{{Infobox Spacecraft

| Name = 朱諾號（Juno）

| Image = [[File:Juno Mission to Jupiter (2010 Artist's Concept).jpg|290px|到達木星的朱諾號]]

| Caption = 朱諾號在木星的幻想圖

| Organization = [[美國太空總署]]

| Major\_Contractors = [[洛克希德·马丁]]

| Bus =

| Mission\_Type = 探測衛星

| Flyby\_Of = [[地球]]

| Satellite\_Of = '''[[木星]]'''

| Orbital\_Insertion\_Date = 2016年8月<ref name=JunoFactSheet/>

| Orbits = 33

| Decay =

| Launch = {{Start date|2011|08|05}}<ref name=JunoFactSheet/>

| Launch\_Vehicle = [[阿特拉斯-5型運載火箭|Atlas V 551]] (AV-029)

| Launch\_Site = 美國佛羅里達州[[卡納維拉爾角]]SLC-41基地

| Mission\_Duration = 6地球年（巡航5年、探測1年）

| NSSDC\_ID = JUNO

| Webpage = [http://missionjuno.swri.edu/ SWRI], [http://www.nasa.gov/mission\_pages/juno/main/index.html NASA]

| Mass = 3,625 kg<ref name="JunoFactSheet">{{cite web | url=http://www.nasa.gov/pdf/316306main\_JunoFactSheet\_2009sm.pdf | title=Juno Mission to Jupiter | accessdate=April 5, 2011 | date=04/09 | publisher=NASA | pages=2}}</ref>

| Batteries = 兩個55 amp/hr [[鋰離子電池]]<ref name='Spaceflight 101'> {{cite web | url = http://www.spaceflight101.com/juno-spacecraft-information.html | title = Juno Spacecraft Information – Power Distribution | accessdate =August 6, 2011 | date = 2011 | publisher=Spaceflight 101}}</ref>

| Orbit\_regime = 極軌道

| Longitude =

| Semimajor\_Axis =

| Eccentricity =

| Inclination =

| Orbital\_Period =

| Apoapsis =

| Periapsis = 4,300 km

| Orbits Daily =

| Repetitivity =

| Main\_Instruments = [[微波輻射計]]、木星極光紅外成像儀、高級星光羅盤、木星極光分佈實驗、木星高能粒子探測儀器、無線點及電漿波探測器、紫外成像光譜攝制儀、[[JunoCam]]

| Transponders =

| Coverage =

| Resolution =

| Swath =

| Spectral\_Band =

| Data\_rate =

| SSR =

| IMG\_Resolution = (JunoCam) 15 km/px

| Refs =

}}

'''朱諾號'''是探測[[木星]]的[[美國太空總署]]（NASA）[[新疆界計劃]]任務。其最初提議造價為7億美元（FY03），並預計於2009年6月發射。NASA的資金限制使人物推遲至2011年8月，由[[阿特拉斯-5型運載火箭]]（Atlas V）搭載。2011年6月，任務預期整體預算為11億美元。<ref>{{cite web |url= http://bigbendnow.com/2011/06/scientist-with-area-ties-to-study-jupiter-up-close-and-personal/ |title=Scientist with area ties to study Jupiter up close and personal |last=Cureton|first=Emily Jo |date=June 9, 2011 |publisher=Big Bend Now |accessdate=July 17, 2011}}</ref>朱諾號於2011年8月5日由[[肯尼迪航天中心]]升空。<ref>{{cite web |last=Dunn|first=Marcia |title=NASA probe blasts off for Jupiter after launch-pad snags |url= http://www.msnbc.msn.com/id/44034674/ns/technology\_and\_science-space/#.Tj02ZluvbPY |publisher=MSN}}</ref>

這艘飛船會在極軌道上研究木星的成分、[[引力場]]、[[磁場]]及[[木星的磁層|磁層]]。朱諾號也將會尋找有關木星起源的線索，包括木星是否有石質核心，其大氣層中水的含量，及其質量分佈情況。朱諾號將研究木星內部的氣流，其速度高達600 km/h。

