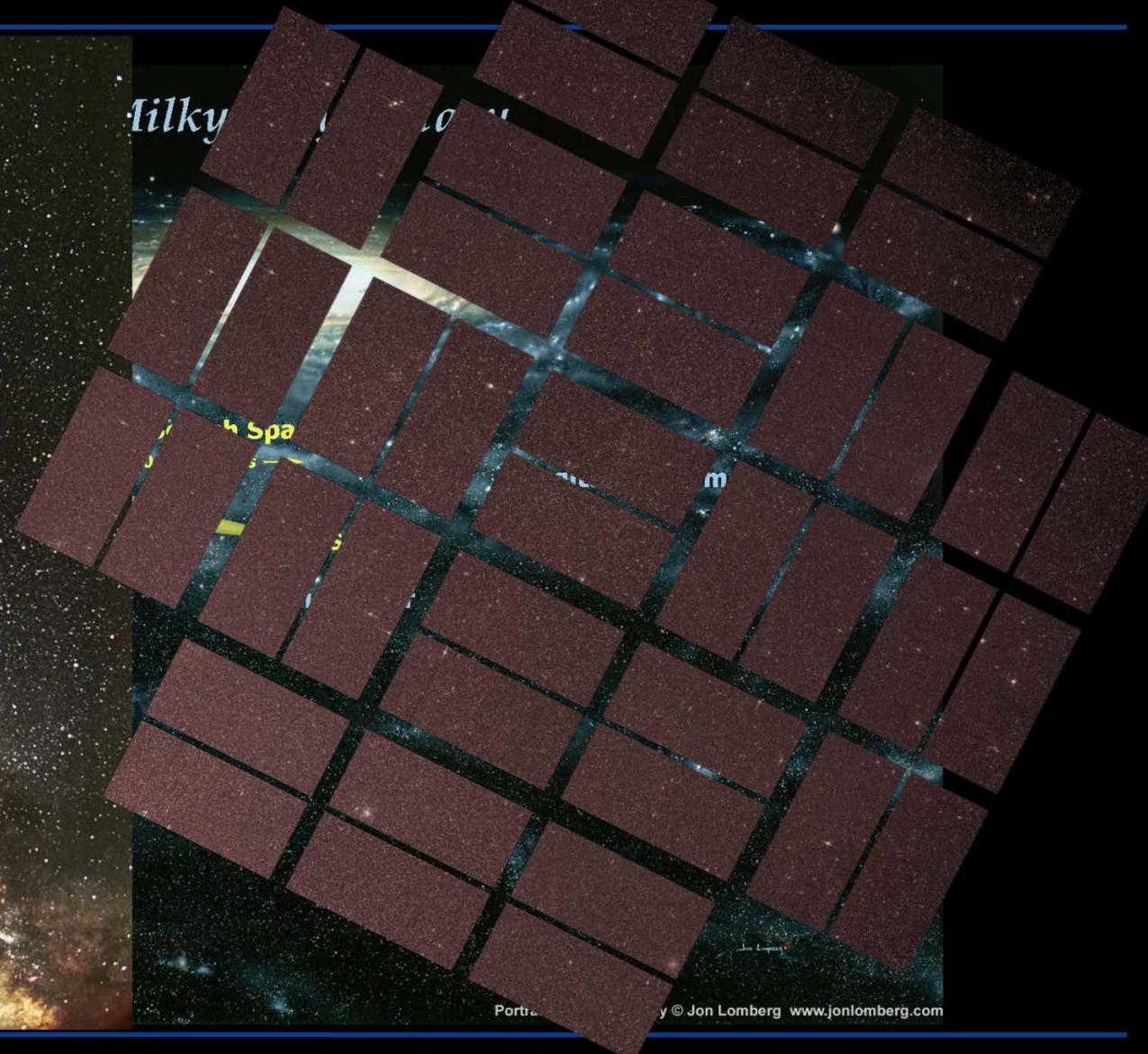
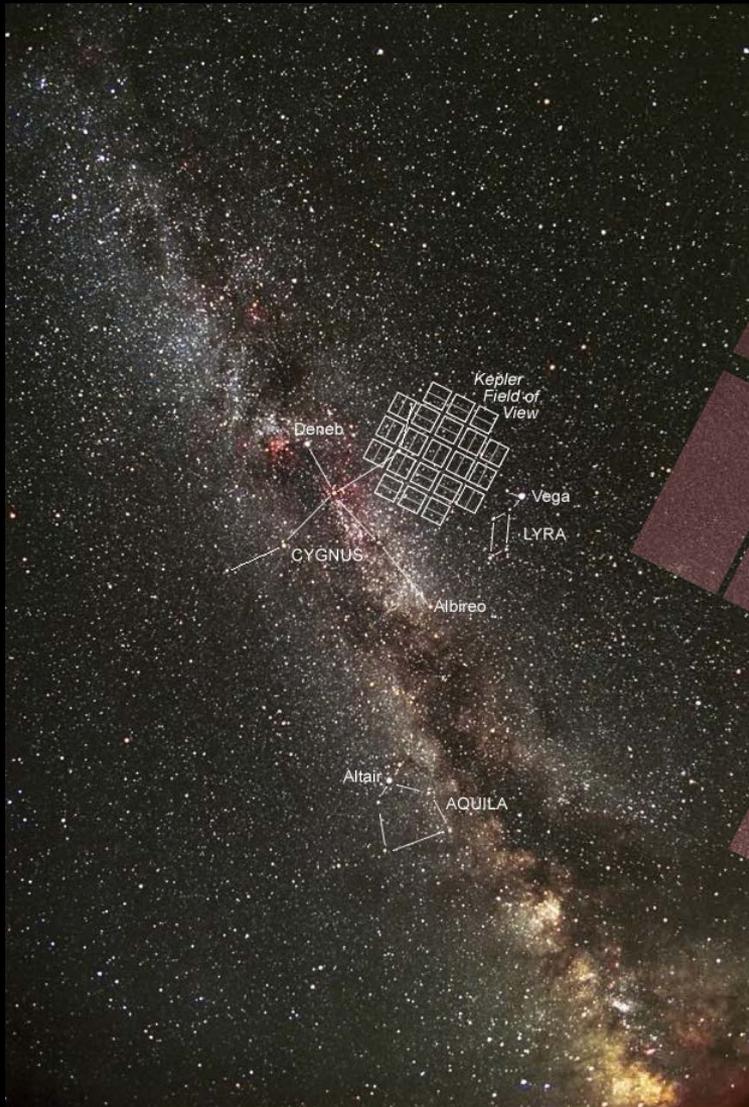
 **EYES ON THE SOLAR SYSTEM** beta  
Jet Propulsion Laboratory | California Institute of Technology  
<http://solarsystem.nasa.gov/eyes/>





