

## MARS

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## OBSERVATIONS

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## ■ CMO 2005 Mars Note (8)

*What Happened on 17<sup>th</sup> October 2005  
in Chryse ?*

## 17Octにクリュセで何が起こったか

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The question of how and why a dust storm originates has always been an intriguing topic leading to extensive research. The classical theory of Martian storms stands that the big dust occurs preferentially during southern summer, because the environment is favourable, due to atmospheric pressure, winds speed and air temperature. More recent and innovative investigations can be found on CMO's work, which investigates a mechanism of cloud re-building<sup>1)</sup> or the influence of solar activity<sup>2)</sup>. On the professional side, the MGS data lead during the last years to the identification of storm rising by the travelling of dust fronts originating from the north polar region. This has been described and modelised by US scientists in 2003<sup>3)</sup>. They identified two seasonal "windows" when cloud fronts carrying dust, and circulating at the edge of the north polar hood in some key regions such as Mare Acidalium, can be taken by dominant winds to the south up to the equator where enhanced dust activity can be lifted. These "windows" are

defined between  $\lambda=210^\circ\text{Ls}\sim 230^\circ\text{Ls}$  and  $\lambda=310^\circ\text{Ls}\sim 350^\circ\text{Ls}$ . Readers will find a detailed description of the model in point 5) below.

There is a possibility that the three 2003 dust events found their origin in this mechanism. This is highly suggested by the analysis of MGS data for the first July storm (starting at  $\lambda=211\sim 212^\circ\text{Ls}$ , partially detected on amateur images), relatively unambiguous for the short event of July 30<sup>th</sup> ( $\lambda=230\sim 231^\circ\text{Ls}$ ), and suggested for the December storm ( $\lambda=314\sim 315^\circ\text{Ls}$ ) as the first cloud was observed in Chryse and was followed by activity in the southern hemisphere<sup>4)</sup>.

In 2005, dust is seen again in the area of Chryse. The clearest start of activity is observed as a bright dust cloud over Eos on October 18<sup>th</sup> ( $\lambda=308\sim 309^\circ\text{Ls}$ ) by many observers<sup>5)</sup>. However, one can ask if there was any precursory activity on the day before, because the activity on that day was already at the equator but was driven by a southerly travelling movement. This again suggests that it was possibly a shift or a resonance of any Acidalium dust. We then propose to focus on the 17<sup>th</sup> of October to clear this point. The 2005 dust activity has been extensively observed by amateurs under very favourable conditions, close to the opposition period, and the data they produced is of very high quality, allowing a complete investigation of the origins of the storm.

1) MINAMI M., *Dust Devil is To Be Produced Early in the Morning and Stays Stationary in the Daytime*. See <http://homepage2.nifty.com/~cmo/01Note02/index.htm>

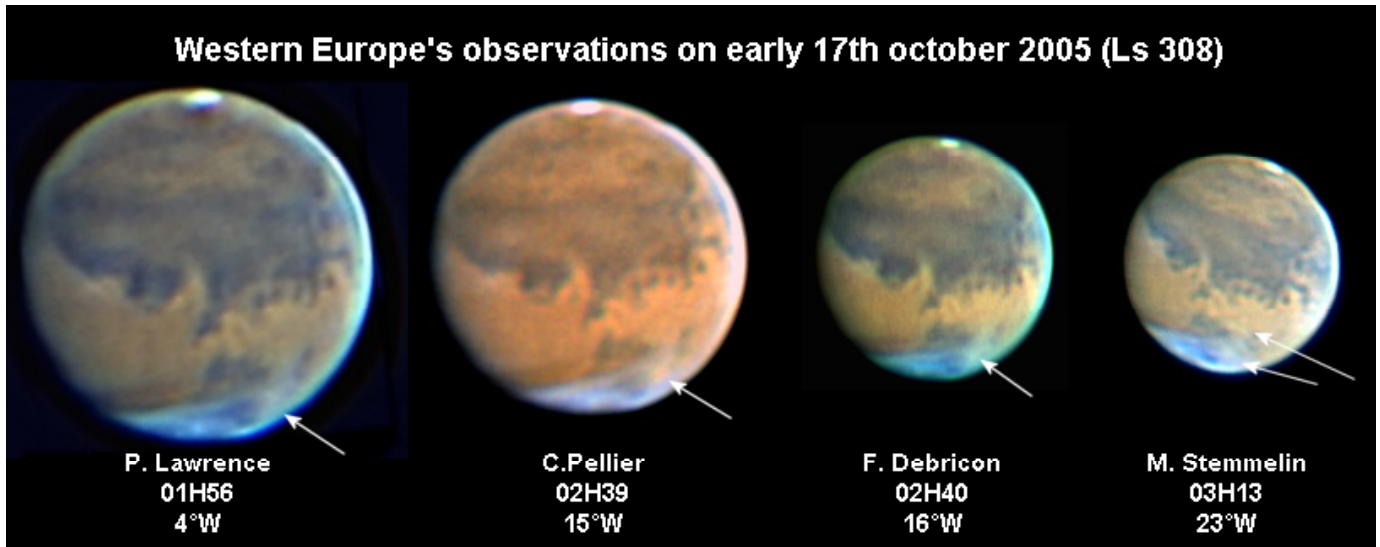
2) MINAMI M., *A possible trigger of the 2001 great yellow cloud - Big X flare at AR#9393* - <http://homepage3.nifty.com/~cmohk/270Note17/index.html>

3) Huiqun WANG (王惠群), RICHARDSON, WILSON, INGERSOLL, TOIGO, ZUREK: *Cyclones, Tides, and the Origin of a Cross-Equatorial Dust Storm on Mars*. Geophysical Research Letter, 30, No. 9, 2003. Available on WANG's homepage : <http://www.gps.caltech.edu/~hqw/thesis/index.html>

4) The precursor for the July event was imaged by MGS on June 29th : [http://www.msss.com/mars\\_images/moc/2003/07/07/](http://www.msss.com/mars_images/moc/2003/07/07/)

See also PELLIER Ch., *L'apparition de Mars en 2003*, SAF report. Available in French at <http://www.saf-lastronomie.com/grpmars.htm>

5) Read CMO's Note "Miracles occurred on 18 October 2005" in <http://homepage3.nifty.com/~cmomn3/CMO324.pdf>



### 1. First dust between 13<sup>th</sup> and 15<sup>th</sup> October

After several false alerts all located on the crucial Chryse sector<sup>6)</sup>, observers are warned by Paolo LAZZAROTTI (PLz) that a finally true event has been observed on the first hours of October 13<sup>th</sup>, ( $\lambda=305^\circ\text{Ls}$ ) on images where a small and subtle dust cloud is seen in the northern part of Chryse. It appears that the cloud has been first caught either by Silvia KOWOLLIK (SKw) just two hours before or even Michaël KARRER (MKr) on the late 12<sup>th</sup> October or Zlatko KOVACEVIC (ZKv).

During the night of October 13~14<sup>th</sup> ( $\lambda=306^\circ\text{Ls}$ ), some images show that the cloud has shifted south to Eos (or either it was a resonance). It looks already bright on MKr although just at the limb, clearer on the present writer (CPI)'s images and Jesus SANCHEZ (JSc)'s images and again SKw for Europe (see also some later images by VANDERBERGH and SEIP). The cloud can be traced at its afternoon on US observers (Don BATES (DBt) and Jim PHILLIPS (JPh)). It looks to have vanished on the images of October 16<sup>th</sup>, although faint lifted dust could remain at a scale too small to be observed with certainty. Ground details look to have recovered by then.

### 2. Looking for precursory activity before the main 18<sup>th</sup> October event

The activity regains highly on the evening of the 18<sup>th</sup>,

where a well visible V-shaped clouds is seen again over Eos. The author's hypothesis is that this dust cloud, which triggered some spectacular stuff during several days, is different from the cloud observed on the 13~15<sup>th</sup>, and was raised by north-descending small dust clouds during the 17<sup>th</sup><sup>7)</sup>.

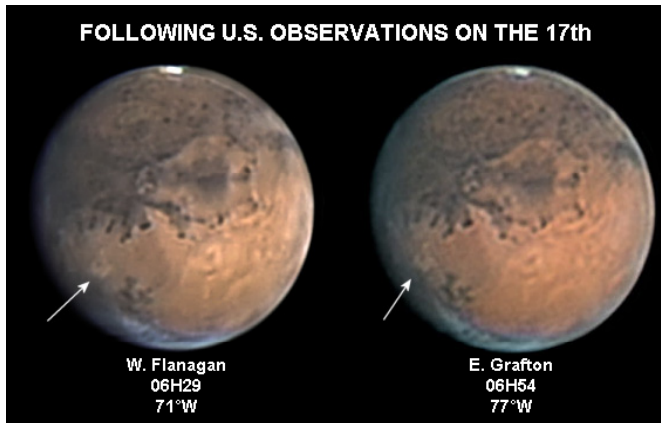
The sequence can be rebuilt thanks to some lucky amateur images as shown above (Fig 1):

1° (*See Fig 1*) In the first hours of the 17<sup>th</sup>, some small yellow clouds located in Nilokeras are imaged in western Europe by a small group of amateurs; the activity looks to affect southern Nilokeras onto Chryse.

A bright cloud is imaged on the present writer (CPI)'s images and François DEBRICON's images taken at the same moment, just between Nilokeras and Acidalium. The activity possibly extends faintly to the south as a yellow streak. Marc STEMMELIN's image is interesting because it's taken more than half an hour after those two, and the scene has already evolved (*see also cartography in Fig 3 at the next page*): the white clouds at edge of the NPH have went further east into M Acidalium. Most important, a small triangle cloud is now possibly detected on Chryse North. Obviously the quality of the image is not good enough to be certain of this last detail, but fortunately, the next US observations confirm it. The image of Pete LAWRENCE (PLw) also makes clear that

6) Chryse is a strongly misleading area, where brightening are frequently seen, most of them being no more than surface albedo, eventually enhanced by white clouds.

7) We may immediately wonder if the first descending dust between the 12<sup>th</sup> and the 15<sup>th</sup> had an influence on the following activity. Lifted dust is known to have positive "feed backs" on the strength of winds. So that first dust could as well have reinforced the return of the Hadley cell over Acidalium, facilitating the raise of any new dust cloud.



the clouds located at Nilokeras north are not from the water-ice crystals kind.

