

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

Date/Time/Location: 9 July 2015 6:00 PM Exploration Studio 106

**ATTENDING**

<b>Art</b>	Ashley	<b>Christian</b>	Cristy	Dave	Drew	Dylan
<b>Elizabeth</b>	<b>Emilie</b>	John	<b>Kevin</b>	Nick H.	Nick Z.	<b>Mark</b>
<b>Marta</b>	Mica	Michael D.	Michael L.	Rachel	Ricardo	Terran
<b>Yvonne</b>						

Guests: None

The meeting opened at 6:00 PM at Exploration Studio 106 in the Morgridge Wing. Those **attending** are listed above. We welcomed new analyst, **Christian Schmelzel!**

**OLD BUSINESS**

**Your experience with DS9 and Gimp** All

There was discussion of the relative merits of **Gimp**, another open source suite of programs, similar to DS9 for analysis of images. Several of our analysts have experimented with **Gimp** already. We will have a discussion of the comparative merits of **Gimp** and **DS9** at a later date when enough analysts have developed a facility using the software.

**Tracking features present on July 12 and July 13, 2004 images** Mark

Earlier, Mark distributed one image each from July 12 and July 13, 2004 to be examined for cloud features that could be found on both days. The images are rendered in a cylindrical map projection (2048px x 1024px) to facilitate  $x,y$  coordinate determination. Analysts are asked to limit tracking features to the equatorial band (20°N to 20°S) and to present results at this meeting, using the formula  $[(X2 - X1) \times 5,959]/86,940$  where  $X1$  is the  $x$ -coordinate from the July 12 image and  $X2$  is the  $x$ -coordinate from the July 13 image.

Yvonne presented her results, which were quite good for calculating velocity of the selected features.

One serious issue is confidence in identifying a cloud feature that occurs on both July 12 and July 13, 2004. This discussion expanded to examination of successive high-quality images for each day from July 6 to July 14, 2004 that could link eight of them together.

**Wind Velocities to Date** Mark

At a later date, Mark will summarize the results from all analysts who have completed velocity spreadsheets for July 12, 2004. The purpose is to show the strengths and

weaknesses of the methods used so far, and to point to ways that might provide more consistent results. As a result, Christy will not do a statistical analysis of the results to date.

### **NEW BUSINESS**

Complete image sets and movies of the raw images for the eight-days from July 6 to July 14, 2004 are on the Venus Winds web-site for download by the analysts. The goal is to analyze the highest quality images of cloud patterns to test the hypothesis that cloud patterns on one day can be identified on the next. The movies can be found at

<http://spaceodyssey.dmns.org/venus-winds-project/researchdatasets.aspx>

Zip files with all the images for each date can be found by clicking on the yellow button 'Link to Image File'. You will be asked for a username and password (username: mark password: venus).

The next meeting on July 23 will be in Exploration Studio 106 at 6 PM.

Submitted by Arthur C. Tarr, Venus Winds Project Coordinator