



# *Findings from Japan's Lunar Explorer "KAGUYA"*



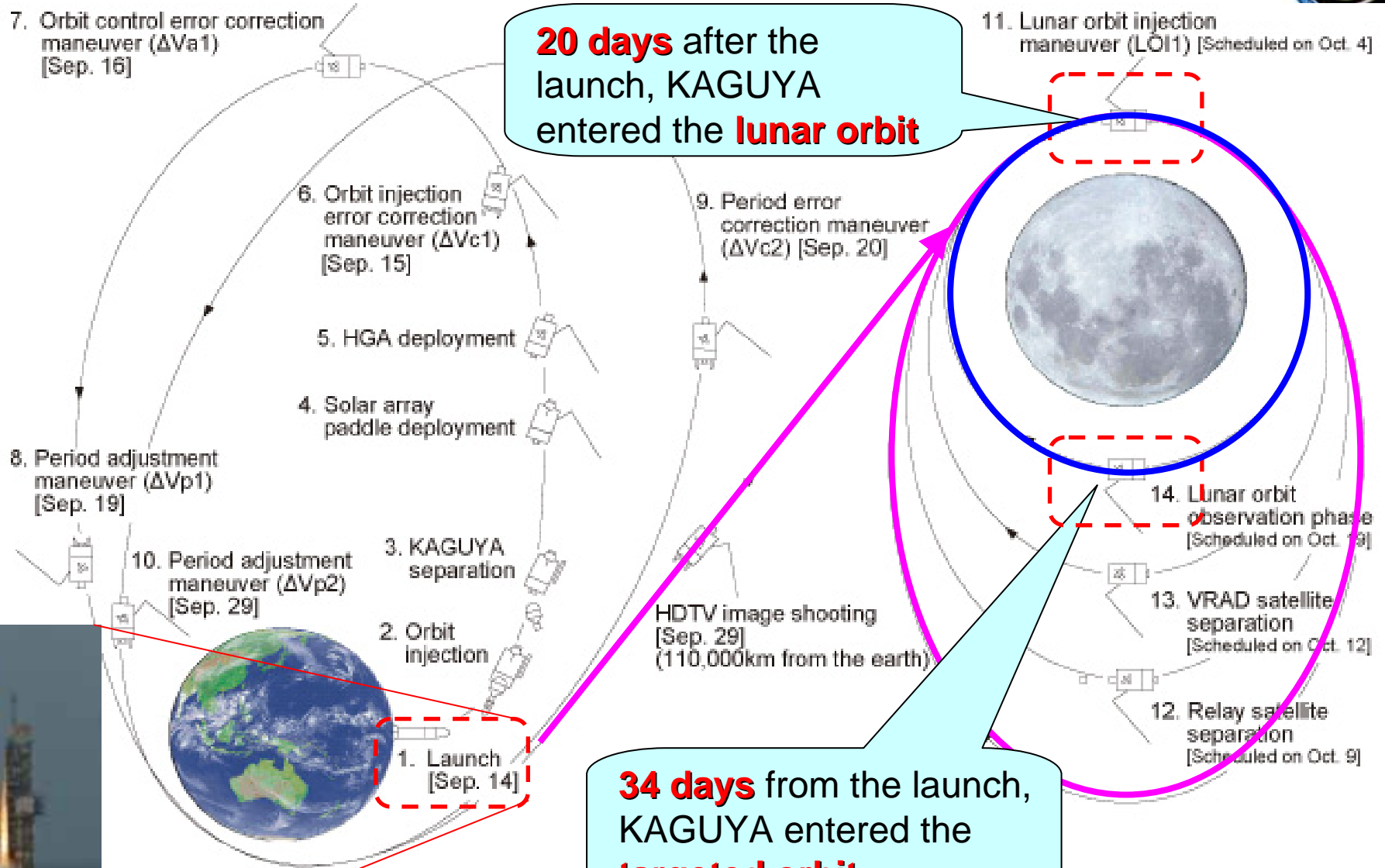
Kazuhiro MIYAZAKI  
Permanent Mission of Japan  
to the International Organizations in Vienna

# Why did we name Japan's lunar explorer "KAGUYA" ?



KAGUYA is the name of a princess who came from the Moon in the oldest Japanese story.

