

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

Date/Time/Location: 27 Mar 2014 6:00-8:00 PM Admin 2

ATTENDING

Bullock	Harter	Lindsay	Rabellino	Tarr
Doubek	Knutson	McGouldrick	Romero	

Sarah Hink, one of our long-time volunteers, is retiring from the Venus Winds Project. Thank you, Sarah, for your service to this project and best wishes in your new endeavors!

OLD BUSINESS

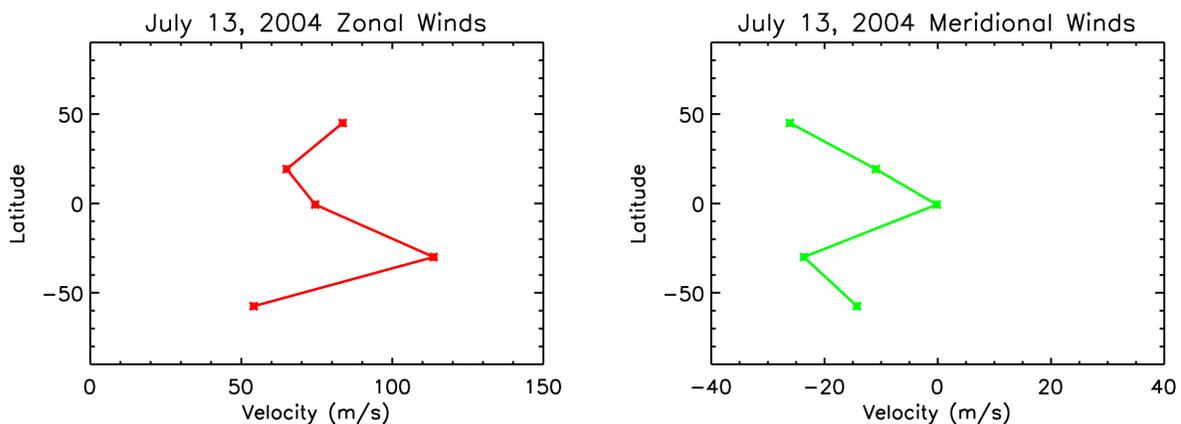
Results of assignments to determine wind speed examples

8 Jul 2004	Bryan	
9 Jul 2004	Michael D.	
10 Jul 2004	Marta*	
11 Jul 2004	Art	Completed
12 Jul 2004	Carlos	
13 Jul 2004	Mark	Completed

*New assignment

Mark and Art showed results of their respective assignments.

Mark used two images widely spaced in time sequence from 13 July 2004 to demonstrate his methodology. The images had been projected from image coordinates (essentially in an orthographic projection) into cylindrical rectangular coordinates whose central meridian is 60 deg. W. He selected five features and recorded the cylindrical coordinates in each feature in the first and second frames so that the arc distance and time interval between pairs would yield the average velocity of each feature. East-West winds at several latitudes are shown by the red line in the left plot. North-South winds are shown by the green line in the right plot.



Similarly Art computed the arc distance and time interval between pairs and used the spherical formulae between pairs appropriate for converting orthographic coordinates into geographic coordinates by means of an Excel spreadsheet.

Venus Winds wiki improvements Mark
Postponed until we have greater attendance.

Instructions for transferring JPL Horizons ephemerides to Excel Spreadsheet Mark
Mark demonstrated how to prepare an ephemeris from the JPL Horizons website. Mark talked about the 3 parameters necessary for converting centered image to cylindrical coordinates. They are NPAng, the angle that Venus' north pole is counterclockwise from vertical, Ob-lat, the Venus latitude at the center of the image, and Ob-lon, the Venus longitude at the center of the image.

Position descriptions for new recruits
Mark and Art are working on additions to the Venus Winds Researcher position description that will specify the desirability for the applicant having significant computer processing and programming skills and experience that would be appropriate to the position. In addition, there was an extensive discussion of desirability of selecting volunteers who are passionate about the process of learning and practicing the science involved in determination of the properties of the wind fields in the upper atmosphere of Venus.

NEW BUSINESS

The next meeting on April 10 will be in the usual space, Admin 2.

Submitted by Arthur C. Tarr, Venus Winds Project Coordinator