朱諾號的名稱來自希臘及羅馬神話，當中的[[朱庇特]]神用一團雲霧遮掩自己犯下的惡行，而其妻子[[朱諾]]女神則能穿過雲霧揭穿朱庇特的真面目。<ref name="name">{{cite web |url= http://www.nasa.gov/mission\_pages/juno/news/juno20110805.html |title=NASA's Juno Spacecraft Launches to Jupiter |date=August 5, 2011 |publisher=[[NASA]] |accessdate=August 5, 2011}}</ref>

==任務概覽==

[[File:Rotating Juno for Integrating Instruments.jpg|建造當中的朱諾號，鑲嵌在一個旋轉家具上。|thumb|left]]

朱諾號需要5年時間到達木星，具體日期在2016年8月前後。總巡航距離超過7億1600萬公里，速度超過16,000 km/h（4.4 km/s）。在一個地球年的時間裡，它會環繞木星33次。2011年8月5日升空之後，朱諾號的巡航路線會先從地球進行[[重力助推]]，在兩年後（2013年10月）再會合地球。<ref>{{cite web | url=http://www.nasa.gov/missions/highlights/schedule.html | title=NASA's Shuttle and Rocket Launch Schedule | accessdate=February 17, 2011}}</ref>2016年，它將會進行切入軌道點火，將速度減慢後進入週期為11天的極軌道。

當朱諾號進入軌道後，[[紅外線]]及[[微波]]探測儀器將會測量來自[[木星大氣層]]深處的熱輻射源。這些觀測將會補充及證實先前對木星成分的研究，包括探測水及氧的分佈。此外，這也會幫助了解木星的起源。朱諾號也會研究造成木星大氣層諸多形態及現象的環流。同時，其他儀器會對木星的引力場及兩極磁層的數據進行採集。整個朱諾號任務安排在2017年10月完畢，屆時探測船將已環繞木星33圈，最後會離開軌道並墮入木星中。<ref> [http://www.nasa.gov/mission\_pages/juno/main/index.html Juno – Mission Info] Accesses April 18, 2011</ref><ref>[http://www.nasa.gov/mission\_pages/juno/overview/index.html Juno – Mission Overview] NASA mission pages. March 3, 2009. Accessed April 18, 2011 </ref>

==團隊==

[[Scott Bolton (engineer)|Scott Bolton]] of the [[Southwest Research Institute]] in San Antonio, Texas is the principal investigator and is responsible for all aspects of the mission. The [[Jet Propulsion Laboratory]] in California manages the mission and [[Lockheed Martin Corporation]] is responsible for the spacecraft development and construction. The mission is being carried out with the participation of several institutional partners.

Co-investigators include [[Toby Owen]] of the [[University of Hawaii]], [[Andy Ingersol]] of [[Cal Tech]], [[Fran Bagenal]] of the [[University of Colorado at Boulder]], and [[Candy Hansen]] of the [[Planetary Science Institute]]. [[Jack Connerney]] of the [[Goddard Space Flight Center]] served as instrument lead.<ref>{{cite web |url= http://juno.wisc.edu/index\_partner.html |title=Juno Institutional Partners |accessdate=August 8, 2009 |date=2008 |publisher=NASA }}</ref><ref>{{cite news |title=NASA Sets Launch Coverage Events For Mission To Jupiter |url= http://www.nasa.gov/home/hqnews/2011/jul/HQ\_M11-156\_Juno\_Events.html |newspaper=NASA Press Release |date=July 27, 2011}}</ref>

==Launch timeline==

[[File:Juno's interplanetary trajectory.jpg|thumb|Juno's interplanetary trajectory; tick marks at 30-day intervals]]

The [[Atlas V]] (AV-029) engines, powered by [[kerosene]] and [[liquid oxygen]], started 3.8&nbsp;seconds before the five strap-on [[solid rocket booster|solid rocket boosters]] (SRBs). Those SRBs burned out 1 minute 23 seconds into the flight and two dropped away from the vehicle 10 seconds later and the final three about 1.5&nbsp;seconds later. The [[payload fairing]] protecting the spacecraft separated once heat levels dropped sufficiently, after approximately 3.5&nbsp;minutes. The Atlas&nbsp;V main engine then cut off 4&nbsp;minutes 26&nbsp;seconds after liftoff. Four minutes 43&nbsp;seconds into the flight the [[Centaur (rocket stage)|Centaur]] second stage ignited and burned for approximately 6&nbsp;minutes, putting the satellite into a [[parking orbit]].{{Citation needed|date=August 2011}}