# The Kepler Field

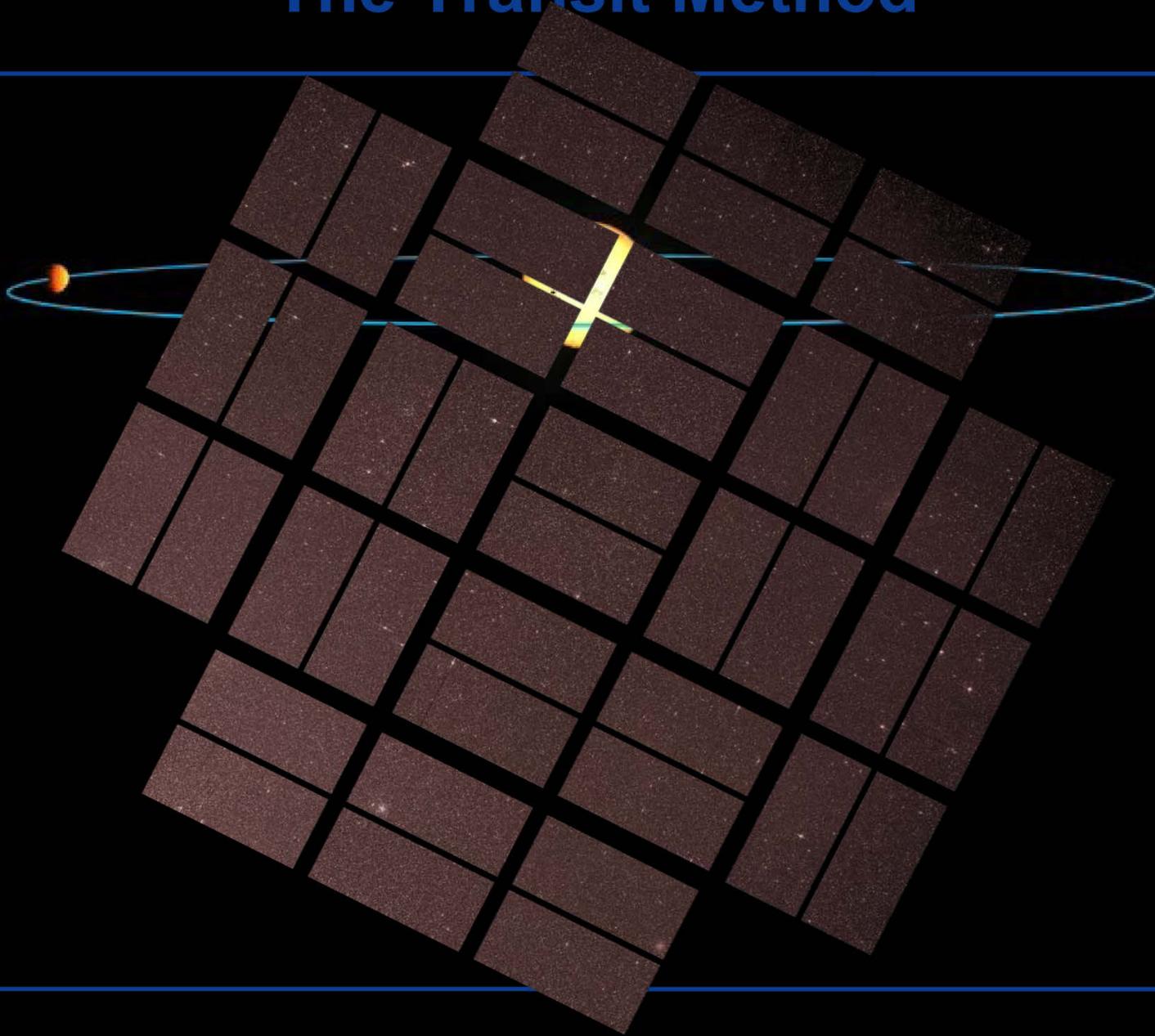
*Kepler*





# The Transit Method

