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

Date/Time/Location: 10 Apr 2014 6:00-8:00 PM Admin 2

ATTENDING

Bullock	Harter	Lindsay	Rabellino	**Tarr**
Doubek	Knutson	McGouldrick	Romero	

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 using cylindrical coordinates
12 Jul 2004	Carlos	
13 Jul 2004	Mark	Completed

*New assignment

*Art discussed his assignment, determining wind speeds for 15 cloud features observed on five images taken on 11 Jul 2004 and spanning the range 15:14:00 UT to 18:28:00 UT. The images had been converted from the original to cylindrical projection. The measurements were recorded on Mark's Excel spreadsheet created for that purpose. Almost all cloud features showed a consistent movement from East to West with **U** (i.e E-W) components that ranged from 15 m/sec to 80 m/sec. The **V** (i.e, N-S) component of most features was less consistent. The attached spreadsheet shows this behavior.*

Art suggested that some of the scatter may actually be due to an artifact of formulae in some of the cells. Mark agreed and is going to review the spreadsheet and correct any formulae that contain this artifact.

Overall the assignment was considerably easier than using Art's original spreadsheet that was intended for measurements on an unprojected image. This earlier spreadsheet had more complicated formulae in it.

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

Proposed manuscript for publication Mark
Postponed until we have greater attendance.

Investigate some images on JPL web sites Mark
Postponed until we have greater attendance.

Previous Venus wind speeds from other scientists Mark
Postponed until we have greater attendance.

Mathematics of the rectangular coordinates transformation Mark, Art
Postponed until we have greater attendance.

The next meeting on April 24 will be in the usual space, Admin 2.

Submitted by Arthur C. Tarr, Venus Winds Project Coordinator

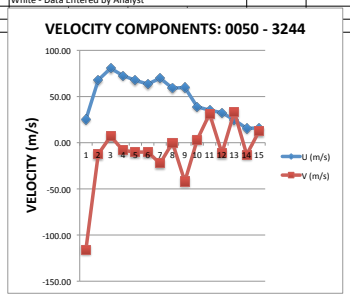
PUT IMAGE DATE HERE 20040711 Images 2048 x 1024 pixels and 20.48" x 10.24" NAME A. Tarr DATE 10 Apr 2014

Point	Image 0050					Image 3244								Velocities				
	Time	X (inches)	Y (inches)	Longitude	Latitude	Time	X (inches)	Y (inches)	Longitude	Latitude	ΔT (sec)	ΔX (inches)	ΔY (inches)	ΔX (km)	ΔY (km)	U (m/s)	V (m/s)	
1	15:14:00	19.90	2.12	589.8047	52.7344	18:28:00	19.64	2.56	585.2344	45.0000	11640.000	0.26	-0.44	292.304	-1349.179	25.11	-115.91	
2	15:14:00	0.80	3.70	254.0625	24.9609	18:28:00	0.33	3.77	245.8008	23.7305	11640.000	0.47	-0.07	791.135	-143.359	67.97	-12.32	
3a	15:14:00	20.25	3.80	595.9570	23.2031	18:28:00	19.70	3.76	586.2891	23.9063	11640.000	0.55	0.04	938.580	80.803	80.63	6.94	
3b	15:14:00	0.23	4.31	244.0430	14.2383	18:28:00	20.24	4.36	595.7813	13.3594	11640.000	0.47	-0.05	845.838	-95.777	72.67	-8.23	
4a	15:14:00	1.44	3.99	265.3125	19.8633	18:28:00	0.99	4.05	257.4023	18.8086	11640.000	0.45	-0.06	785.803	-118.448	67.51	-10.18	
4b	15:14:00	1.91	4.06	273.5742	18.6328	18:28:00	1.49	4.12	266.1914	17.5781	11640.000	0.42	-0.06	738.936	-117.563	63.48	-10.10	
5	15:14:00	2.23	4.82	279.1992	5.2734	18:28:00	1.79	4.96	271.4648	2.8125	11640.000	0.44	-0.14	813.486	-261.041	69.89	-22.43	
6	15:14:00	2.34	5.25	281.1328	-2.2852	18:28:00	1.97	5.25	274.6289	-2.2852	11640.000	0.37	0.00	686.429	0.000	58.97	0.00	
7	15:14:00	2.00	5.64	275.1563	-9.1406	18:28:00	1.62	5.90	268.4766	-13.7109	11640.000	0.38	-0.26	696.583	-488.948	59.84	-42.01	
8	15:14:00	2.88	5.88	290.6250	-13.3594	18:28:00	2.63	5.86	286.2305	-13.0078	11640.000	0.25	0.02	451.612	38.167	38.80	3.28	
9	15:14:00	1.50	6.44	266.3672	-23.2031	18:28:00	1.26	6.26	262.1484	-20.0391	11640.000	0.24	0.18	409.562	363.616	35.19	31.24	
10	15:14:00	20.09	6.95	593.1445	-32.1680	18:28:00	19.85	7.01	588.9258	-33.2227	11640.000	0.24	-0.06	377.201	-131.604	32.41	-11.31	
11	15:14:00	20.06	7.84	592.6172	-47.8125	18:28:00	19.83	7.70	588.5742	-45.3516	11640.000	0.23	0.14	286.782	387.064	24.64	33.25	
12	15:14:00	2.18	7.51	278.3203	-42.0117	18:28:00	2.05	7.57	276.0352	-43.0664	11640.000	0.13	-0.06	179.340	-149.933	15.41	-12.88	
13	15:14:00	3.42	7.34	300.1172	-39.0234	18:28:00	3.29	7.28	297.8320	-37.9688	11640.000	0.13	0.06	187.517	143.394	16.11	12.32	

longitude = 240° + X*360°/20.48"
ΔX(km) = ΔX(")*38025*cos(latitude) km/20.48"

latitude = 90° - Y*180°/10.24"
ΔY(km) = ΔY(")*38025/cos(latitude) km/20.48"

Legend:
Pink - Calculations for X and Longitude
Green - Calculations for Y and Latitude
White - Data Entered by Analyst



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