

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

Date/Time/Location: 5 November 2015 6:00 PM Admin 1 (Basement)

ATTENDING

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

Guests: **Dave Wolf**

The meeting opened at 6:00 PM in ADM1. Those **attending** are listed above.

OLD BUSINESS

Wind velocities for analysis of July 4-13, 2004 data Mark

The current assignment uses ten high-quality images from the data series July 4-13 2004. Using the new mask produced by Marta (see below), which is available on the web site, the assignment now is for the volunteer researchers to check their previously centered images. Some may find that some of their July, 2004 images are not perfectly centered, so using this mask they should adjust their image and bring their results to the next meeting.

NEW BUSINESS

Multi-purpose masks Mark

Mark demonstrated a new mask produced by Marta that will assist analysts who are centering Venus images for research applications. The 512px by 512px mask consists of a set of **about** 40 layers of concentric and centered circles having diameters ranging from 476 pixels to 280 pixels on a transparent canvas. The circles are 1 pixel in width and spaced 4 pixels apart. An analyst would display the circle whose diameter corresponds with the diameter of the image specified in an ephemeris.

Preview of Venus Clouds Talk Kevin

Kevin gave a preview of a presentation that he will make next week at the American Astronomical Society's Division for Planetary Science meeting in Washington, DC. Using data from the European Space Agency's Venus Express mission, Kevin and his colleagues made a detailed examination of how cloud thickness varies with latitude and over time. The data were acquired by the Venus Express near-infrared imaging spectrometer, VIRTIS, between April 2006 (the beginning of the Venus Express mission) and October 2008 (when the cooling system for VIRTIS failed). They are using the 1.74 micron channel to isolate brightness changes on the nightside of Venus that are due only to the clouds (and not other absorbers in Venus' atmosphere). Kevin's statistical analysis yielded a periodicity to cloud

thickness of about 145 days. Since none of the other known periodic variables – the length of Venus’ day, the length of Venus’ year, and the orbital period of the spacecraft are anywhere close to this 145 day period, Kevin hypothesized that the periodic cloud thickening and thinning is due to the length of time that it takes the cloud particles to fall through the clouds (thereby thinning them), coupled to the length of time it takes for enough sulfuric acid vapor to be transported to the altitude of the clouds to allow the cloud thickness to rebound (thereby thickening them).

The next meeting on November 19 will be in ADM1 at 6 PM.

Submitted by Arthur C. Tarr, Venus Winds Project Coordinator