2° (See Fig 2 above) A few hours later, the images taken in the US also detect some activity on northern Chryse. The Stemmelin cloud is obvious in FLANAGAN (WFL)'s image secured just three hours later. Also see Ed GRAFTON (EGf)'s image on the same day. The other US images do show the cloud but at a much uncertain level. Although DBt's image do reveal the yellow tint of the precise region, it doesn't unveiled the "Stemmelin cloud", possibly because of moderate resolution. PARKER (DPk)'s next image do reveal in our opinion that "smoking gun" but not so nicely that WFL or EGf (it looks like the seeing was uncooperative). The cloud is also visible on Clay SHERROD (CSr)'s.

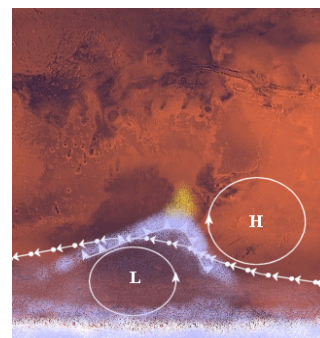
3° The scene on the 18<sup>th</sup> (next Martian sol) from Europe to USA shows a bright cloud over Eos. Images taken by the same observers on that day also eliminates the risk that the "Stemmelin cloud" be merely a bright albedo zone on the ground, because no image do show it anymore (compare again WFL and EGf's data).

### 3. The Acidalium "Storm Factory"

The hypothesis that the 18<sup>th</sup> activity can be directly linked to that of the 17<sup>th</sup>, a nightly event that no one witnessed, is based on the existence of nearby dust clouds on the 17<sup>th</sup> but also on the known usual activity there analysed from MGS data. The M Acidalium/Chryse area during northern autumn/winter is an extremely active longitude where continuous cloud front activity can be observed. On MGS images, the apparition of small dust clouds in the vicinity of Nilokeras is frequent, not to

say permanent, in what could be metaphored as "storm factory". This is made possible by the presence of what scientists call an atmospheric "wave" permanently located over Mare Acidalium during those seasons. The wave is created by a sudden topographic slope near Nilokeras, as the high terrains of the Tharsis bulge go down to the flat and low plains of Acidalia Planitia. This topographic/atmospheric couple entrains the continuous apparition of bright white cloud fronts, carried by the easterly jet-stream, that can be easily identified on amateur images. Although clouds fronts do contain dust<sup>8)</sup>, they do also raise pure dust clouds on the windy slope. Those dust clouds follow a rapid southern path<sup>9)</sup>.

Another dimension of the NPH activity over M Acidalium is what looks like an "oscillation" of the hood in latitude with a period of around 2 to 3 sols. This explains why on the images it looks thick one day, then faint the other, or at a low latitude, then drawn up to the north. This oscillation must be created by the regular passages of cloud fronts as well as the game of low and high pressures in the region. This has consequences because dust clouds that have vocation to raise some dust in Chryse are mostly produced when the polar hood is in its "low latitude phase" when fronts are pushed to the south. This is the case on October 17<sup>th</sup>; images reveal a great streak that goes diagonally from south Nilokeras to the north-east of Mare Acidalium. The situation indicates that strong winds are blowing southward in the Nilokeras corridor, following the Tharsis slope. We might say according to MGS images that the lift of dust in the corri-



dor at this moment is almost certain. Figure 3 proposes a modelisation of "phase 2" when southerly travelling fronts raise dust near Nilokeras.

Fig.3: Simple modelisation of the situation on October 17<sup>th</sup>: L (centre of Low pressure), H (centre of High pressure). The position of the centres is only indicative, but the map of winter pressure in the region indicates that a cyclonic zone is found at north and an anticyclone is located near Nilokeras.

8) Dust in those fronts can be imaged through IR-pass filters.

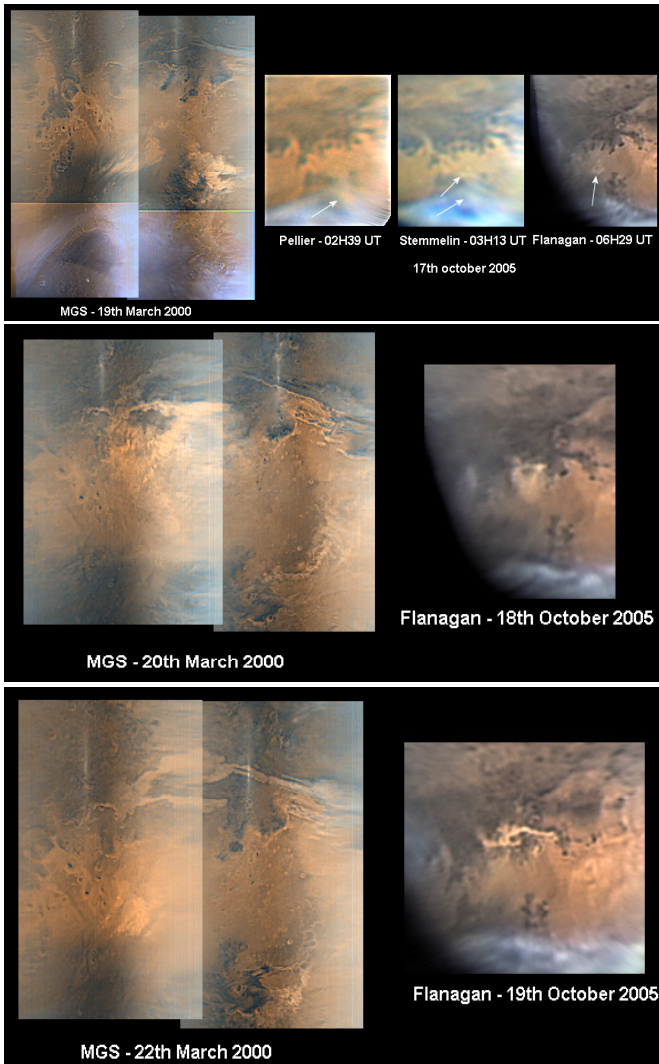
9) The author advices to look at the 2002 "MOC Weather Reports" to become aware of that activity, which is impressive but hard to detect from Earth with amateur telescopes : [http://www.msss.com/mars\\_images/moc/weather\\_reports/](http://www.msss.com/mars_images/moc/weather_reports/)

Editor's note: The images underlined on 17 Oct can be found from: <http://homepage2.nifty.com/~cmoms/2005/051017.html>



#### 4. A comparison of amateur images with MGS data

It's possible to make a very interesting comparison between some old MGS images taken during the first "mapping year" (1999-2000), where an amazingly similar event has been followed by the probe during march 2000 at a close, although later, season ( $\lambda=320^\circ\text{Ls}$  instead of  $\lambda=308^\circ\text{Ls}$ ). The beginnings of both dust events, during the very first days, are directly comparable.



Figs, 4, 5 & 6: A comparison of similar seasonal dust activity two Martian years apart. The MGS activity was seen at  $\lambda=321\sim321^\circ\text{Ls}$  and the 2005 images were at  $\lambda=308\sim309^\circ\text{Ls}$ . The MGS images are false colour composites (RsGB) processed by the author<sup>10</sup> (credit: NASA/JPL/Malin Space Science Systems). On both cases, the activity begins with small dust clouds near Nilokeras and/or northern Chryse; on the following day, a triangle-shaped cloud expands over Eos; one or two days after, the dust cloud gets trapped in Valles Marineris (the difference is that in 2000, the activity did not survive the V.M. trap).

#### 5. The 2005 activity with regard to the Cross-Equatorial Storm model

So we might now add a bit of theory at this point to investigate more deeply what happened. At first glance it's natural to refer to the model of cross-equatorial storms, as described by Huiqun WANG and co-authors. This model has been built to explain how dust clouds coming from the NPR could shift to the south and provoked big dust storms in no more than a few days, as seen during several periods in MGS images. If the 2005 activity is understandable in this framework, it differs none the less in some interesting way from the theory.

The model requires the coordination of three elements. If they are positive all together, a "tidal gate" opens and cloud fronts carrying dust can travel fast through some paths identified in the regions of Arcadia, Utopia and M Acidalium, the last one being the most important<sup>11</sup>.

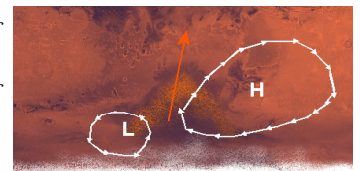
1° The Martian season belongs to two seasonal "windows":  $\lambda=210^\circ\text{Ls}\sim230^\circ\text{Ls}$  or  $\lambda=310^\circ\text{Ls}\sim350^\circ\text{Ls}$ .

This is because the northern fronts are stronger during autumn and winter. The period between  $\lambda=230^\circ\text{Ls}$  and  $\lambda=310^\circ\text{Ls}$  corresponds to moments close to the winter solstice where northerly winds are too weak.

2° There is a low pressure whose centre is located at  $\Omega=000^\circ\text{W}$ , north-west of Mare Acidalium. By the way a high-pressure is found at south-east over Mare Acidalium. This brings the basic scene for a northern flux.

3° The local hour at  $\Omega=035^\circ\text{W}$  (in Mare Acidalium) is comprised between 9H and 19H. During day, meridional winds (north to south) do not encounter contrary zonal winds (east to west).

Fig.7: A simplified model of the cross-equatorial storm theory, showing the location of pressure centres and the direction of the dominant winds, carrying a big dust front.



Does the 2005 dust fits into this model ?

Criterion 1 (Martian season): the activity began just outside the period at  $\lambda=307\sim308^\circ\text{Ls}$ , with even a first successful descent at  $\lambda=305^\circ\text{Ls}$  (Oct 13<sup>th</sup>) but that one lasted short. However, there is no reason that  $\lambda=310^\circ\text{Ls}$  be an objective limit in itself so we might say that the

10) Original images can be found at Malin Space Science System - Rotation M13 [http://www.msss.com/moc\\_gallery/m13\\_m18/gmtables/M13-gm.html](http://www.msss.com/moc_gallery/m13_m18/gmtables/M13-gm.html)

11) All these regions are longitudes where the descending branch of the unique « Hadley cell » is stronger than elsewhere, enhancing the strength of the jet-stream.

criterion is respected.

**Criterion 3 (local hour):** this one is respected, as for the above analysis, the key moment when dust activity crosses to the south is during the Martian sol corresponding to the night of 17 to 18<sup>th</sup> October.

**Criterion 2 (position of the low and high pressure centres):** this point looks impossible to determine due to the extreme difficulty to identify pressure deviation in an atmosphere that is largely devoid of clouds. However, thanks to the NPH activity, and after having intensively compared professional studies with MGS and amateur images, the author is convinced that this criterion is not respected. The activity of the NPH looks incompatible with the presence of a HP centre over Acidalium (but yes at the south-east or east of Nilokeras) and with the location of the LP at the 0 meridian (but yes in northern Acidalium, at  $\Omega=010\sim030^\circ\text{W}$ ).