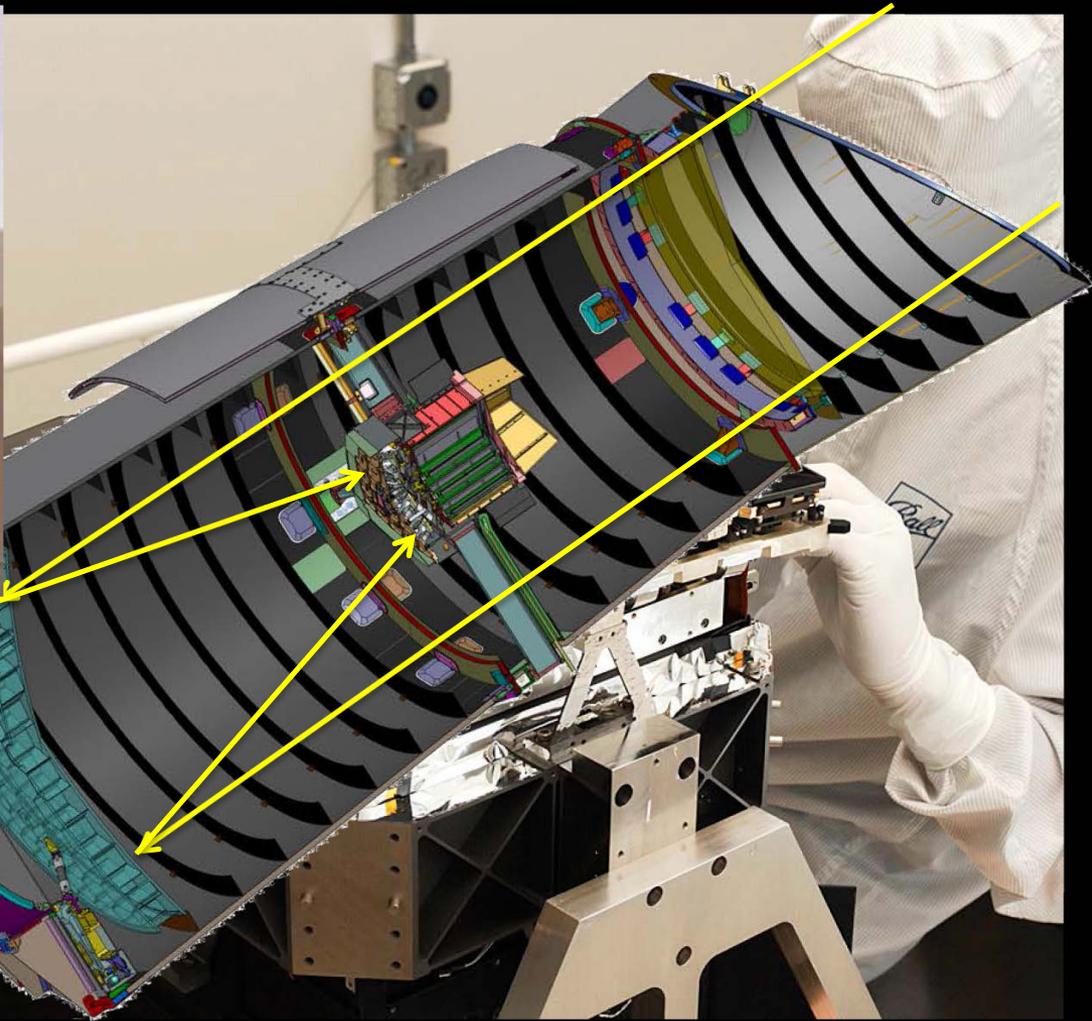
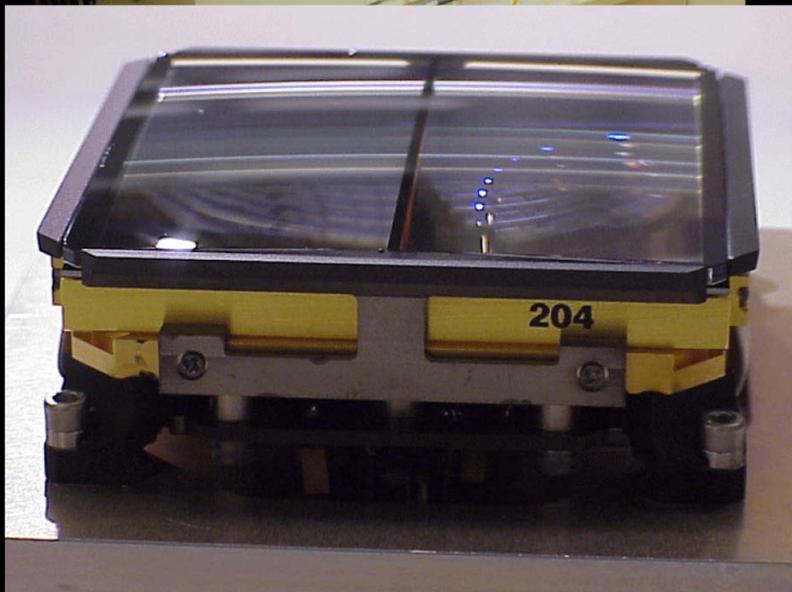
*Kepler*

