

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

Date/Time/Location: 8 January 2015 6:00 PM Exploration Studio 106

ATTENDING

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

Guests: **Sandy Krider**

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

We welcomed new volunteer Mica Trieu to the Project. Mica is a third-year astronomy major at CU Boulder. Marta Lindsay has returned after a much-too-long absence during which she was providing her services to the Museum. And we said goodbye to Nick Zimmerle who leaves for employment in Dallas; we wish him well!

OLD BUSINESS

Your results and experience All researchers

The assignment was to select 9 sharp images from the Dec 14, 2010 dataset, approximately equally spaced in time. We have seven results of this assignment so far. The goal is to start reviewing these selected images next meeting.

Summary of velocity data from July 12, 2004 images Mark

Spreadsheets with wind velocities have been filled out by eight researchers so far. Summaries of these results will be posted on Google Docs soon, with a discussion postponed until the next meeting.

Wind velocity measurements using pre-defined points All researchers

Mark will send e-mail with these points.

Individual sub-group task reports

Sub-group *Slit Removal* (Proposer: Dylan)

Dylan and Mark discussed potential algorithms to automate slit removal from the images. Dylan will build upon existing program code.

Sub-group *Improved Online Tools* (Proposer: Ricardo)

Postponed until next meeting.

Sub-group *Plotting Rotation Curves* (Proposer: Christy)
Postponed until next meeting.

Sub-group *Automated Co-Registration* (Proposer: Dave)

Dave discussed his research into available applications employing auto-correlation algorithms that would be employed in automated co-registration of images. He is planning to continue this research.

Image Co-Registration Art

Art presented two approaches for preparing images prior to co-registration. The first was a new tutorial document (*Tutorial #10: Preparing Venus Images Using Photoshop CS6*) documenting his best procedures for preparing Venus images for wind velocity determinations. The second was a new PowerPoint presentation graphically showing certain details of the procedures described in *Tutorial #10*.

Venus Winds Project researchers present were asked to review the two presentations prior to finalizing publication on a future website.

Upcoming Assignment: Co-Register Images All researchers

Mark discussed the new assignment, which is to take each of your 9 images from Dec 14, 2010 and move Venus so that it is in the center of the 512x512 image. Please bring these new, shifted images with you to our next meeting on January 22, 2015.

Next Meeting: Telescope Night Mark

A crescent Moon will be setting in the west on the evening of January 22, 2015, so the conditions may be good for observing following the meeting. Weather and Museum permitting, Mark will set up his 8" Schmidt-Cassegrain telescope for viewing some planets (Mars, Uranus, Neptune and galaxies such as M31, the Andromeda Galaxy). Others are welcome to bring their own instruments. Since the meeting place is on the second floor of the Museum (in EH201), there are concerns about securing the equipment while we conduct the meeting. We will discuss options with the Museum and will inform our mailing list of the results before meeting night.

NEW BUSINESS

The next meeting on January 22 will be in **Exploration Health 201** at 6:00 PM.

Submitted by Arthur C. Tarr, Venus Winds Project Coordinator