The failure of the 2<sup>nd</sup> criterion at the same time confirms the validity of the hypothesis but also introduces a nuance. The cross-equatorial storm model has been elaborated to explain how big dust fronts could cross the complete Acidalium plain and reach the equator<sup>12)</sup>, but in reality, in 2005, no big front has ever managed to get there then. On the morning of the 17<sup>th</sup> Oct, a weak front is seen crossing M Acidalium east of the dusty area, and another one is in approach following the dust core in *CPI*'s image. But on the 18<sup>th</sup> Oct, the white clouds look

pushed back to the north, indicating that the “gate” that was opening on the day before has been closed<sup>13)</sup>. The activity looks to have been triggered by small “accidental” dust clouds not belonging to the main front - this looks to be also the case for the MGS 2000 images shown above. This means that dust storms could be raised even when the tidal gate closes too quickly to let the main front go too far.

If exact, this analysis draws interesting perspective for the dust storm ever-continuing story: the north-originated storms could be frequent. Looking back at the last apparitions, we find that all the storms seen in 2003 can also be explained through this frame<sup>14)</sup>, as well as the early 2002 flushing storms observed by MGS. The last big dust that originated really in the southern hemisphere is the famous 2001 global event, two Martian years ago. So we might think about how many of the past classical storms that we observed in the south were born the same way?

#### *Acknowledgements*

The author would like to sincerely thank Masatsugu MINAMI and all the OAA Mars Section team who invited him to write this paper in the CMO. I thank also François DEBRICON and Marc STEMMELIN for their permission to use their images.

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12) See for example [http://www.msss.com/mars\\_images/moc/weather\\_reports/5\\_12FEB02/2002\\_02\\_05-12\\_i.jpg](http://www.msss.com/mars_images/moc/weather_reports/5_12FEB02/2002_02_05-12_i.jpg)

13) The author will investigate more on this question on an SAF Mars report to be released in early 2007.

14) PELLIER, Ch. 2003, op. cit.(Ref 4))

*Forthcoming 2007/2008 Mars (1)*

## Mars in 2007/2008 (2007/2008年の火星). I

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**00°** The planet Mars in 2007 will be closest to the Earth on **19 December 2007** at 00h GMT, and at opposition on **24 December 2007** at 20h GMT and hence we should call the present case the 2007/2008 apparition. Here we are first concerned with the possible observational points in 2007.

**01°** The maximal angular diameter  $\delta$  is predicted to be **15.9 arcsecs** and so smaller than in 2005, while in 2007

the Martian season after  $\lambda=345^\circ\text{Ls}$  (around 11 November) is observable in more favourable condition than in 2005, that is, the apparent diameter  $\delta$  is larger than in 2005. In particular in 2007 the season around the northern spring equinox ( $\lambda=360^\circ\text{Ls}$ ) can be observable in preferable conditions. At the season  $\lambda=350^\circ\text{Ls}$ , the tilt of the north pole is still toward the Earth and reads  $\phi=7^\circ\text{N}$ , and so the north polar hood is well observable. The ver-

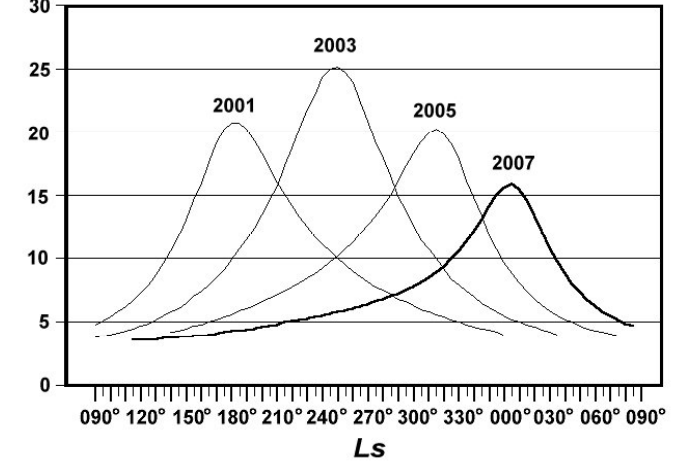
nal equinox will attain on 9 December with  $\phi=4^\circ\text{N}$ . At the end of the year, the season reaches  $\lambda=010^\circ\text{Ls}$  when the Baum plateau of the npc begins (snow line is at  $\Phi=58^\circ\text{N}$ ). The tilt of the north pole will be away for a while until the end of February 2008, but the perimeter of the npc will remain stable if the Baum plateau is valid (or if not disturbed by dusts).

**02°** Around the time when the planet is at opposition, the planet will stay in Gemini, and so shines high up seen from the Northern Hemisphere (the altitude at the maximal time will read  $70^\circ$  or more from Japan), but quite low from the Southern Hemisphere.

**03°** Earlier the angular diameter  $\delta$  reaches 5 arcsecs in mid-April 2007 when the season will read  $\lambda=220^\circ\text{Ls}$ . Since the tilt of the south pole is deeply toward us, we can watch the thawing of the spc. However in April the planet stays low since it is still in Aquarius. The planet will come back to the Equator at the end of May when  $\delta=5.7''$ .

**04°** So roughly speaking, Mars in 2007 will show us the seasons from  $\lambda=220^\circ\text{Ls}$  to  $010^\circ\text{Ls}$  in which the size of the spc will decrease, the orographic cloud can be observed, the activity of the nph is well watched and so on. At the beginning we should be careful if the southern dust storms may occur, and at the end of the year we

Comparison of the variation of the angular diameter  $\delta$  in 2007/2008 to those in 2001, 2003 and 2005



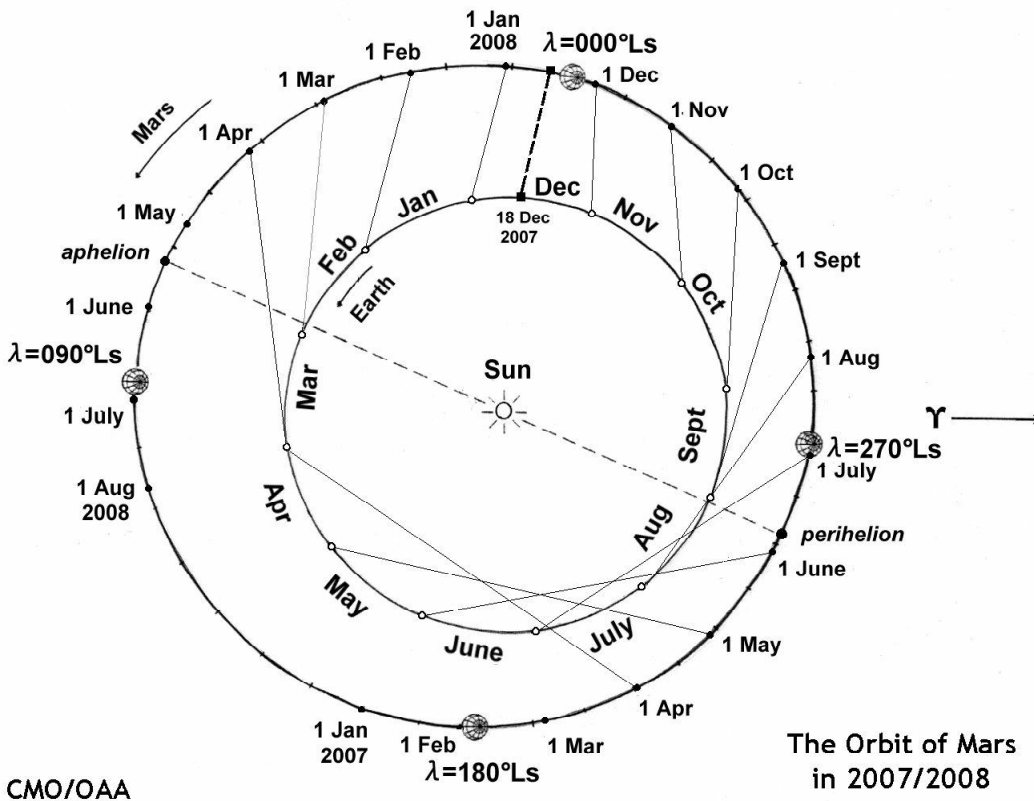
may well catch the npc when it comes out from the nph.

**05°** More concretely, we should be careful about the shape of the spc since its centre will deviate from pole toward  $\Omega=030^\circ\text{W}$  from May. The spc will become a residual small cap around from the beginning of September. At the same time the central latitude will shift from south to north, and so it will become difficult to check the spc. Note however we need to watch how the spr since **the south polar hood** is given rise to.

**06°** On the other hand, the npr and nph become easier to watch from September. Already the **Dawes Slit** of the nph over M Acidalium may be visible (on 1 September 2007,  $\lambda=306^\circ\text{Ls}$ ). In 2005 one of us (*Mn*) observed it at

around  $\lambda=310^\circ\text{Ls}$  from Mt Hamilton, and he also saw it in 1990 at around  $\lambda=320^\circ\text{Ls}$ , and DAWES himself detected it around  $\lambda=340^\circ\text{Ls}$ , and so the opportunity lasts long. It should be stressed again that this apparition provides the best opportunity to catch any glimpse of the npc in a lull of the nph after  $\lambda=350^\circ\text{Ls}$  as well as to witness the clearing up of the nph.

**07°** The period (*B*) from  $\lambda=310^\circ\text{Ls}$  to  $\lambda=350^\circ\text{Ls}$



described in CMO #305 (25 May 2005) p2-0088 or in [http://homepage2.nifty.com/~cmomn2/2005Coming\\_9.htm](http://homepage2.nifty.com/~cmomn2/2005Coming_9.htm) is included in this apparition when the physical condition is preferable to watch the **northern originated dusts**: Sometimes they gave large resonances on the southern hemisphere crossing the equator (see the preceding excellent Note by Christophe PELLIER (*CPI*) this issue, and also in

[http://homepage3.nifty.com/~cmomn3/289Note02\\_03/index.htm](http://homepage3.nifty.com/~cmomn3/289Note02_03/index.htm))

In 2003, as pointed out by *CPI*, one example was observed at  $\lambda=315^\circ\text{Ls}$  by Don PARKER (*DPk*), and in 2005 another one was observed at around  $\lambda=310^\circ\text{Ls}$ . In 2007,  $\lambda=310^\circ\text{Ls}$  comes round on 7 September with  $\delta=8.4''$  and  $\varphi=1^\circ\text{S}$ , and then  $\delta$  and  $\varphi$  increase, and finally  $\lambda=350^\circ\text{Ls}$  visits on 19 November with  $\delta=14.0''$  and  $\varphi=7^\circ\text{N}$ .