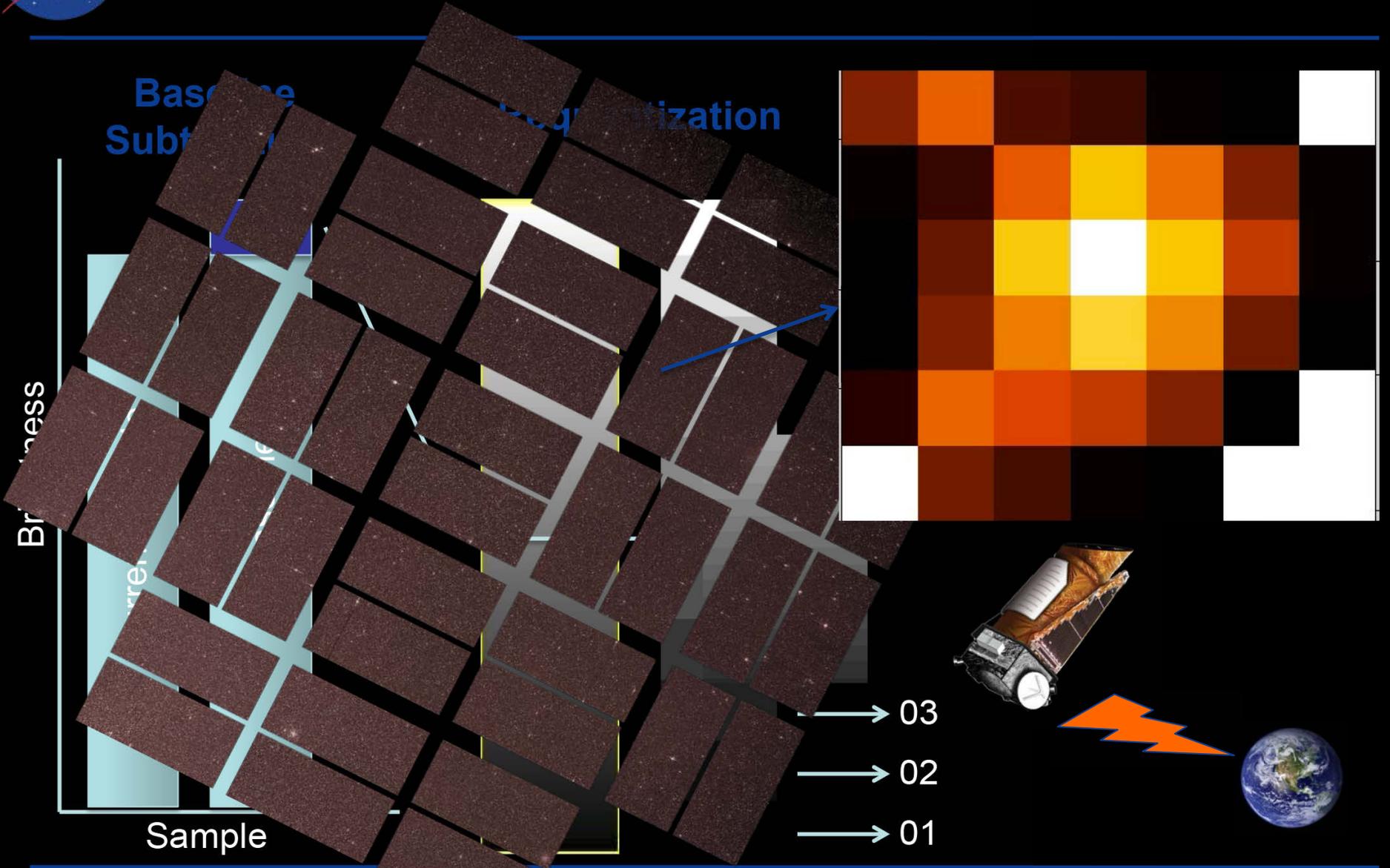




# The Kepler Photometer

*Kepler*







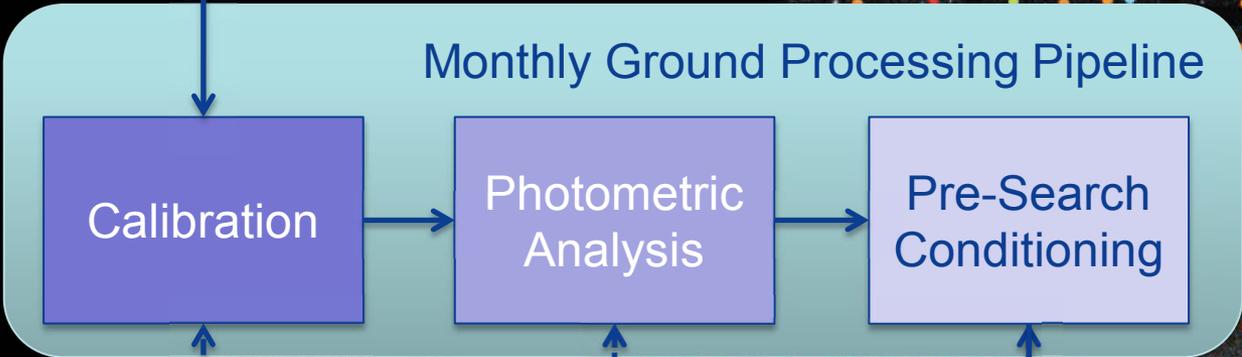
# Ground Processing



## Locations of Kepler Planet Candidates

Locations of Kepler Planet Candidates

Raw  
Photometry  
Data