After shutting down for approximately 30 minutes, the vehicle coasted into position where the Centaur was ignited once again for approximately 9&nbsp;minutes putting the spacecraft into an Earth escape trajectory. Before separation the Centaur stage used onboard [[reaction engine]]s to spin Juno up to 1.4&nbsp;[[RPM]], to be reduced to a third when the solar panels are deployed. Nearly 54&nbsp;minutes after launch, the spacecraft separated from the Centaur and extended its [[solar panel]]s. The voyage to Jupiter will take 5 years, which will include an Earth [[gravity assist|flyby]] (October 2013).<ref> [http://juno.wisc.edu/spacecraft.html Juno Spacecraft Overview] Juno – NASA´s Second New Frontiers Mission to Jupiter. Accessed August 6, 2011 </ref><ref> http://www.spaceflightnow.com/atlas/av029/ascenttimeline.html</ref> Five minutes after separation the solar panels are deployed, reducing the spin to about a third. The probe is spinning to ensure stability during the voyage and so instruments can be placed on all sides, taking turns facing Jupiter.<ref>[http://www.nasa.gov/mission\_pages/juno/launch/Juno\_solarpower.html Juno's Solar Cells Ready to Light Up Jupiter Mission]</ref><ref> [http://www.spaceflight101.com/juno-mission-profile-and-timeline.html Juno Mission Profile&Timeline]</ref>

<center><gallery>

Image:Juno launch NASA TV 1.png|Launch

Image:Juno Lifts Off.jpg

File:Launch of Juno 2011.ogv|Launch video

</gallery></center>

== Scientific objectives ==

[[Image:Jupiter.Aurora.HST.UV.jpg|thumb|right|300px|Image of Jupiter aurora in [[UV]] by the [[Hubble Space Telescope]]. Bright streaks and dots are caused by magnetic flux tubes connecting Jupiter to its largest moons (Io: bright streak on the far left; Ganymede: bright dot below center; Europa: dot on the right).]]

The Juno spacecraft's suite of science instruments will determine:

\*The ratio of [[oxygen]] to [[hydrogen]], effectively measuring the abundance of water in Jupiter, which will help distinguish among prevailing theories linking the gas giant's formation to the solar system.

\*Obtain a better estimate of Jupiter's core mass, which will also help distinguish among prevailing theories linking the gas giant's formation to the solar system.

\*Precisely map Jupiter's [[gravity]] to assess the distribution of mass in Jupiter's interior, including properties of the planet's structure and dynamics.

\*Precisely map Jupiter's [[magnetic field]] to assess the origin and structure of the field and how deep in Jupiter the magnetic field is created. This experiment also will help scientists understand the fundamental physics of [[dynamo theory]].

\*Map the variation in atmospheric composition, temperature, structure, cloud opacity and dynamics to pressures far greater than 100&nbsp;[[Bar (unit)|bars]] (1450&nbsp;pound/sq&nbsp;inch) at all latitudes.

\*Characterize and explore the three-dimensional structure of Jupiter's polar [[magnetosphere]] and its [[Aurora (astronomy)|auroras]].<ref>{{cite web| url= http://juno.wisc.edu/science.html |title=Juno Science Objectives |accessdate=October 13, 2008 |publisher=University of Wisconsin-Madison }}</ref>

==Orbit==

[[Image:PIA02863 - Jupiter surface motion animation.gif|thumb|right|300px|Zones, belts and vortices on Jupiter]]

[[File:Pioneer 11 - Saturn - p176.jpg|thumb|right|Jupiter's polar region in 1974 during [[Pioneer 11]] gravity assist to Saturn]]

