INSTRUCTIONS FOR AMATEUR OBSERVERS

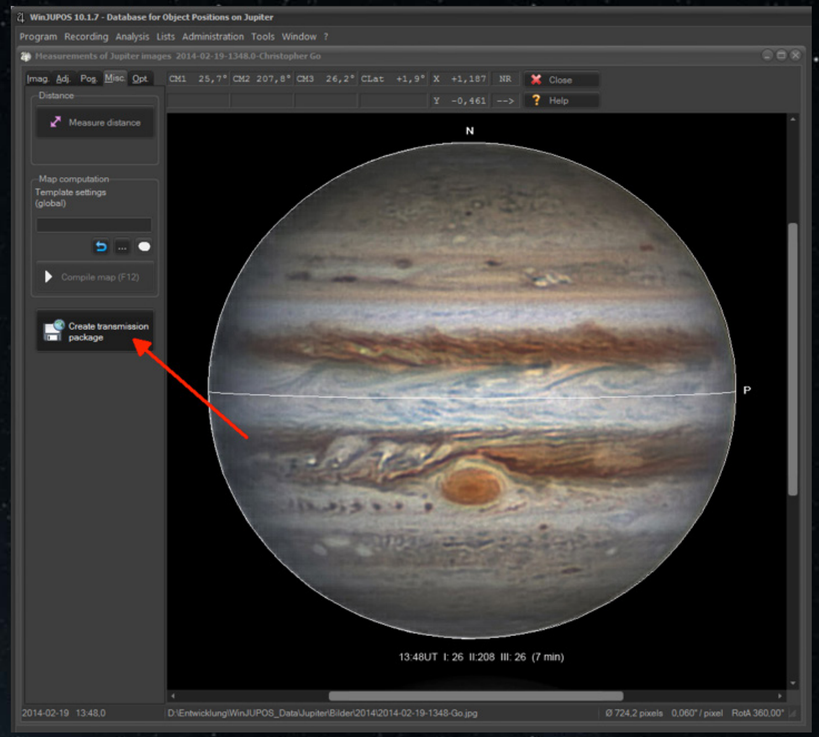
The Juno mission science team strongly encourages mission-supporting observations from both the professional and amateur communities. We had a beta test for imaging contributions from the amateur community with a point of deposit on the Mission Juno website, in the Planning section of JunoCam.

We will accept data in any form and using any filters that are available to each contributor.

We note that images that will be most valuable for us should not be in a destructively compressed format. If at all possible, render them in TIF or PNG (or FITS) formats that preserve the linearity of the detector response. JPEG or GIF formats destroy the linearity, so please avoid these.

Send us the information on who made the image, where it was made, what date and time, and which filter was used or whether a color camera was used.

One option is for you to use the WinJUPOS freeware that is maintained and distributed by the JUPOS planetary tracking group of amateur astronomers in Germany. Download from: **jupos.privat.t-online.de**. All of the information we need can be made available through this software. The information on the circumstances under which the image was taken will be added to an “eml” file. You can use the program to make longitude-latitude maps from each image, which is extremely helpful to us, saving us much time. The current version of WinJUPOS also makes it easy to bundle and compress all the files, making it easy to deposit everything in a single zipped package, using the “Create transmission package” module in the menu list (see the figure to the right).



So WunJUPOS users should:

- Start the “Recording/Image measurement” module
- Load the image
- Adjust the outline frame to match Jupiter’s limb
- Save the settings
- Call the “Create transmission package”
- Transmit the zip file to the Juno site

If you are not new to imaging Jupiter but don't use this approach yet, you might try making very sharp images by the "lucky imaging" technique, using a video to capture several hundred images of Jupiter in any given filter. These are then loaded into software that selects the crispest images and then coadds them, shifting each exposure around, as necessary, to register them properly. Two types of freeware are available to do this type of processing: (i) Autostakkert is described in and can be downloaded from: **autostakkert.com**, (ii) Registax is described in and can be downloaded from: **astronomie.be/registax**. If you use these programs, please turn off the histogram stretching before registering and stacking the images.

An introduction to making high-quality planetary images by prominent amateur astronomer Christopher Go (Cebu City, Philippines) is given in this power-point presentation.

High Resolution Planetary Imaging

A splendid exposition of planetary imaging by prominent amateur Damian Peach is available as a chapter in the book "Lessons from the Maters – Current Concepts in Astronomical Image Processing," edited by Robert Gendler, available here:

Lessons from the Masters – Current Concepts in Astronomical Image Processing

Damian also has a great tutorial on DVD, "High-Resolution Astrophotography".

damianpeach.com/dvd.htm

Questions can be directed to Juno scientist Glenn Orton (**glenn.orton@jpl.nasa.gov**), who is responsible for coordinating all Earth-based supporting observations for the Juno mission.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