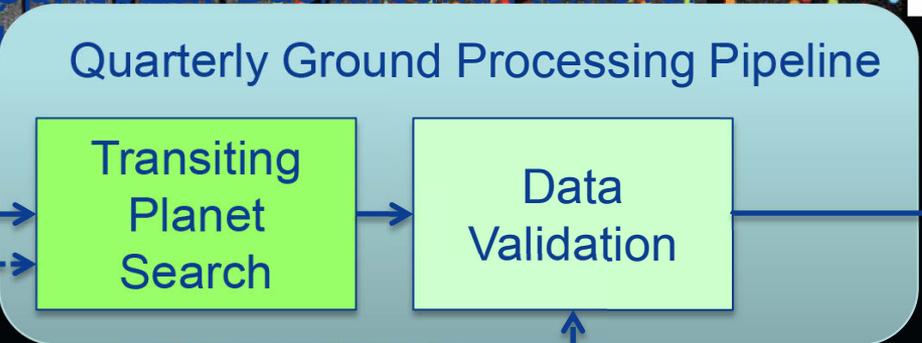
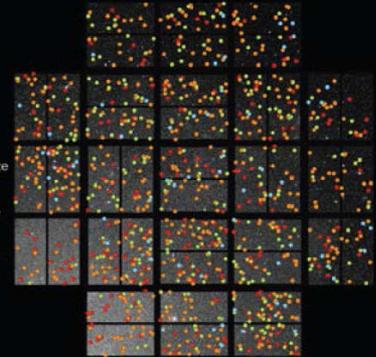


Calibration

Photometric  
Analysis

Pre-Search  
Conditioning

- Earth-size
- Super-Earth size  
1.25 - 2.0 Earth-size
- Neptune-size  
2.0 - 6.0 Earth-size
- Giant-planet size  
6.0 - 22 Earth-size