The probe's planned polar orbit is highly elongated<ref name="spaced">{{cite web | url=http://www.spacedaily.com/reports/Juno\_Gets\_A\_Little\_Bigger\_With\_One\_More\_Payload\_For\_Jovian\_Delivery\_999.html | title=Juno Gets A Little Bigger With One More Payload For Jovian Delivery | accessdate=April 5, 2011 | author=Moomaw, Bruce | date=March 11, 2007 | publisher=SpaceDaily}}</ref> and takes it close to the poles (within {{convert|4300|km|mi|0|sp=us}}), but then far beyond even [[Callisto (moon)|Callisto]]'s orbit.<ref name=spaced/> This helps it avoid Jupiter's radiation belts which are damaging to spacecraft electronics and solar panels.<ref name=spaced/> The 'Juno Radiation Vault', with 1cm thick [[titanium]] walls, will also aid in protecting and shielding Juno's electronics.<ref>{{cite web | url=http://www.nasa.gov/mission\_pages/juno/multimedia/pia13260.html | title=Setting up Juno's Radiation Vault | accessdate=April 5, 2011 | date=July 12, 2010 | publisher=NASA}}</ref><ref name='Spaceflight 101'/>

The spacecraft is planned to complete at least thirty three 11-day polar orbits.

== Scientific instruments ==

The Juno mission's science objectives will be achieved with a payload of nine instruments onboard the spacecraft:<ref>{{cite web |url= http://juno.wisc.edu/spacecraft\_instruments.html |title=Instrument Overview |accessdate=October 13, 2008 |publisher=Wisconsin University-Madison }}</ref><ref>{{cite web |url= http://trs-new.jpl.nasa.gov/dspace/bitstream/2014/40566/1/07-2266.pdf |title=Key and Driving Requirements for the Juno Payload Suite of Instruments |accessdate=February 23, 2011 |publisher=JPL}}</ref>

{| class="wikitable"

|-

! scope="col" style="width:135px;"| Instrument Name

! scope="col" style="width:50px;"| Abr.

<!--! scope="col" width="50" | Image-->

! Description

|-

| <center>[[Microwave radiometer]]</center>

| <center>'''MWR'''</center>

<!--| <!--If single image in use, change to cHeight= 160-->

<!--Instrument image-->

<!--{{Css Image Crop |Image= |bSize= 160px |cWidth= 50 |cHeight= 80 |oTop= 0 |oLeft= 0 |Location= Center}}-->

<!--Diagram image-->

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| The primary goal of the radiometer is to probe the deep atmosphere of Jupiter at radio wavelengths ranging from 1.3&nbsp;cm to 50 cm using six separate radiometers to measure the planet's thermal emissions.

\*<small>Principal investigator: Mike Janssen</small>

\*<small>[[Jet Propulsion Laboratory]]</small>

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| <center>Jovian [[Infrared]] Auroral Mapper </center>

| <center>'''JIRAM'''</center>

<!--| <!--If single image in use, change to cHeight= 160-->

<!--Instrument image-->

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<!--Diagram image-->

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| The primary goal of JIRAM is to probe the upper layers of Jupiter's atmosphere down to pressures of 5–7&nbsp;bars (72–102 pound/square inch) at infrared wavelengths in the 2–5&nbsp;μm interval using an imager and a spectrometer.

<!--\*<small>Principal investigator: </small>-->

\*<small>[[INAF|Italian National Institute for Astrophysics]]</small>

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| <center>Fluxgate Magnetometer</center>

| <center>'''FGM'''</center>

<!--| <!--If single image in use, change to cHeight= 160-->

<!--Instrument image-->

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<!--Diagram image-->

<!--{{Css Image Crop |Image= |bSize= 160px |cWidth= 50 |cHeight= 80 |oTop= 0 |oLeft= 0 |Location= Center}}-->

| The magnetic field investigation has three goals: mapping of the magnetic field, determining the dynamics of Jupiter's interior, and determination of the three-dimensional structure of the polar magnetosphere.