**08°** The **evening cloud** over Olympus Mons will cease to be active from mid-March 2007, while the Tharsis evening cloud will continue to be seen even after the summer, and we ask our observers to check its scale every time. Olympus Mons may resume showing its white aspect from the end of 2007 to the beginning of 2008. From Oceania and Asia, it may be possible to see the **opposition effect** of Olympus Mons and other Montes from around mid-December since the phase angle will decrease enough. It is interesting to check the CMT (how about at 3h JST on the Christmas Day?).

**09°** As first noted in CMO #279 or in <http://homepage2.nifty.com/~cmo/279OAA/index.htm> an area inside the morning grid [ $\Omega=150-160^\circ\text{W}$ ,  $\Phi=00-10^\circ\text{S}$ ] is de-concentrated from the morning mist and looked wine-coloured as was clearly shown in 2003 at  $\lambda=257^\circ\text{Ls}$  by Canon LAU (*CLa*). This **CLa phenomenon** was observed from  $\lambda=250^\circ\text{Ls}$  to  $300^\circ\text{Ls}$  in 2003 (discontinuously since observations were made discontinuously, reported in CMO #289~#283), and furthermore in 2005 the wine coloured patch was again obvious on a series of images of Bill FLANAGAN (*WFI*) which were taken on  $\lambda=328^\circ\text{Ls}$ . Hence it is expected this apparition also the *CLa* phenomenon should be checked from June 2007 onward. However, unfortunately this time, the first half period it is difficult to see the very morning, and so we may be forced to wait until the time the phase angle

decreases enough. However we should say it will be precious if anyone will be successful to detect it after the period of *WFI* (on  $\lambda=328^\circ\text{Ls}$ , 10 October).

**10°** Finally, since the New Year is around the corner, we summarise the situation of Mars at the beginning of 2007. On 1 January, the apparent diameter  $\delta$  is a bit less than  $4.0''$ . In January it moves from Ophiuchus to Sagittarius, and so the apparent declination is southernmost. From the NH watchers the planet Mars is low at the ES sky even near dawn, and shines as a dim star of 1.5 magnitudes below at the left hand side of the planet Jupiter. Even at the end of February, it just shows the altitude of  $20^\circ$  from Japan.

**11°** In March and April, the altitude remains still low even at dawn, and the  $\delta$  just reach  $5.0''$  in mid-April as mentioned before. In May, the altitude will recover  $30^\circ$ , and at the beginning of May the Martian season reaches  $\lambda=230^\circ\text{Ls}$  with  $\varphi=25^\circ\text{S}$ . Note already the season of southern dust has begun (on  $\lambda=215^\circ\text{Ls}$  in 2003 it occurred at M Serpentis).

**12°** In 2007, Mars does not approach any bright planets. Occultations of Mars by the Moon occur on 14 April, seen from S and E Asia and India, but not from Japan, and also on 24 December, seen from Canada to Europe. Mars will be near M20, M8 and M22 on 17, 18, and 28 January respectively. On 17 September, Mars will be near M1, and on 3 October near M35. The crab nebula M1 is in Taurus, and the open cluster M35 is in Gemini; implying readily how high up enough the planet can be seen from the NH already in September and October.

The planet will attain the **western quadrature on 17 September** and be **stationary on 15 November** at 16h.

(To be concluded in mid-2007.)

(註) 地人書館の『天文観測年表』の火星項は村上(*Mk*)が中心になって書いてきましたが、先年より『天文年鑑』の執筆を辞退された南政次氏に推敲をお願いする様になり、今年2007年版からは西田昭徳氏にも加わって貰うことで充実してきました。発売中の2007年版では資料編(2005年後半の火星)が倍増頁となり、詳しくなっています。南氏のリックでの黄雲のスケッチも二葉載っています。今回のこの欄は2007年版の火星項の要約となっていますので、和文部は省くこととし、是非お買い求めの上、『天文観測年表』の方でご覧いただければと思います。なお、Webの方では日本語頁を作る予定でいます。  
(*Mk*)



## CMO 2005 Mars Report #26

## OAA Mars Section

♂.....WE FURTHER RECEIVED: This apparition Yukio MORITA (*Mo*) spent 80 nights in observing Mars in IR, R, G and B decompositions from mid-Feb 2005 (when  $\delta=4.8''$ ), and his work up until December 2005 has been reviewed already in the CMO, while some images in 2006 reached late because he found it difficult to process images timely (he was very busy recently as a staff of Hiroshima Dental Association as well as a dentist) and so here we review the new images which reached us later. Note however those images made on 1, 9, 12, 18 Jan; 31 Mar; 4, 5, 24, 29 May and on 13 July 2006 were already reported in the past CMO.

**MORITA, Yukio 森田 行雄 (*Mo*)** 廿日市 Hatsuka-ichi, Hiroshima, Japan

21 Sets of RGB +1R Image+1G Image+ 23 IR Images

(25, 27, 28 Jan; 12, 26 Feb; 4, 5, 25, 26 Mar; 30 May; 2, 6, 13 June 2006)

25cm spec with a Lu075M

♂.....追加報告：森田行雄(*Mo*)氏は2005年二月中旬  $\delta=4.8''$ の頃から丁寧に四色分解で観測を続行し、2005年末までに55日程観測され、2006年に入ってから25日ほど観測を続けられたが、歯科医師会の仕事が重なり、処理に遅れが出て、『火星通信』に未登録になったものがある。2006年分の内の18 Jan 2006迄と31 Mar; 4, 5, 24, 29 May ; 13 July 2006の報告は既に紹介済みであるが、上の観測分を追加報告として今回扱う。

♂.....25Jan2006から12Feb2006の観測は、CMO#316の CMO 2005 Mars Report #17 (p0338~)に含まれるべきものである。25Jan2006( $\lambda=002^\circ\text{Ls}$ ) $\omega=316^\circ\text{W}$ では、リビュアに夕霧が明るく捉えられている(p0343参照)。27 Jan 2006 ( $\lambda=003^\circ\text{Ls}$ ) $\omega=296^\circ\text{W}$  は、シーイング悪く不鮮明。しかし、28 Jan 2006 ( $\lambda=003^\circ\text{Ls}$ )はシーイングが良かったようで、 $\omega=250\sim 279^\circ\text{W}$ において、視直径 $\delta=9.1''$ だが高い描写がある。マレ・キムメリウムから、シュルティス・マイヨルまでの四画像で、エリュシウムが夕方に廻っていく。ウトピアの北の北極雲(p0341)、マレ・テュッレムの濃度(p0343)、エレクトリス~エリダニアの夕霧(p0342)、ヘッラスの朝霧(p0343)などが捉えられている。南極域も明るさがある(p0342)。12Feb2006( $\lambda=011^\circ\text{Ls}$ ) $\omega=111^\circ\text{W}$  は、 $\delta=8.0''$  となり、描写は良くないが、アルギュレの夕霧が判る。B光像では、南半球高緯度朝方のパエトンティスまで薄明るさが広がる(p0342)。

次いで、26Feb2006から5Mar2006の報告は、CMO#317の CMO 2005 Mars Report #18 (p0354~)に含まれるべきものである。26 Feb 2006 ( $\lambda=017^\circ\text{Ls}$ ) $\omega=346^\circ\text{W}$ は夕方のヘッラスの明るさ、R、G光で明るく、B光ではやや弱い(p0358)。4 Mar 2006 ( $\lambda=020^\circ\text{Ls}$ ) $\omega=284, 294^\circ\text{W}$  は、視直径 $\delta=6.8''$  だが、ヘスペリアがはっきり判るなど描写がよい。ウトピアからボレオシュルティスにかけては暗帯が続き、ケブレニアが夕方で明るい(IR)。北極域は白く明るい(p0357)。5Mar2006( $\lambda=021^\circ\text{Ls}$ ) $\omega=290^\circ\text{W}$ の像は前日より描写は悪い。B光像では夕方側が明るい。

また、25, 26Mar2006の観測は、報告はCMO#318の CMO 2005 Mars Report #19 (p0366~)に含まれるべきものである。25Mar2006( $\lambda=030^\circ\text{Ls}$ ) $\omega=096^\circ\text{W}$ :夕縁にアルギュレの白雲。クリュセが夕方で明瞭、IRではテンペ北部が明るく、マレ・アキダリウムが浮き上がって見える。26Mar2006( $\lambda=030^\circ\text{Ls}$ , $\delta=5.9''$ ) $\omega=080^\circ\text{W}\sim 090^\circ\text{W}$ では、アルギュレ雲が廻っていく(p0367)。クリュセは依然明るい。北極雲・北極冠の写り方は微妙で、R、IR光では、マレ・アキダリウムの西で、テンペと重ねて明るさが重ね餅に見える。

最後に、30May2006から 13June2006の報告は、CMO#320の CMO 2005 Mars Report #21 (p0404~)に含まれるべきものである。30 May 2006 ( $\lambda=059^\circ\text{Ls}$ ,  $\delta=4.4''$ ) $\omega=180^\circ\text{W}$ ,  $185^\circ\text{W}$ :前者にはR、IR光像で北極冠の周りに暗帯が濃く写っている。2 June 2006 ( $\lambda=061^\circ\text{Ls}$ ) $\omega=153^\circ\text{W}$ 、B光での画像が撮影できず、合成カラー像はない。この日も、R、IR光像で北極冠の周囲に濃度がある。6June2006( $\lambda=063^\circ\text{Ls}$ ) $\omega=112^\circ\text{W}\sim 117^\circ\text{W}$ では、北極冠が明るく明瞭だが、時間と共に高度が下がっていくためか不明瞭になる。周囲の暗帯も濃度がある。南半球夕方には、ソリス・ラクス付近が濃く写っている。他の濃淡はゴーストと区別できないが、クサンテ~タルシスとアルバが明るく感じられる。B光像に描写がないのが残念なところである。視直径 $\delta=4.3''$ 。13 June 2006 ( $\lambda=063^\circ\text{Ls}$ ) $\omega=052^\circ\text{W}$ では、マレ・アキダリウムの暗部と北極域が、IR

