

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

Date/Time/Location: 23 October 2014 6:00 PM Exploration Studio 106

**ATTENDING**

<b>Boudreau</b>	<b>Bullock</b>	<b>Crowl</b>	Diba	Dickerman	Doubek
<b>Farrell</b>	<b>Gehring</b>	Harter	<b>Heil</b>	Knutson	<b>Krider</b>
Lindsay	<b>Logan</b>	<b>McGouldrick</b>	<b>Parziale</b>	Romero	Royer
<b>Stewart</b>	<b>Tarr</b>	Viera	Zimmerle		

Guest: **Sandy Krider**

The meeting opened at 6:00 PM at Exploration Studio 106 in the Morgridge Wing. Those **attending** are listed above.

**OLD BUSINESS**

**Your results and experience** Yvonne, Nick H., Ashley, Cristy, Art

These researchers presented their results of analyzing nine images from the 20040712 dataset using the recent spreadsheet. Their velocity diagrams (velocity as a function of latitude) had a number of common features: Lower velocity values at higher latitudes in both hemispheres, higher velocities at middle and low latitudes, except for an unexpected dip in velocity values within ten degrees of the Equator, noted by all of these researchers. Another common property of all the velocity diagrams was that the first data point was fixed at (0,0). That condition will be relaxed for the next data sets.

**New velocity measurement exercise: 14 Dec 2010** Mark

Mark announced that he will send out nine co-registered images from 14 Dec 2010 and a new spreadsheet for recording the movement of nine target points. He showed a number of frames from the series, many of which were of excellent quality. Art will perform the co-registration of the nine images prior to the distribution.

**NEW BUSINESS**

**Solar Eclipse Viewing** Mark

Prior to the meeting, Mark set up his 8" Meade Schmidt-Cassegrain telescope equipped with a solar filter for viewing the partial solar eclipse in the late afternoon, prior to the meeting on the West Patio of the Museum. The eclipsed Sun, with an attendant sunspot complex, was easily visible, despite high clouds over the mountains to the West. Dave Crowl brought his camera gear, including a motion-stabilized, 400 mm telephoto lens, to record the eclipsed Sun.

Many thanks to the Museum staff who provided us with eclipse eyeglasses!

**Image processing steps** Mark

Mark explained six major steps that eventually must be done on all prospective images used in a study:

1. Conversion of the raw Fits-formatted images
2. Flat fielding and bad pixel removal
3. Spectral slit removal
4. Co-registration of all images in a series
5. Removal of scattered light from the images.
6. Conversion of images into a Cylindrical projection

**Individual sub-group tasks** Mark

Mark proposed forming small groups, each comprising up to four researchers, tackling specific problems of data processing and data analysis. A list of those problems should be thoroughly described for consideration by Project researchers. Please suggest topics! Dylan Krider has offered to investigate slit removal.

**New method of recording x,y coordinates** Ricardo (reporting by e-mail)

Ricardo and an associate have been improving the coordinate recording tool that he demonstrated at the last meeting (October 9). It is available for testing at

<http://venuswindsproject.org/>. Report your experience and any problems to Ricardo at [ricardoclean@gmail.com](mailto:ricardoclean@gmail.com). At the next meeting, he will discuss other tools that should be useful.

The next meeting on November 6 at 6:00 PM will be in the usual space at DMNS. Succeeding meetings will be on November 20, December 4 and January 8.

Submitted by Arthur C. Tarr, Venus Winds Project Coordinator