\*<small>Principal investigator: Jack Connerney</small>

\*<small>NASA's [[Goddard Space Flight Center]]

|-

| <center> Advanced Stellar Compass </center>

| <center>'''ASC'''</center>

<!--| <!--If single image in use, change to cHeight= 160-->

<!--Instrument image-->

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<!--Diagram image-->

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| Will provide accurate pointing information of the Juno spacecraft for precise mapping.

\*<small>Principal investigator: Jack Connerney</small>

\*<small>NASA's [[Goddard Space Flight Center]]</small>

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| <center>Jovian Auroral Distribution Experiment</center>

| <center>'''JADE'''</center>

<!--| <!--If single image in use, change to cHeight= 160-->

<!--Instrument image-->

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<!--Diagram image-->

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| JADE will resolve the plasma structure of the Jovian aurora by measuring the angular, energy and compositional distributions of particles in the polar magnetosphere of Jupiter.

\*<small>Principal investigator: David McComas </small>

\*<small> [[Southwest Research Institute]] </small>

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| <center> Jovian Energetic Particle Detector Instrument </center>

| <center>'''JEDI'''</center>

<!--| <!--If single image in use, change to cHeight= 160-->

<!--Instrument image-->

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<!--Diagram image-->

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| JEDI will measure the energy and angular distribution of [[hydrogen]], [[helium]], [[oxygen]], [[sulfur]] and other [[ion]]s in the polar [[magnetosphere]] of Jupiter.

\*<small>Principal investigator: Barry Mauk </small>

\*<small>[[Applied Physics Laboratory]] </small>

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| <center>Radio and [[Waves in plasmas|Plasma Wave]] Sensor </center>

| <center>'''WAVES'''</center>

<!--| <!--If single image in use, change to cHeight= 160-->

<!--Instrument image-->

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<!--Diagram image-->

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| This instrument will identify the regions of auroral currents that define Jovian radio emissions and acceleration of the auroral particles by measuring the radio and plasma spectra in the auroral region.

\*<small> Principal investigator: William Kurth</small>

\*<small> [[University of Iowa]]</small>

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| <center>[[Ultraviolet]] Imaging Spectrograph </center>

| <center>'''UVS'''</center>

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<!--Instrument image-->

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<!--Diagram image-->

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| UVS will record the wavelength, position and arrival time of detected ultraviolet photons during the time when the spectrograph slit views Jupiter during each turn of the spacecraft. Using a 1024&nbsp;×&nbsp;256 micro channel plate (MCP) detector, it will provide spectral images of the UV auroral emissions in the polar magnetosphere.

\*<small>Principal investigator: G. Randall Gladstone </small>

\*<small>[[Southwest Research Institute]]</small>

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| <center>[[JunoCam]] </center>

| <center>'''JCM'''</center>

<!--| <!--If single image in use, change to cHeight= 160-->

<!--Instrument image-->

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| A visible light camera/telescope, included in the payload to facilitate education and public outreach. It will operate for only seven orbits around Jupiter because of the planet's damaging radiation and magnetic field.

\*<small>Principal investigator: [[Michael C. Malin]] </small>

\*<small>[[Malin Space Science Systems]]</small>

|}

==Solar panels==

Juno will be the first mission to Jupiter using [[Photovoltaic module|solar panel]]s instead of the [[radioisotope thermoelectric generator]]s (RTGs) used by [[Pioneer 10]], [[Pioneer 11]], the [[Voyager program]], [[Cassini–Huygens]], and the [[Galileo spacecraft|Galileo orbiter]]. Juno will receive 25 times less sunlight than we do on Earth,<ref name='Spaceflight 101'/> but advances made in both solar cell technology and efficiency over the past several decades makes it economically feasible to use solar panels of practical size to provide power at a distance of 5&nbsp;[[Astronomical units|AU]] from the [[Sun]]. In addition, RTGs are in short supply, limiting their availability for space missions. NASA plans several more projects involving RTGs,<ref>{{cite web | url= http://solarsystem.nasa.gov/scitech/display.cfm?ST\_ID=665 | title=Enabling Exploration: Small Radioisotope Power Systems | publisher=[[NASA]] | accessdate=October 24, 2007}}</ref> and the decision to use alternate technology on this mission is more practical and economical than political.