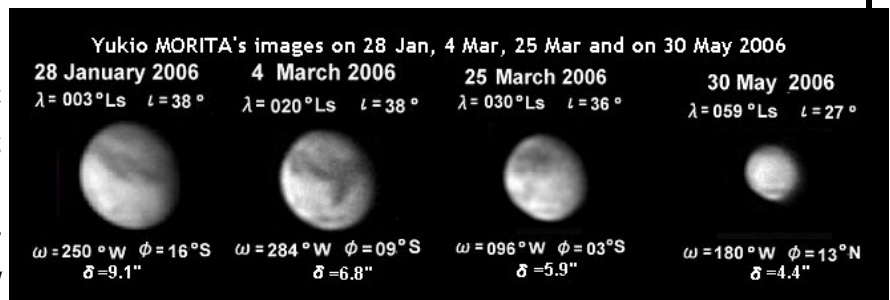


画像でやや描写があるものの、他は不鮮明。δ=4.1"となった。Mo氏の最終観測は既報(#321)のように13July(λ=079°Ls)、δ=3.9"であった。森田さんご苦労さまでした。2007/2008年も期待しています。

♂.....**MORITA(Mo)**'s observations during the period from 25 Jan 2006 to 12 Feb 2006 should have been included in CMO 2005 Mars Report #17 (Ser2-p0338~) in CMO #316: The images on 25 Jan 2006 (λ=002°Ls) at ω=316°W show the bright evening cloud at Libya (cf p0341). The seeing condition on 27 Jan 2006 (λ=003°Ls) looks to have been poor though taken at ω=296°W. However the seeing quite improved on 28 Jan 2006 (λ=003°Ls) and the images at ω=250°W, 260°W, 271°W, 279°W well describe the dark markings as well as bright areas (for δ=9.1"): M Cimmerium to Syrtis Mj are shown, and Elysium go to the evening side during four 40 minutes separated successive images. The npr to the north of Utopia (p0339) looks like the nph (φ=16°S). The dense M Tyrrhenum (p0341), and the evening mist at Electra-Eridania (p0340) is well shown. The morning Hellas is bright in IR and G and a bit in B (p0340), The spr also show a light small area in G and IR (p0340). The images on 12 Feb 2006 (λ=011°Ls) at ω=111°W is less excellent, but with δ=8.0" Argyre looks covered by an evening mist. In B, the morning mist is visible near Phaethontis (p0340).

Next **Mo**'s observations during the period from 26 Feb 2006 to 5 Mar 2006 should have been included in CMO 2005 Mars Report #18 (p0354~) in CMO #317: On 26 Feb 2006 (λ=017°Ls) at ω=346°W, the evening Hellas appears light in R and G but a bit weaker in B (p0356). The good images on 4 Mar 2006 (λ=020°Ls) at ω= 284°W, 294°W with δ=6.8" show Hesperia well. Utopia to Boreosyrtis is quite dark and the evening Cebrenia is bright. The npr is whitish bright (p0354-p0355), possibly the npc. On 5 Mar 2006 (λ=021°Ls) at ω=290°W, the images became a bit duller, while we should note the evening side is light in B.

Third, **Mo**'s observations during the period from 25 and 26 Mar 2006 should have been included in CMO 2005 Mars



Report #19 (p0366~) in CMO #318: The images on 25 Mar 2006 (λ=030°Ls) at ω=096°W show Chryse is bright at the evening side and M Acidalium is cut at the northern park and Tempe looks bright in IR. At the southern evening limb Argyre is light. The images on 26 Mar 2006 (λ=030°Ls) at ω=080~090°W also show the evening Argyre (p0366), and at the northern hemisphere the lower Tempe is bright. The IR at ω=085°W shows a fine bright northern limb separated from Tempe. Chryse bright in IR. δ=5.9".

Finally **Mo**'s observations during the period from 30 May to 13 June 2006 should have been included in CMO 2005 Mars Report #21 (p0404~) in CMO #320: Out of the images on 30 May 2006 (λ=059°Ls, δ=4.4", φ=13°N) at ω=180°, 185°W, the former one well show the dark band of the npc at the last stage of the Baum plateau especially in R and IR. G also shows the npc. On 2 June 2006 (λ=061°Ls) at ω=153°W, the B missing, but IR and R show the npc and the dark band. The images on 6 June 2006 (λ=063°Ls, δ=4.3") at ω=112~117°W show clearly the npc, and its dark fringe is also vivid. Interesting is the markings on the northern hemisphere. On the southern hemisphere Solis L is dark at the evening limb. Xanthe to Tharsis and Alba bright in IR. We hope MORITA improve the B image. The images on 13 June 2006 (λ=063°Ls, δ=4.1") at ω=052°W describe the dark area of M Acidalium and the bright npr in R.

MORITA's final image was taken on 13 July (λ=079°Ls) when δ=3.9" as already reported in CMO 2005 Mars Report #22 (p0404~) in CMO #321. We are thankful to MORITA for his excellent work during the apparition, and we expect his activity also in the 2007/2008 apparition.

便り

Letters to the Editor

●.....Date: Wed, 25 Oct 2006 00:33:51 +0100  
Subject: Comet Swan Brightens

I agree with Pete Lawrence's assessment. I had not seen the comet for over a week and expected it to be significantly fainter than the 6.0 it attained a couple of weeks ago (predicted to be 6.5 now), but it was the brightest I have seen it. I can believe it was 4.5. The green colour is very obvious to the eye.



This image was taken by the LRGB method with a monochrome CCD at 650mm FL. To get the tails to show up it is necessary to greatly overexpose the head. At least 4 streams in the tail are visible, at 10 o'clock, 10.30, 11.00 (the main stream, branching into 2 further up) and 11.30 in this picture.

○.....Date: Sat, 4 Nov 2006 20:40:41 +0000  
Subject: Saturn Nov 04

Saturn is back!

This morning I was able to image it at culmination in a darkish sky and good seeing for the first time this apparition.

No spots are visible in any colour. Hence I considered it reasonable to combine images taken over 25 minutes in the LRGB. This is a stack of about 5000 frames. The L layer is a R-G combination.

○.....Date: Sun, 19 Nov 2006 20:35:58 +0000  
Subject: Saturn November 19

Here is Saturn from this morning. Not a great image as seeing was poor. I incorporated an IR luminance on this occasion.

**David ARDITTI** (テウァイト・アーティ Edgware ME 英)

<http://www.davidarditti.co.uk/observatory.html>

●.....Date: Wed, 25 Oct 2006 16:10:14 -0500  
Subject: mars

Dear Masatsugu,

I write this with some enthusiasm, having just received some excellent communications from Laurie Hatch. She has sent me her drawings of Mars with the Great Refractor, and they are unbelievable. ....

I have just received from Laurie a series of her unimaginably beautiful renderings of Mars. I also have heard from my dear friend Tadashi Asada, who is so kind as to send me a paper he has written on Jupiter.

I hope that we may arrange for a meeting of the Lowell/Lafcadio Hearn societies at Flagstaff in 2008 or 2009 as we have discussed, and we may meet again in Japan. Kind regards,

○.....Date: Fri, 27 Oct 2006 16:11:53 -0500  
Subject: non title

Dear Masatsugu, Might we not avail ourselves of this opportunity to have a meeting of Oriental and Occidental astronomers devoted to Mars at Lowell Observatory in 2009, as we have discussed? It will be a century since the GREAT opposition at which Antoniadi distinguished himself. Best,

The International Astronomical Union announces the International Year of Astronomy 2009

**27-October-2006**, Munich: The International Astronomical Union will be coordinating the International Year of Astronomy in 2009. This initiative is an opportunity for the citizens of Earth to gain a deeper insight into astronomy's role in enriching all human cultures. Moreover, it will serve as a platform for informing the public about the latest astronomy discoveries while emphasizing the essential role of astronomy in science education.

In 1609, Galileo Galilei first turned one of his telescopes to the night sky and made astounding discoveries that changed mankind's conception of the world forever: mountains and craters on the Moon, a plethora of stars invisible to the naked eye and moons around Jupiter. Astronomical observatories around the world promise to reveal how planets and stars are formed, how galaxies assemble and evolve, and what the structure and shape of our Universe actually are. Today, humans are in the middle of a new age of discovery, one as profound as the one Galileo ushered in when he turned his telescope on those glorious star-filled nights 400 years ago. ....

.....The IYA2009 is, first and foremost, an activity for the citizens of Planet Earth, which will convey the excitement of personal discovery, the pleasure of sharing fundamental knowledge about the Universe and our place in it and ultimately, the value of the scientific culture. .... (Ed's Note: See the IAUSites below [http://www.iau.org/INTERNATIONAL\\_YEAR\\_OF\\_ASTRONOMY.403.0.html](http://www.iau.org/INTERNATIONAL_YEAR_OF_ASTRONOMY.403.0.html) [http://www.iau.org/iau0606\\_IYA.408.0.html](http://www.iau.org/iau0606_IYA.408.0.html) )

○.....Date: Mon, 6 Nov 2006 15:37:52 -0600  
Subject: Re: 2009 Rencontre RE:non title

Dear Matsatsugu, I have also been quite pressed with a number of things, including doing a pitch for the Minneapolis Planetarium Society. I have a book in progress, "A Passion for the Planets." I would like to showcase you and Saheki and Laurie Hatch in the Mars chapter. Can you give me some details about you and Saheki? How did your passionate interest in Mars first originate?

I would like to think of Meudon in 2009. My contact there is Professor Dollfus. He will be 85. We would be able to do an Antoniadi retrospective. Lowell Observatory would also be a pleasant location but perhaps we may wish to do one or the other and not both that year. I am working now (with Tony Misch) on an article for *Sky & Telescope* on the Lowell Expedition to the Andes -- next year will be the centennial of that remarkable event in the history of Mars studies.

I would also like to hope to view the eclipse perhaps from the Japanese Islands with my friends -- and yourself -- in 2009. So there will be many things to concern ourselves with in regard to the schedule.

Laurie's drawings of Mars are in my possession --they are in my view the most remarkable drawings of Mars I have ever seen; but then I have not yet seen yours, my friend.

Could you -- and Tadashi -- look for your favorite spacecraft images of Mars and Jupiter (and the satellites thereof) so I may include your choices for the new planets book. With warm regards,

**Bill SHEEHAN** (ウィリアム・シーハン MN 美)

●.....Date: Thu, 26 Oct 2006 22:48:36 +0900  
Subject: Re: ?

