

## Statistics and “logbook” of the Venus Express/VMC observations

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### Abstract

Venus Monitoring Camera (VMC) [1], that has wide angle and multi channel (365, 513, 965 and 101 nm), observed the planet for already more than 3 years. It provides the largest and the longest imaging dataset of Venus cloud tops and surfaces. In this study, we analysed the spatial coverage of VMC observation statistically and made “logbook” which gives the users an general over view of available VMC observation and their quality.

### Logbook format

VMC “Logbook” is a table that summarizes VMC observations based on the Venus Express science planning [2]. Each column contains observational information (orbital parameters, observation star & end time, number of images, science theme, etc.) and data quality information about one orbit (Figure 1). We classified the data quality associated with VMC scientific topics: Cloud Morphology, Wind, Wave, Limb, Surface.

VMC observations logbook Atm-J-904														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1 Orbit and observations			Number of images				Cloud Morphology				Dynamics			
2 Orbit LTAN, h. Long + start, end, h			UV	VIS	NIR1	NIR2	Science	1	South polar	Mid-Low-lats	North mosaic	Winds	Mid-lat	Waves
559	635	6.45707	106.88	-11.55	1138	63	35	35	35	AC005A-ADC1	3	0	3	0
560	636	6.95532	106.88	-11.55	117	51	22	22	22	AC005A-ADC2	3	0	3	0
561	637	6.8723	106.67	-04.00	136	55	33	33	33	AC005A-ADC2	3	0	2	4
562	638	6.78011	106.67	-11.55	118	36	11	11	11	AC005A-ADC1	3	0	3	0
563	639	6.88743	106.67	-04.19	-00.25	40	25	25	25	AC005A-ADC2	3	0	3	0
564	640	6.9472	106.88	-11.55	-04.14	32	8	8	8	AC005A-ADC1	0	0	0	0
565	641	7.0198	106.88	-08.20	-00.25	24	16	16	16	AC005A-ADC1	3	0	2	0
566	642	7.20916	106.88	-11.55	-04.14	32	8	8	8	AC005A-ADC2	3	0	3	0
567	643	7.31631	106.88	-08.20	-00.25	24	16	16	16	AC005A-ADC1	3	0	1	0
568	644	7.42342	106.65	-11.55	-04.14	32	8	8	8	AC005A-ADC1	3	0	3	0
569	645	7.53048	106.65	-08.20	-00.03	29	21	21	21	AC005A-ADC2	3	0	3	0

Figure 1: A part of VMC “Logbook” table.

### Quality Classification

To perform classification of data quality as objectively as possible, we set check items for each science topics. Higher quality data has higher contrast, clearer

features, and smaller phase angle. Quality 1-3 has good data available for investigation. Quality 4 has data which has no feature, quality 5 is bad data, and quality 0 means there are no image for the topics.

In the presentation, we will show the detail of statistics and logbook and discuss observation needed in future.

### References

- [1] Markiewicz, W. J. et al. (2007), *Planetary and Space Science*, 55, 1701–1711.
- [2] Titov, D. V. et al. (2006), *Planetary and Space Science*, 54, 1279–1297.