The Juno spacecraft uses three solar arrays symmetrically arranged around the spacecraft, which are stowed against the sides of the spacecraft for launch. Immediately after launch the arrays deploy. Two of the arrays have 4&nbsp;panels each, and the third array has 3&nbsp;panels with a [[magnetometer]] in place of the fourth panel. Each panel is {{Convert|2.7|m|ft}}, by {{Convert|8.9|m|ft}} long,<ref> [http://www.nasa.gov/mission\_pages/juno/news/juno20110527.html Juno Solar Panels Complete Testing]</ref> the biggest on any NASA deep-space probe.<ref>[http://www.nasa.gov/mission\_pages/juno/news/juno20110805.html Juno Solar Panels Complete Testing]</ref> The total area of the arrays is over {{Convert|60|m2|sqft|sp=us}}. This is enough to produce about 15&nbsp;[[Watt|kW]] while in Earth orbit, but only 486&nbsp;W when Juno arrives at Jupiter, declining to 420&nbsp;W as radiation degrades the cells.<ref>{{cite web | url=http://machinedesign.com/article/juno-prepares-for-mission-to-jupiter-1104 | title=Juno prepares for mission to Jupiter | publisher=[[Machine Design]] | accessdate=November 2, 2010}}</ref> The solar panels will remain in sunlight continuously from launch through to the end of the mission, except for short periods during the operation of the main engine.

A central power distribution and drive unit monitors the power that is generated by the solar array, distributes it to instruments, heaters and experiment sensors as well as batteries that are charged when excess power is available. Two 55 amp/hour [[Lithium-Ion]] batteries will provide power to the vehicle when it passes through eclipse. Those batteries will be able to withstand the radiation environment of Jupiter.<ref name='Spaceflight 101'/>

== Telecommunications ==

Juno's telecommunication systems have more in common with [[New Horizons]] than with [[Cassini-Huygens]] spacecraft. Juno supports tone fault signalling for cruise mode operations, but it is expected to be used less often. Communications are via the 70&nbsp;m antennae of the [[Deep Space Network]] (DSN) utilizing an [[X-band]] direct link.<ref name='Spaceflight 101'/>

==Propulsion system==

Juno uses a bi-propellant main engine. It is a Leros-1b engine that uses [[hydrazine]] and [[nitrogen tetroxide]] for propulsion and provides 645 Newtons of thrust. It is fixed to the spacecraft body and will only be used for major burns. The engine bell is enclosed in a debris shield. Juno will utilize a mono propellant [[reaction control system]] (RCS) consisting of 12 Jets that are mounted on 4 rocket engine modules. These thrusters will be used for control of the vehicle’s orientation and to perform trajectory correction maneuvers.<ref name='Spaceflight 101'/>

==Galileo's plaque and LEGO figurines==

[[File:Galileo plaque.jpg|thumb|right|Galileo's plaque]]

Juno carries a plaque to Jupiter dedicated to [[Galileo Galilei]]. The plaque was provided by the [[Italian Space Agency]] and measures {{nowrap|2.8 by 2 inches}}. It is made of flight-grade aluminum and weighs six grams.<ref name="plaque">{{cite web |title=Juno Jupiter Mission to Carry Plaque Dedicated to Galileo |url= http://www.nasa.gov/mission\_pages/juno/news/galileo20110803.html |publisher=[[NASA]] |date=August 3, 2011 |accessdate=August 5, 2011}}</ref> The plaque depicts a self-portrait of Galileo and a text in Galileo's own hand, penned in January, 1610 CE, while observing what would later be known to be the [[Galilean moons]].<ref name="plaque" /> The text translates as:

{{quote|On the 11th it was in this formation, and the star closest to Jupiter was half the size than the other and very close to the other so that during the previous nights all of the three observed stars looked of the same dimension and among them equally afar; so that it is evident that around Jupiter there are three moving stars invisible till this time to everyone.}}

[[File:Juno\_lego.jpg|thumb|right|The three LEGO figurines]]