> Word行きましたでしょうか？ 速達は着いていますか？  
> 編集はあさってまで掛かりそうで、名古屋へは行けませんね。

ご連絡が遅れました。Word届いています。速達もいただきました。ありがとうございました。Noteは、日本語のところは読みましたが、英語は半分ほどです。明日の新幹線で読みたいと思います。今の不安は、赤間駅から明日の始発に乗れるかなということですよ。

○.....Date: Fri, 27 Oct 2006 22:43:07 +0900  
Subject: 気象学会

気象学会行ってまいりました。先ほど、21時45分頃、自宅に戻りました。5時30分の始発に乗るために、5時頃家を出たので、十七時間弱かかりました。

小郷原さんの話は、以前幕張で聞いた話とそれほど変わっていませんが、空間分解能を上げたようです。ヘラスの北側の斜面にダストを置くと、ヘラスから飛び出していくというものでした(それ以外は飛び出さないそうです)。ただ質問もあったのですが、ダストが東向きに流れていました。global dust stormは西向きに広がるのには思いましたが、私は質問しませんでした。彼は、ある論文では東向きの流れがあるように記述していると反論していました。

当初、里村さんがどの人か分からなくて、中島さんに聞いたりしたのですが、なんとか『火星通信』をお渡しすることはできました。里村さんは、『火星通信』から南さんに興味を持たれたようでした。ただ残念なことにお二人とも、十一月の3日4日は大学の研究室へは出て行かないそうです。もう一度、確認のメールを出して見ていただきましたのですが、別の日に設定されたほうが良いように思われます。以上、ご報告まで。明日は今日の分の補講です。

○.....Date: Tue, 31 Oct 2006 18:05:09 +0900  
Subject: Re: CMO#324用Note

このCMO#324Noteの40分おきの画像からdustの領域の面積を測ってやれば面白いと思います。私にやらせていただけませんか？ dustが日中は大きく発達しないというのはとても大事な観測だと思います。day-to-dayの変化を示す画像もあったほうが良いと思いますが、ありますか？

○.....Date: Thu, 02 Nov 2006 06:40:11 +0900  
Subject: Re: CMO#324用Note

> MGSのswathは  
> [http://www.msss.com/moc\\_gallery/](http://www.msss.com/moc_gallery/)  
> の一番下の表> MOC Wide Angle Images Daily Global Map Data から読みとります。たとえば、南極冠の雪線については  
> [http://www.msss.com/moc\\_gallery/ab1\\_m04/images/M0402082.html](http://www.msss.com/moc_gallery/ab1_m04/images/M0402082.html)  
> には> 20 Aug 1999  $\lambda=191^\circ\text{Ls}$   $\omega=290^\circ\text{W}$   
> の短冊が出ていて、雪線がクレーター混じりで見えます。クレーター  
> identificationは矢張りMGS map  
> [http://mars.jpl.nasa.gov/mgs/msss/camera/images/moc\\_atlas/index.html](http://mars.jpl.nasa.gov/mgs/msss/camera/images/moc_atlas/index.html)  
> から読みとれるはずですよ。

> 一方、2001黄雲が出た後の6 July 2001  $\lambda=190^\circ\text{Ls}$   $\omega=290^\circ\text{W}$   
> の短冊は  
> [http://www.msss.com/moc\\_gallery/e01\\_e06/images/E06/E0600394.html](http://www.msss.com/moc_gallery/e01_e06/images/E06/E0600394.html)  
> から原則的に読みとれるはずですよ。但し後者は黄雲が出ていますから、> 難しいでしょうが。  
> ... という風に、例を沢山集めれば、黄雲の晴れ間で雪線を見つけて、>  $360^\circ\text{W}$ に渡って調べられるはずですよ、また $\lambda$ の幅を広げてゆけば  
> 三次元画像が出来るはずですよ。  
> 短冊は2005年まで出ていますから、比較対象はワンサとあります。  
見てみました。面白そうですね。

> 私は3日に京都へ行き、4日の湯川・朝永講演会を聴いてきます。  
> 文隆さんと数研のフィールズ賞(森重文さん)が話すらしい。パネルは  
> 茂木健一郎氏が司会で、米沢富美子さん等がパネラー。米沢さんは  
> 私のS2の同級生。寺下氏はS1かS3。松田道彦はS3でした。昔の法経第  
> 一は百年記念ホールになって2003年にすっかり変わってしまったらしい  
> のですが、そこで行われます。展示は総合博物館？ 私は入ったことが  
> ない。ほかに京都では若冲展を見る予定。

いいですね。京都は四年半ほど行っていません(赤羽さんの退官パーティでした)。里村さん・小郷原さんには別の機会に会ってください。

○.....Date: Fri, 03 Nov 2006 14:29:45 +0900  
Subject: 『火星通信』拝受

『火星通信』#324、本日の午前中に到着しました。ありがとうございました。お礼まで。

○.....Date: Sun, 05 Nov 2006 07:35:19 +0900  
Subject: Re: 今日

> 前略、小郷原さんからは結局連絡がありませんので、明日も駄目ですよ。しかし、いろいろな分野が集まるのは良いことなのですが。

名古屋で会ったときは良い印象でした。もともと「週末はちょっと...」ということでしたので、今回は駄目でもいずれまで機会を作ってはいかがでしょうか？メールを研究室で読んでいたら、メールを読んでいない可能性もあります。

> 村上さんが18Octのはじめの像と、FWIの像をメルカトル展開したもの  
> を送ってくれました。私はWang et alがラグランジュ法を使っているの  
> は間違いだと思う。ペリエにそう書くつもり。

ありがとうございました。でもこの画像から素人にもほとんど変化がないと納得させるのは難しいですね。面積を測定してみます(案外dustの輪郭がはっきりしていないので難しそうなのですが)。南さんが次回京都に行かれる時には、私から里村さん・小郷原さんに連絡をとってみます。

○.....Date: Tue, 07 Nov 2006 10:52:44 +0900  
Subject: Re: 今日

> もちろん読んでください。而も、良質の全部の画像をやってください。  
> さい。点は、先ず間違いないところと、すかしぼやけているところの  
> 二種類か三種類で読むでは如何でしょうか。

一応測定用のプログラムが走るようにはなつたのですが、画像の質によって面積に大きなばらつきがあります(当然、良い画像で測定すると小さくなります)。私はdustの領域は周りより明るいとこを考えて面積を求めています、閾値をどうするかでも面積の値が大きく変わるので、困っています。dustと周りの明るさの差の半分を閾値にして、それより明るいところは全てdust(連続した領域で)としようかとも思いますが、南さんのご意見はいかがでしょう？ 夜は本当に完全に潰れるのでしょうか？ダスト領域の熱容量とか放射のタイムスケールに依存しますよね。この辺の値は不勉強で存じません。シミュレーションをやっている人に聞いてみたかったのですが。

○.....Date: Wed, 08 Nov 2006 08:13:32 +0900  
Subject: Re: 夜間

> なかなか面白い図です。多分10%、またはそれ以下で充分でしょうね。  
> ただ、これはメルカトルに変換してからやった方がいいのでは？ 但し、  
> 切り取り面積を全部一致させなければなりません。濃度でも



>バラツキが出たら境界に違いが出るおそれがありますから、点で境界を  
>たどるのでなく、この方法では画像の暗部の濃度・輝度を統一する事  
>を先ずやらねばならないではありませんか？ 濃度ではたとえば  
> Iuventae Fonsで統一するとか。これらが揃えば、この方法なら面積は正  
>確になりますね。

メルカトルにしなかった理由は、火星像の大きさも求めて、dustの面積をそれに対する比として計算するためです。もちろん経度の補正はします。南さんのおっしゃるようにdustの外の基準点は決まった場所にしておくほうが良いだろうと思います。閾値に関しては、対話形式で値を入力していくことにしようかと思ひます(人為的な作業が

入るので客観性が弱くなりますが)。明らかにdust以外の点が入らなくなったらOKにする。刻みは1%ずつ。というようにしようかと考えています。それでも基準点やdust内部の点の選び方によって面積は多少の増減をすると思ひますので、十回やっけて平均と標準偏差を求めておこうと思ひます。

他の画像でも、同じような図を作ってみようと思ひます。しばらく、お待ちください。

○.....Date: Wed, 08 Nov 2006 20:11:45 +0900  
Subject: Re: FW:Re: 2009 Rencontre RE:non title

>この木星像の来歴を書いてください。なるべく英語で。いつ何處

# TEN YEARS AGO (135)

---CMO #181 (25 November 1996) pp1935-1954---

巻頭はHSTの火星撮影スケジュールの変更の速報で、日本から観測可能な時間帯になったとの案内があり、同時観測をよびかけている。

次いで、COMING 1996/97 MARS (2)で、「1996/97年の火星の見かけの大きさや位相の変化」"Disk Displaying the Relative Size and Phase in 1996/97" M MINAMI, A NISHITAがある。グリッド入りの図は、2Sept1996( $\lambda=003^\circ\text{Ls}$ ,  $\delta=4.4^\circ$ )から、衝の17Mar1997( $\lambda=092^\circ\text{Ls}$ ,  $\delta=14.2^\circ$ )をはさんで、3Oct1997( $\lambda=192^\circ\text{Ls}$ ,  $\delta=5.2^\circ$ )まで十五葉の図が載せられている。またCOMING 1996/97 MARS (3)として、「1996/97年の火星観測暦表(その2)」"Ephemeris for Obgervation of mars in 1996/97"が掲載された。1Dec1996から31Mar1997迄の暦表である。

LtEは Sam WHITBY (USA), Francis OGER (France), Wolfgang MEYER (Germany), Giovanni QUARRA SACCO (Italy)、頼武揚氏 (台湾), Jeff BEISH (USA), 伊舎堂弘氏、日岐敏明氏の各氏からの来信が紹介されている。Wolfgang MEYER氏からは、MEPCO'97(3rd Meeting of European Planetary and Cometary Observers; 13-16 Feb 1997)への招待があり、招待状の表紙のコピーが紹介されている。

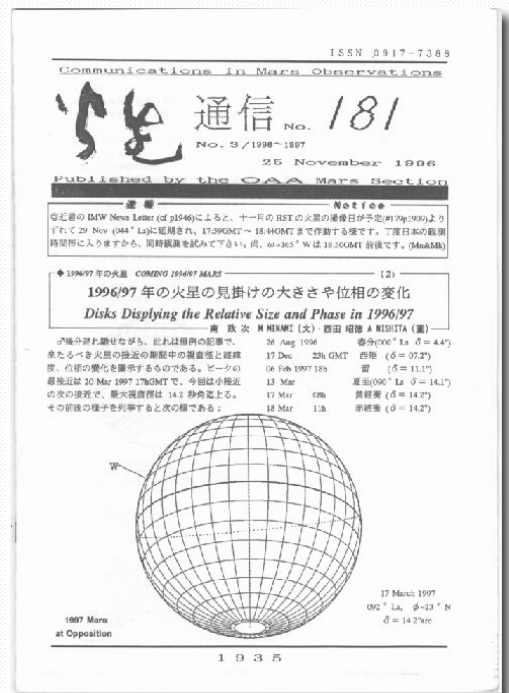
Jim BELL氏からの IMW Newsletter (Vol.2; Issue 3)も全文転載されている。記事はいろいろあり、HSTの撮した北極冠内の黄塵の紹介も含まれている。

OAA Reportは今期三回目となり、国内の五名(Hk, Id, Mn, Nj, Nr)からの報告が紹介されている。視直径はまだ $\delta=5.9''$ どまりで詳細はつかめない。季節は $\lambda=038^\circ\text{Ls}$ まで進んでいた。"CMO-CLICKS(3)"は、HSTの撮した北極冠内の黄塵の画像のプレスリリースを紹介して、CMOの見解を示している。他には、"1996-1997 MaesWatch HomePage"が取り上げられている。パスファインダー計画に協力するための火星の大気状態の監視が目的で、ここには、各地の地上からの火星画像が掲載されることになっていた。

Ten Years Ago (11)はCMO#020(10 Nov 1986), CMO#021(25 Nov 1986)の二号分の紹介である。二十年前当時の火星は日没後の南の空にあり、季節は南半球の夏至( $270^\circ\text{Ls}$ )過ぎで、依然黄塵の発生する時期であったが、発生は観測されていない。視直径は10秒角を切ってきた。観測報告者も減って三名になっていた。臺北の南氏は帰国の予定が延期になったとの「急告」もあった。

その他、筆者による十二月の天象と、シー・エム・オー・フクイからのカンパのお願いが巻末に見られる。

村上昌己 (MK)





>で誰が、何がよいか、など。

I cannot remember where I found it. I am collecting Jovian images for my lecture in another college, and in this collection I chose it. I think this image shows clearly the relation of white ovals which were going to merge in a few months. Thank you.

