DENVER MUSEUM OF NATURE AND SCIENCE
VENUS WINDS PROJECT
MEETING AGENDA

Date/Time/Location 12 April 2016, 6:00 PM Exploration Studio 102

AGENDA ITEMS CARRIED FORWARD

Centering images demos – Ashley and Yvonne
These analysts will discuss their own image centering techniques using Photoshop and GIMP.

Spectrometer slit removal - Michael Logan
Michael will show how he uses GIMP to remove the spectrometer slit and other artifacts

Wind Velocity Error Analysis – Mark
Mark will go over the error budget for the wind velocity calculations using existing spreadsheet data. We will compare our error bars to those published for winds derived by Venus Express.

Velocity vs. latitude assignment – All

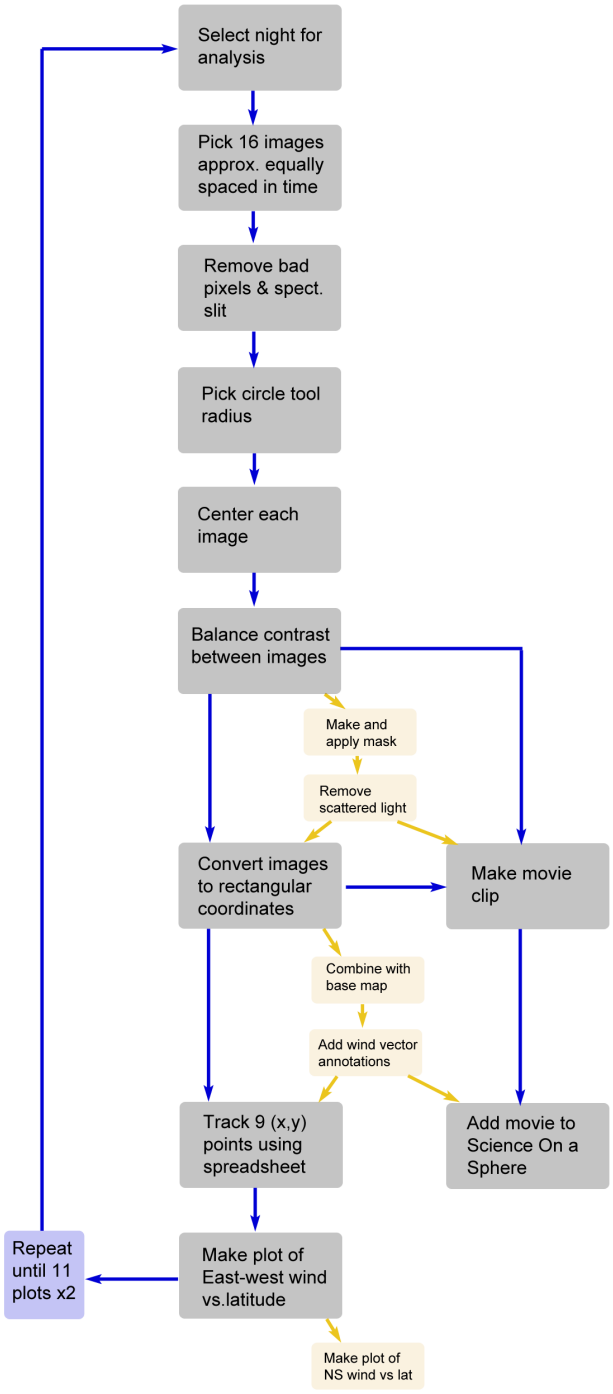
The assignment for the April 12 meeting will be to browse the images from the December 2010-January 2011 and September 2015 runs and pick a night that you want to work with. There are 11 nights to choose from. Find 16 sharp images from your selected night, approximately equally spaced in time, and center each one. Please email me the night you've chosen to work with, and your 16 centered images. Several of you have already done this with 10 images from either July 2004 or December 2010. If that is the case, please choose a new night to work on.

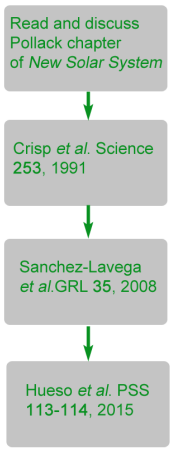
NEW AGENDA ITEMS SINCE LAST MEETING

Assignment schedule --Mark
Mark will go over our schedule for assignments required to produce a paper suitable for submission to a journal. A preliminary flow diagram of our tasks to accomplish this goal is shown on the next page.

Show assignment results -- All
Those who have completed the assignment can show their results. Mark will present his results first. Each night will be analyzed by at least two people.

Akatsuki update – Kevin
Immediately after Venus Orbital Insertion (VOI), *Akatsuki* returned ultraviolet (UV), near-infrared (NIR) and mid-infrared images of the dayside of Venus. At the International Venus Conference 2016 in Oxford, UK last week, the *Akatsuki* team for the first time showed NIR images of the nightside of Venus. These images are analogous to the IRTF telescope images that we work with, but have far superior sharpness and contrast because they were taken 35 million miles closer to the planet. Kevin will show and discuss the latest *Akatsuki* images when they have been approved for sharing with the group.


Select night for analysis
Pick 16 images approx. equally spaced in time
Remove bad pixels & spect. slit
Pick circle tool radius
Center each image
Balance contrast between images
Make and apply mask
Remove scattered light
Convert images to rectangular coordinates
Make movie clip
Combine with base map
Add wind vector annotations
Track 9 (x,y) points using spreadsheet
Add movie to Science On a Sphere
Repeat until 11 plots x2
Make plot of East-west wind vs.latitude
Make plot of NS wind vs lat


Read and discuss Pollack chapter of *New Solar System*
Crisp *et al.* Science 253, 1991
Sanchez-Lavega *et al.*GRL 35, 2008
Hueso *et al.* PSS 113-114, 2015