The spacecraft also carries three [[LEGO]] figurines representing Galileo, the Roman god Jupiter and his wife Juno. In Roman mythology, Jupiter drew a veil of clouds around himself to hide his mischief. From [[Mount Olympus]], Juno was able to look into the clouds and reveal her husband's real nature. Juno holds a magnifying glass as a sign for searching for the truth and her husband holds a lightning bolt. The third LEGO crew member, Galileo Galilei, has his telescope with him on the journey.<ref>{{cite web |title=Juno Spacecraft to Carry Three Figurines to Jupiter Orbit |url= http://www.nasa.gov/mission\_pages/juno/news/lego20110803.html |publisher=[[NASA]] |date=August 3, 2011 |accessdate=August 5, 2011}}</ref>

== See also ==

{{Portal|Solar System}}

\* [[Atmosphere of Jupiter]]

\* [[Comet Shoemaker-Levy 9]]

\* [[Exploration of Jupiter]]

\* [[Moons of Jupiter]]

\* [[Galileo (spacecraft)|Galileo]]

\* [[Europa Jupiter System Mission - Laplace|Europa Jupiter System Mission]]

\* [[Cassini-Huygens]], [[New Horizons]], [[Ulysses (spacecraft)|Ulysses]]

\* [[Pioneer 10]], [[Pioneer 11]], [[Voyager 1]], [[Voyager 2]]

\* [[3 Juno]], a large asteroid

==References==

{{Reflist}}

==External links==

{{Commons category|Juno (spacecraft)|Juno}}

\* {{Official website|http://www.nasa.gov/mission\_pages/juno/main/index.html}} on NASA.gov

\* [http://missionjuno.swri.edu/ Juno mission web site] on South West Research Institute

\* [http://www.jpl.nasa.gov/news/press\_kits/JunoLaunch.pdf Juno Launch press kit]

\* [http://solarsystem.nasa.gov/missions/profile.cfm?MCode=Juno Juno Mission Profile] by [http://solarsystem.nasa.gov NASA's Solar System Exploration]

\* [http://www.jpl.nasa.gov/news/news.cfm?release=2005-090 NASA Selects New Frontiers Concept Study: Juno Mission to Jupiter] at NASA [[Jet Propulsion Laboratory]]

\* [http://space.com/searchforlife/seti\_juno\_050609.html The Juno Mission to Jupiter] at [[Space.com]]

\* [http://www.youtube.com/watch?v=r8EbZEXvMVQ NASA 360 New Worlds New Discoveries 1/2]. Retrieved June 30, 2011.

{{Jupiter spacecraft|state=uncollapsed}}

{{Jupiter}}

{{Satellite and spacecraft instruments}}

{{DEFAULTSORT:Juno (Spacecraft)}}

[[Category:NASA probes]]

[[Category:New Frontiers]]

[[Category:Jupiter spacecraft]]

[[Category:Spaceflight]]

[[Category:Unmanned spacecraft]]

[[Category:2011 in spaceflight]]

[[Category:Juno Jupiter Mission]]

[[ar:جونو (مسبار)]]

[[bs:Juno (svemirska letjelica)]]

[[ca:Juno (sonda)]]

[[cs:Juno (sonda)]]

[[de:Juno (Raumsonde)]]

[[es:Juno (misión espacial)]]

[[fr:Juno (sonde spatiale)]]

[[hi:जूनो (अंतरिक्ष यान)]]

[[hr:Juno (svemirska letjelica)]]

[[it:Juno (sonda spaziale)]]

[[hu:Juno űrszonda]]

[[ms:Juno (kapal angkasa)]]

[[nl:Juno (ruimtesonde)]]

[[ja:ジュノー (探査機)]]

[[pl:Juno (sonda kosmiczna)]]

[[pt:Juno (sonda espacial)]]

[[ru:Юнона (КА)]]

[[simple:Juno (spacecraft)]]

[[fi:Juno (luotain)]]

[[sv:Juno (rymdsond)]]

[[ta:ஜூனோ (விண்கலம்)]]

[[uk:Юнона (автоматична міжпланетна станція)]]

[[vi:Juno (tàu không gian)]]

[[zh:朱诺号]]