こんなところでしょうか？英語はひどいと思いますが、ぜひ手直しをお願いいたします。

**浅田 正** (Tadashi ASADA 宗像 Fukuoka)

●.....**Date: Thu, 26 Oct 2006 14:31:41 -0400**  
**Subject: Re: Comet Swan Brightens**

All - Comet Swan (C2006 M4) has brighten considerably. Now it is visible well in light polluted sky. Here are my latest images...

<http://hometown.aol.com/frankj12/cometsindex.html>

Also, here are more images from Oct. 21st when the nucleus of Comet Swan may appear oval.

<http://hometown.aol.com/frankj12/cometspage1.html>

○.....**Date: Wed, 22 Nov 2006 13:46:01 -0500**  
**Subject: Mercury Observations Request...**

All Planetary Observers - Mercury is entering the prime time observing window starting today until well into early December. Especially for this upcoming weekend when Mercury will be at its greatest elongation 20 degrees W of the sun. This is the best time to search for a large circular feature at 280 degree longitude. It is locating near the terminator just north of equator. According to the observations by ALPO members within the last five years, this albedo feature should be easily visible under the good condition. I believe this region is the darkest area of the unmapped portion of the Mariner 10 spacecraft..AND..the darkest area of the entire surface of Mercury.

I would like to see if it is repeatable and also trying to confirm the reality of this albedo feature.

See also Tim Wilson's excellent diagram at:

<http://members.socket.net/~starview/Mercury.html>

.....  
Good luck everyone!

**Frank J MELILLO** (フランク・メリッロ NY 美)  
ALPO Mercury Coordinator

●.....**Date: Thu, 26 Oct 2006 17:49:45 +0900**  
**Subject: Re: カンパ有り難う**

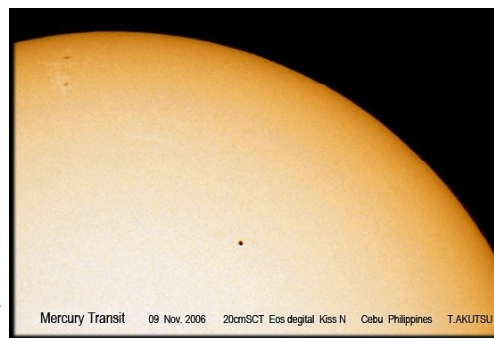
セブ島には無事、24日に戻って(?)います。今回の日本滞在はゆっくり温泉にも入れ、南さんたちにも会えて楽しい滞在となりました。本当に日本は四季があって良い国と感じました。此方は確かに暑いですが、朝は一寸涼しいので楽です。事務所ではガンガンに効いたエアコンで涼しい(寒い)のですが、現場は暑く其の温度差で体力が消耗します。

これから年末にかけてはクリスマスのもードになります。町のあちこちにはイルミネーションの飾りがみられますが、景気が悪いので飾りも勢いがありません。電気代も上がったのでなお更です。

どうか奥様にもよろしくお伝え下さい

○.....**Date: Sat, 11 Nov 2006 11:21:25 +0900**  
**Subject: 水星凌日**

こんにちは  
は、水星の  
日面通過は  
セブ島でも  
見ることが  
出来ました。  
日本に  
比べ高度が  
低く、前半  
は気流が悪



かったです  
が後半気流はよくなり、第3接触は小さいながらもくっきりした黒い水星像が太陽面から抜けてゆく様子を堪能出来ました。

○.....**Date: Sun, 12 Nov 2006 14:14:59 +0900**  
**Subject: Re:RE:水星凌日**

此方は台風20号の影響で昨夜は曇りでChris宅に行けませんでした。本日は日曜なのに午後から従業員が仕事をしていますので私も出るはめになってしまいました。

さて台湾での私の写真は確かに会社の台湾旅行時に天文台訪問をした時のものです。南さんから事前に連絡をして貰い夜、出かけました。16年前ですか？ホホホ！

ではまた、連絡いたします。

○.....**Date: Tue, 14 Nov 2006 17:54:50 +0900**  
**Subject: Re: 郵便について**

郵便の件で連絡、ありがとうございます。こちらは日本と違い、すべてのシステムが遅れ、何事においても不都合が生じます。そう言う所と思うしかありませんね。

ご紹介のATOKのお試し版(30日)をダウンロードし、この文章を作っています。IMEとは違いますがこちらの方が扱いやすい感じがします。

今度の日に日曜日の19日、Chrisと日帰りでマニラに出掛けることになりました。マニラでフィリピン天文協会のミーティングがあり、Sky and Telescopeの取材もあるから行こうと強引な誘いがあった初めてルソン島へ出掛けることになりました。帰りましたらレポートします。

**阿久津 富夫**(Tomio AKUTSU セブThe Philippines)

●.....**Date: Thu, 26 Oct 2006 20:56:53 +0100**  
**Subject: Comet Swan Fades**

Despite a nice clear twilight, the inevitable bands of cloud came from 'somewhere' rather degrading my western field of view. Swan appears fainter tonight at an estimated +5.4. Still an easy binocular object and it appears to be recording on the camera's chip fairly well. A single, largely unprocessed test frame can be seen here...

[http://www.digitalsky.org.uk/comets/C2006-M4\\_swan/IMG\\_4527-2006-10-26\\_18h50m.jpg](http://www.digitalsky.org.uk/comets/C2006-M4_swan/IMG_4527-2006-10-26_18h50m.jpg)

Best regards,

○.....**Date: Fri, 3 Nov 2006 17:39:30 -0000**  
**Subject: AR10921 November 3rd**

Hi all, AR10921 continues to present an amazing array of delicate structures with a long curved arc of bright plage resembling a rip in the Sun. Best regards,

**Pete LAWRENCE** (ピート・ローレンス Selsey 英)

<http://www.digitalsky.org.uk>

Ser2-0506

●.....Date: **Fri, 27 Oct 2006 18:30:07 +0100**  
**Subject: Saturn 27thOct UK**

Hi Guys, Here's Saturn from this morning seeing was very poor. This is a much higher Mag than I normally use as transparency was very good. C14 @ f47 Lumenera 075M trutek filters. Scale 1:1 Best wishes

○.....Date: **Tue, 31 Oct 2006 17:09:27 -0000**  
**Subject: the Sun today H $\alpha$  UK**

Hi Guys, Something different from me. The 6" f15 is back up on the mount for a bit of first light H $\alpha$ . This was stopped down to 3 inches for f30 and widest field, for 3" o/g on the Lumenera chip. Filter was a Daystar ATM .65 A. The Warm ERF although 4.5 inch was stopped to 3" I also used a 2" IR/UV blocker in the front of the DaystarT. This was through cloud breaks, with thin cloud wafting across the stop and start avis. The prominences really came to life on the computer screen. Best wishes

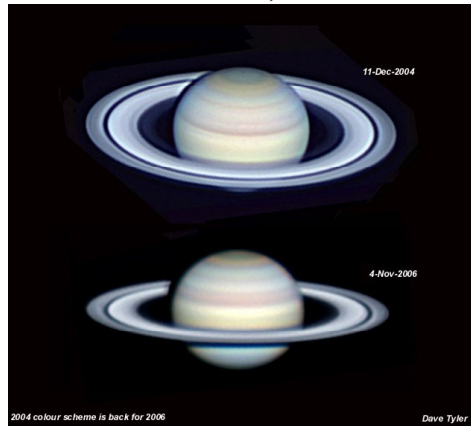
○.....Date: **Fri, 3 Nov 2006 09:38:30 -0000**  
**Subject: Sun 1st Nov UK**

Hi Guys, Here are a few images from the 1st. Plenty of activity to image. White Light image off solar wedge. Best wishes.

○.....Date: **Sun, 5 Nov 2006 16:21:34 -0000**  
**Subject: Saturn 4 Nov UK**

Hi Guys, At last we had some reasonable seeing in which to capture Saturn. No spots or spokes were imaged in any channel. There appears to be some colour change in the south polar regions, where the "collar" has turned yellow from greeny blue. See images on the website below, click on Barbados 2006 and Saturn, to see April 2006 colours. Best wishes

○.....Date: **Mon, 6 Nov 2006 09:06:27 -0000**



**Subject: Saturn colours**

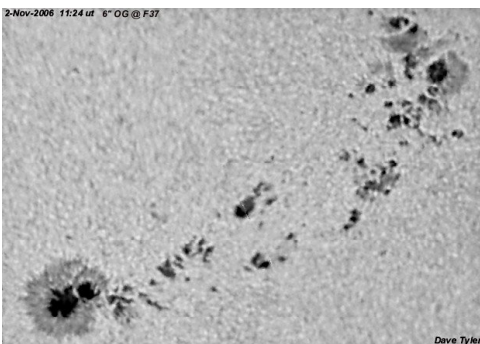
Hi Guys, As my learned friend Damian has noted, Saturn has now gone for the 2004 look. This is very different to its appearance earlier in the year.

The December shot was taken in seeing 7-8 with a C11 & ATK (see website equipment)

Another example of "seeing is everything".

