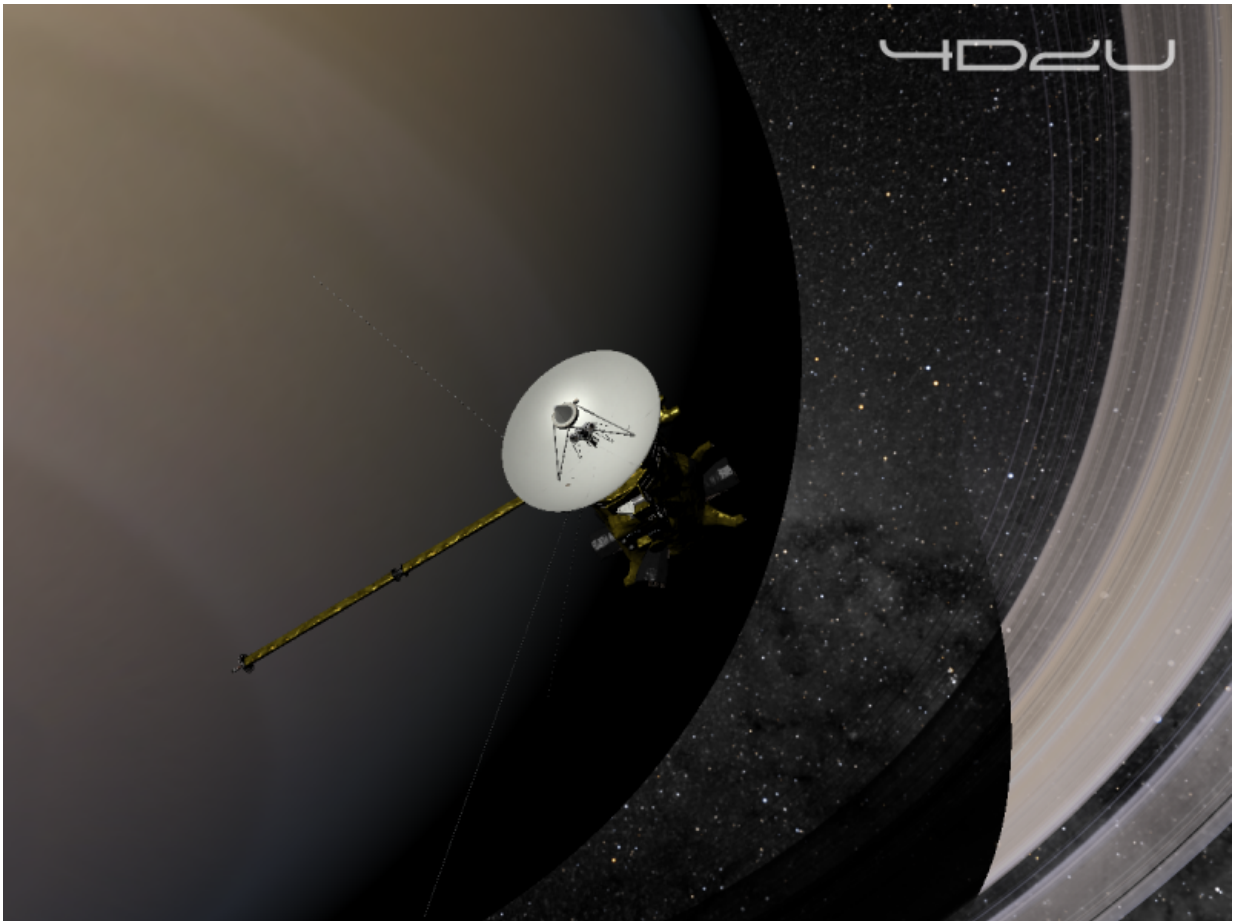


'Mitaka' now delivers more realistic universe in more languages

September 1 2017



Mitaka version 1.4 reproduces Cassini's Grand Finale. By improving the rendering method, the spacecraft and Saturn's rings have greatly improved from the previous version. Credit: 4D2U Project, NAOJ

Now you can witness the final mission of Cassini and enjoy the beauty of Saturn's rings and the moon in your own room. NAOJ has released the latest version (1.4) of the astronomical software Mitaka with many new features. Mitaka version 1.4 can reproduce Cassini's Grand Finale mission. Also, the moon and Saturn's rings are displayed based on more realistic physical models for light scattering. Moreover, Chinese has been added to the available languages.

The NAOJ Four-Dimensional Digital Universe (4D2U) Project has developed the space viewer Mitaka which can interactively display various celestial bodies and the hierarchical structure of the Universe using astronomical data from observations and theoretical studies. You can download this software for free at the 4D2U project web page and play with it on your computer. The latest version, 1.4, was released in September 2017.

In this version, we can reproduce the end of NASA's Cassini spacecraft, which will dive into Saturn on September 15, 2017 as its Grand Finale mission. We updated the orbital data for Cassini's plunge into Saturn, and also the three-dimensional model of the spacecraft. We hope Mitaka will help when you talk about Cassini's Grand Finale in your classes and lectures.

Moreover, through calculating the reflection and scattering of light on Saturn's rings and the surface of the moon based on physical models, we are able to draw Saturn and the moon more realistically. "Now, I can draw the [moon](#) and spacecraft more faithfully, by introducing a special technique called the normal mapping method," said Tsunehiko Kato, the developer of Mitaka.

There has been a strong demand for Chinese labels and the new version of Mitaka answers China's hunger. "We are very happy to include Chinese versions with both Simplified and Traditional Characters. With

Mitaka we hope to foster good relations with Chinese speaking countries and regions in the sphere of education and public outreach," said Kumiko Usuda-Sato who compiled various language files for Mitaka. In addition, the English manual has been updated, so more people in the world can experience the 'real Universe' more easily through the latest version of Mitaka.

Many other features have been added as well, such as a texture map of the Milky Way created from the location and magnitude data of 1.1 billion stars obtained by ESA's Gaia spacecraft , and features to customize settings for live shows and on-screen menus. At the same time, we also released "Mitaka for VR [version](#) 1.4." You can enjoy the Mitaka universe with a virtual reality (VR) headset. Mitaka for VR gives you the experience of the realistic universe, extending in all directions.

More information: Mitaka is available for download here:
4d2u.nao.ac.jp/html/program/mitaka/index_E.html

Provided by National Astronomical Observatory of Japan

Citation: 'Mitaka' now delivers more realistic universe in more languages (2017, September 1) retrieved 1 July 2024 from <https://phys.org/news/2017-09-mitaka-realistic-universe-languages.html>

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