# Route to the Moon



20 days after the launch, KAGUYA entered the lunar orbit

34 days from the launch, KAGUYA entered the targeted orbit



Launched on 14 Sep. 2007

# Characteristics of KAGUYA



**Main Orbiter : KAGUYA**

**Weight: 3tons (at launch)**

**(including sub-satellites 50kg × 2)**

**Dimension: 2.1m × 2.1m × 4.8m**

**Mission Period: 1 Year**

**Orbit: 100km Altitude / Inclination 90deg.**

## Targets of the mission

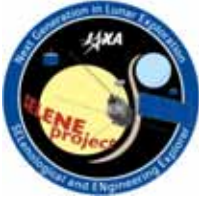
- **Global survey for the lunar origin and evolution study**
- **Data application to future moon utilization**
- **Technology development for lunar exploration**
- **Public outreach**



# Missions of KAGUYA

**KAGUYA has 15 kinds of instruments which execute its planned missions**

|   | objective                        |                                  | Instruments  |
|---|----------------------------------|----------------------------------|--|
| 1 | Chemical elements distribution   | XRS<br>GRS                       | X-ray Spectrometer<br>Gamma-ray Spectrometer   |
| 2 | Mineralogical distribution       | SP<br>MI                         | Spectral Profiler<br>Multi-band Imager   |
| 3 | Surface structure                | TC<br>LALT<br>LRS                | Terrain Camera<br>Laser Altimeter<br>Lunar Radar Sounder   |
| 4 | Surface & Space environment      | LMAG<br>PACE<br>CPS<br>RS<br>UPI | Lunar Magnetometer<br>Plasma energy Angle and Composition Experiment<br>Charged Particle Spectrometer<br>Radio Science<br>Upper-atmosphere and Plasma Imager |
| 5 | Gravitational field distribution | VRAD<br>RSAT                     | VLBI Radio-source<br>Relay Sat. transponder  |
| 6 | Public outreach                  | HDTV                             | High Definition Television camera  |



