

DENVER MUSEUM OF NATURE AND SCIENCE
VENUS WINDS PROJECT
MINUTES OF MEETING

Date/Time/Location: 19 July 2016 6:00 PM Exploration Studio 102

ATTENDING

Art	Ashley	Christian	Connor	Cristy	Dave	Drew
Dylan	Elizabeth	Emilie	John	Kevin	Mark	Marta
Michael D.	Michael L.	Yvonne				

Guests: **Catherine Logan**

The meeting opened at 6:00 PM in Studio 102. Those **attending** are listed above.

OLD BUSINESS

Image Processing Results–All

Some folks had new results to show, but Mark’s laptop conked out half way through the meeting, so we were unable to go over these! However, since we discussed the step of removing blemishes from images (below), everyone should just use their latest results to apply these steps and then we can look at everyone’s centering efforts, with cleaned up images.

Reading Assignment – Mark

Postponed until next meeting

***Akatsuki* Update** – Mark

Although no new images are available to the public, the spacecraft is working well. The data reduction pipelines for the different kinds of images are still being worked on. When the entire automated image reduction procedure is in place and verified, we will start to see new images. Since this was originally planned for the end of June, it shouldn’t be long now.

NEW BUSINESS

Image Defect Removal – Mark

Mark went over the process of removing blemishes from the images using the Edit->Fill->Content-Aware feature of Photoshop. This technique was pioneered by Art, so we got to see his results on image 1199 of the Dec 14, 2010 data. Marks showed how there are subtle rows and columns in the images that can be seen when the contrast is cranked way up. These are intrinsic to the images because they are a result of the imaging chip readout electronics. There may be something we can do about these yet, but for now we are focusing on the odd blotch or scratch that can easily be removed using Photoshop. This is the same technique as removing the spectrometer slit, so Mark suggests going through your chosen images and cleaning them all up. The analogous process in GIMP should be used for those who are using GIMP.

One note: The intrinsic row and column defects look a lot like artifacts that are produced when you save an image in *.jpeg* format. Therefore, we should avoid saving images at any step in *.jpeg* format. Please convert to *.tiff* when processing the images. This applies to both Photoshop and GIMP users.

Imaging Geometry and Venus Geographical Coordinates – Mark

Mark demonstrated the use of a new tool from JPL called *Cosmographia*. It encodes the properties of all natural and most robotic objects in the solar system, and allows the user to visualize their observations in three dimensions. For a peek at *Cosmographia*, take a look at: <https://naif.jpl.nasa.gov/naif/cosmographia.html>

And if you are feeling brave, try downloading and running it!

POSTPONED

Google Groups – Mark, Dave

Dave Wolf couldn't make the meeting, so we will go over the new Google Groups web page as a place to upload our results, at the next meeting.

The next meeting will be on 2 August 2016 at 6 PM. Studio 102

Submitted by Arthur C. Tarr, Venus Winds Project Coordinator