Transiting  
Planet  
Search

Data  
Validation

Systemic Noise  
Black Sky  
Dark Current  
Thermal Transient  
Determines Statistical  
Detects Periodic  
Rejects False Positives

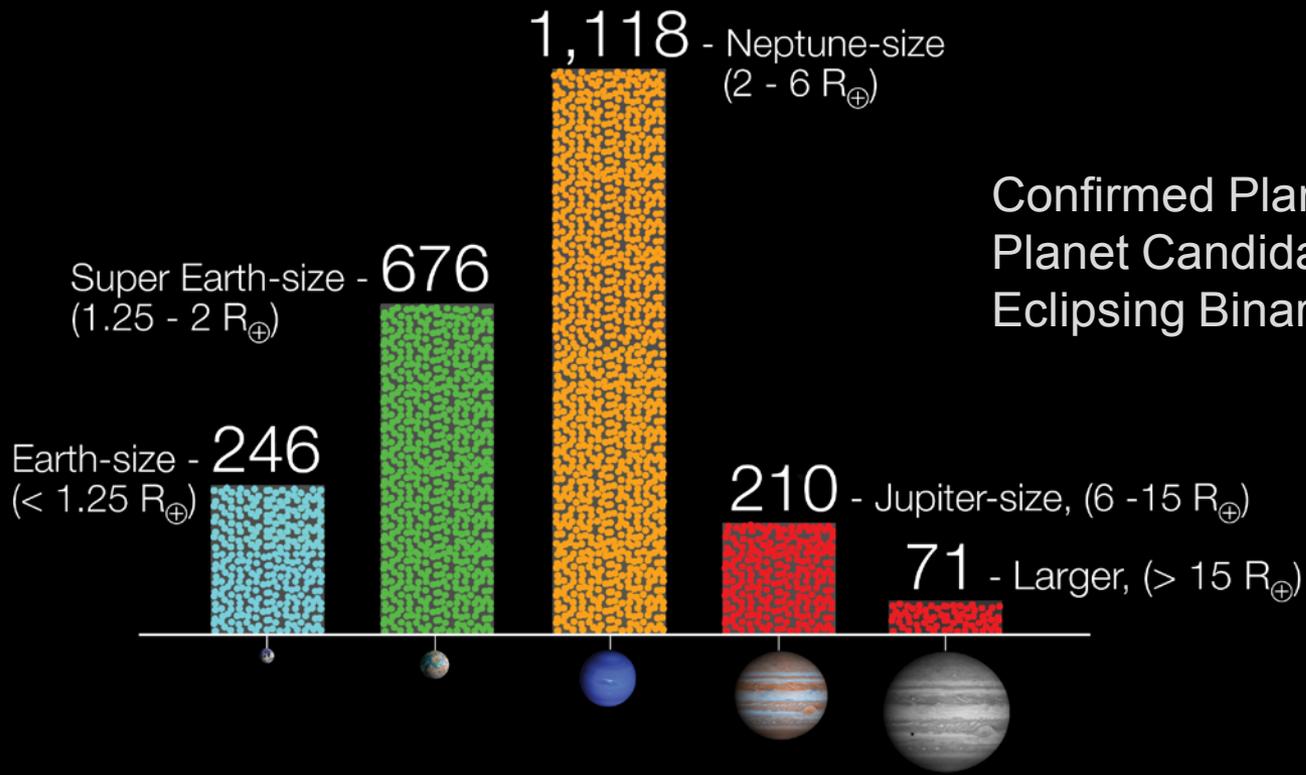
Neptune-size  
2.0 - 6.0 Earth-size  
Giant-planet size  
6.0 - 22 Earth-size

Statistical Threshold  
Confidence  
Crossing Events

Background Removal

## Sizes of Planet Candidates

As of February 27, 2012



Confirmed Planets: 61  
Planet Candidates: 2321  
Eclipsing Binaries: 2165

- 22b

Illustration by L.  
<http://extrasolar>



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