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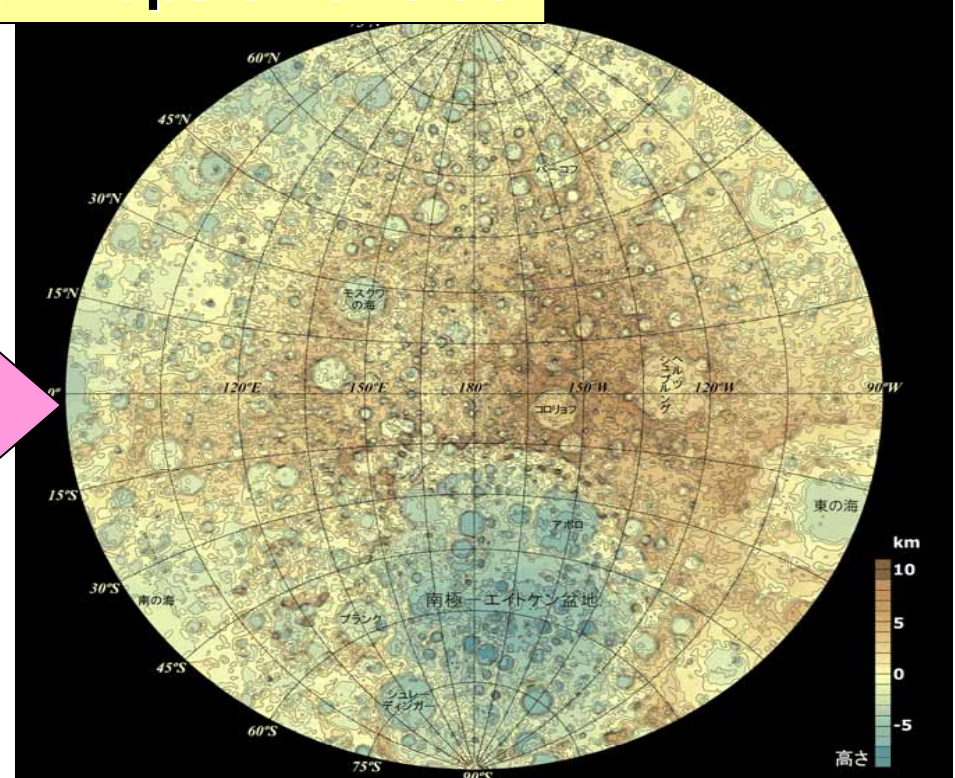
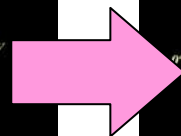
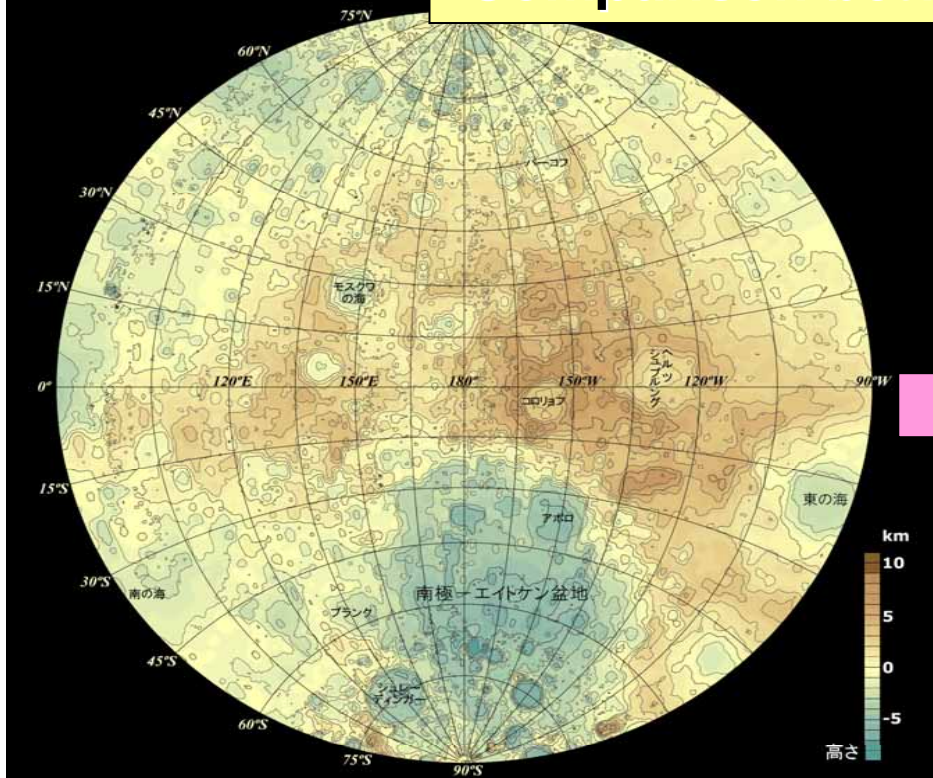
# Lunar Topography Map created by KAGUYA



The most accurate topography map available **previously**  
(Unified Lunar Control Network 2005)

The most accurate topography map available **now** (KAGUYA-LALT)

## Comparison between Maps of far side



ULCN 2005の作成 米国地質調査所(USGS)  
地形図の作成 国土交通省 国土地理院  
地形図の解説 自然科学研究機構 国立天文台



LALTのデータ処理・解析 自然科学研究機構 国立天文台  
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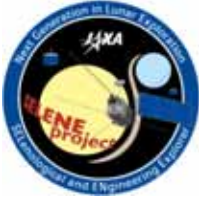
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# High Definition Video taken by KAGUYA

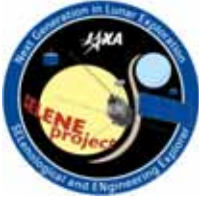


**The full Earth rise**

# High Definition Video taken by KAGUYA



**Diamond Ring of the Earth**  
(on 10 February, 2009)



# KAGUYA on Internet

Image Gallery : <http://www.kaguya.jaxa.jp>

YouTube: <http://www.youtube.com/jaxaselene>





**Thank you  
for your attention!**