○.....Date: **Tue, 7 Nov 2006 09:41:01 -0000**  
**Subject: The Sun 2 Nov 06 UK**

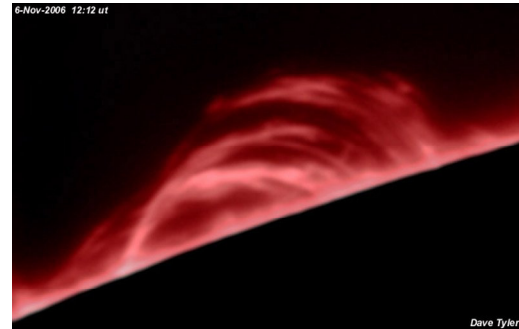
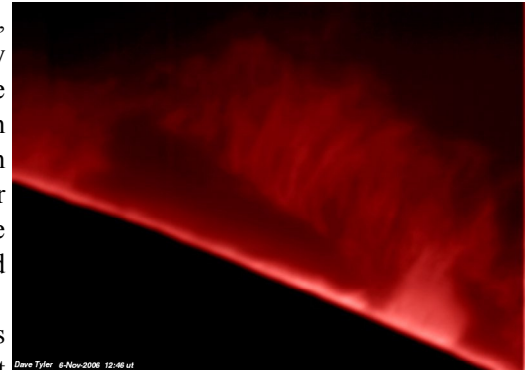
Hi Guys, Our run of high pressure is still with us and more to come. This builds up a back log of processing, oh dear! Its actually cloudy



this morning so I can get on with this bit. Seeing has been hazy but quite steady at times. These are images of the current spot groups, with a small prom' for good measure. The apparent PA of the prom on the image is quite accurate with the inverted image having it's top as ecliptic south. Best wishes

○.....Date: **Wed, 8 Nov 2006 22:26:54 -0000**  
**Subject: The Sun 6th Nov 2006**

Hi guys, I had a very good couple of hours on the Sun on the 6th after the haze and cloud lifted. Seeing was not that steady but contrast was the best I have seen in my one week of owning an H $\alpha$  filter.



The 6 frame animation is over just 5 minutes, it was amazing to watch on my laptop screen. The 12:12

file is a processed version of the first frame.

The scope is my trusty 6 inch f15 but stopped down to 4.5 by my ERF (soon to be replaced by a 6 inch Energy Rejection Filter). Filter is a Daystar ATM .65A.

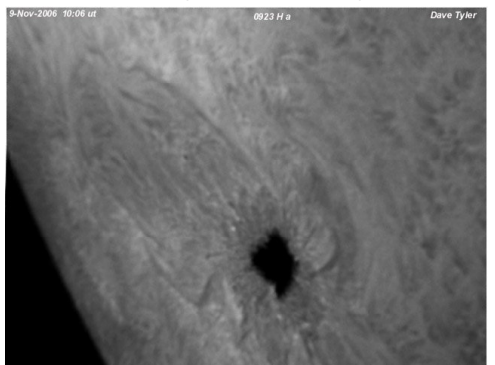


Best wishes

○.....Date: **Fri, 10 Nov 2006 00:43:17 -0000**  
**Subject: The Sun 9th Nov**

Hi Guys, a nice clear morning here. It was good to see a decent size sunspot for a change.

Its shown here imaged in Ha and white light Ha a 4.5 "aperture at 180" fl, white light 6" aperture  $\times$ 180" fl.



Best Wishes

○.....Date: **Sun, 12 Nov 2006 14:11:36 -0000**  
**Subject: Sun 11- Nov-2006 UK**

Hi Guys. Just managed a white light capture of the spot



0923 today between tree branches and clouds. Seeing was good at times. Best wishes

○ · · · · · **Date: Mon, 13 Nov 2006 18:42:13 -0000**  
**Subject: The sun today0923 Ha**

Hi Guys I just managed to catch a couple of complete and adjacent avi's this morning between clouds and rain. They are only 2 mins apart but it is interesting how quickly the Ha phenomena moves.

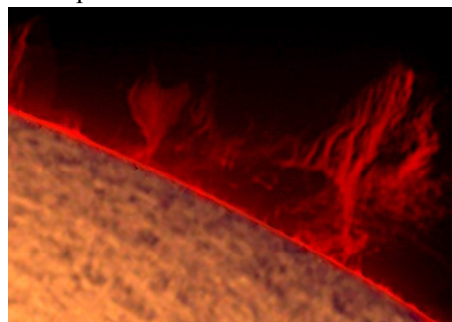
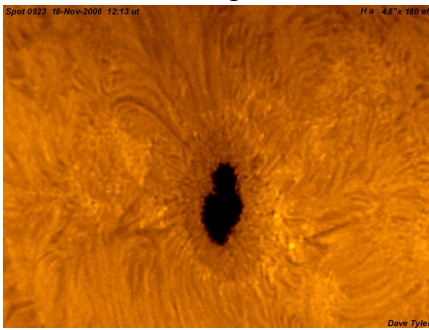
Note that anything "UMBRAL" including the very small wannabe spots, is fixed but most of the Ha is quite mobile.

There is a bright feature in one of the frames, but I don't know enough about the sun in Ha to say it is or what type of flare it might or might not be? Anyone?

Best wishes

○ · · · · · **Date: Mon, 20 Nov 2006 11:32:38 -0000**  
**Subject: The sun 18th Nov**

Hi guys, Here are a collection of images from that full blue sky day. All were taken with a 6" f15 achromat stopped to 4.5" at 180"efl and 3" at 90"efl, for the Daystar ATM .65A Ha unit. White light image was at full aperture off a



Herschel wedge.  
 Cheers all

○ · · · · · **Date: Tue, 21 Nov 2006 17:44:57 -0000**  
**Subject: the Sun 19th Nov**

Hi Guys, Here's a few more images from the

19th Quite a spectacular imaging session. Jupiter is a pretty dynamic object, but the Sun in Ha changes by the minute. Best wishes

○ · · · · · **Date: Tue, 21 Nov 2006 09:24:03 -0000**  
**Subject: Solar Prominence 19th Nov**

Hi Guys, this is one of a series of images captured on the 19th in pretty good seeing for the altitude. This was quite an extended prominence. Best wishes

○ · · · · · **Date: Tue, 21 Nov 2006 23:59:06 -0000**  
**Subject: Re: the Sun 19th Nov**

Well Paolo. Although the white light one is quite detailed for the low sun here now at 52 north, there is more to come from the set-up after about the end of March 2007, when the sun will be higher.

Another thing that helped, that spot was a big one, and showed plenty of detail at a focal length of  $6 \times f15 \times 2 = 180$  inches. The small spots that we have had lately have required  $f40 - f50$  or more to show reasonable detail, so the lower mag imaged well in the not so steady but well detailed seeing.

I had my homebrew Herschel wedge plugged into a  $2 \times$  Powermate, into my  $6 \times f15$  homebrew refractor. The

powermate has a 2inch IR blocker in the front of it. Off the Herschel wedge, the camera is imaging through either a baader solar continuum filter or the Trutek green TYPE 2, with its own ir block on, which the Baader does not appear to have, and images poorly on the sun without one added into the system. When one is added it images very well.

I will be able to image at full aperture in HA shortly (currently at 4.5"), although with the low sun, there may not be much to show for the extra aperture, it remains to be seen.

The ccd is a Lumenera 075M . running at 60fps. Cheers  
 ○ · · · · · **Date: Wed, 22 Nov 2006 16:56:13 -0000**  
**Subject: Large Prominence 21st Nov**

Hi Guys, This large but quite faint prominence graced my chip yesterday. They seem just about as unique as snowflakes. Note the progress of the loop component on the right side of the Prom. 4.5"X 180" efl Daystar ATM .65A Lu 075M CCD Best Wishes

**Dave TYLER** (テヴァイト・タイラー Bkh UK 英)  
<http://www.david-tyler.com/>

● · · · · · **Date: Sat, 28 Oct 2006 04:48:18 +0200**  
**Subject: Re: CMO#324**

Dear Masatsugu, I am fine, and from next Spring on I get the possibility to work 1 or  $2 \times$  a week on an 80 cm mirror  $f10$  the whole night in a new Observatory 100 km away (=1h car driving over German highway) from my home...

<http://www.sternwarte-zollern-alb.de>

The new Observatory is open for public 2 hours every Sunday - 1 hour lecture and Slide-Show, 1 hour to take a look through the big telescope, if the weather allows it...

After this 2 hours "public work" I can use it for Planet Observing or other interesting Objects. All Members of the Observatory have a "Timeaccount" - the more they work for public guidance and lectures, or other work, the more Observing time they collect. I worked the last 7 month every weekend and several days during the week at the Observatory for interior fittings, so I got more than 500 hours Observing Time on my Account :-))...

I hope to observe Venus, Mars, Jupiter and Saturn with this big mirror in wavelength between the uv- and ir-light with several Filters...

> Mars now moved to the eastern sky a week ago. We hope you will contribute again to us in the 2007/2008 Mars apparition.

Oh yes, I will do it regularly at home from my balcony as last year. Since last month I can use an 20 cm Newton, and with my new b/w videocamera with Astronomic Filters (red, green, blue and infrared light between 800 and 1000 nm) I think, I will get better pictures:

- the b/w camera is more sensitive for light than the ToUcam

- 20 cm mirror brings more light than 15 cm mirror

- I can take "true color pictures" with the filters

> We have just updated the CMO-Web to #234. The CMO Note (7) >treats the very day of 18 Oct 2005, and this is a kind of tribute to you.

Yes, I was at the CMO Homepage and found it. How exciting, to be the first to discover this Duststorm. I

showed the Report to my husband, and he is very proud of me... best wishes

**Silvia KOWOLLIK**

(シルヴィア・コウロリク Ludwigsburg 徳)

●.....**Date: Sat, 28 Oct 2006 12:49:48 +0200**  
**Subject: Re: Saturn 27thOct UK**

Hi David (TYLER), I cannot understand why such a titanic FL with such a poor seeing... Looking at your image, I can fairly state you could have had a noticeably better result in working say at *f*/25-30. Hope to see some interesting shot from you, here the seeing is fixed in 4-5/10 any morning the despite the solid HP overhead since 4 days!! :

I'd much prefer rainy days, so I could stay into my bed... I can't understand at all the weather here, it's simply wicked!

○.....**Date: Thu, 23 Nov 2006 10:55:37 +0100**  
**Subject: Re: CMO/OAA asks a favour of you**

Dear Masatsugu, Weather apart, all is fine here. Thanks. You can use any Mars image of mine, please browse my new website (find it enclosed in my signature) and pick up or link any image there of your interest!

Hope this helps.

**Paolo LAZZAROTTI** (パオロ・ラッサロッチェイ Massa 義)  
<http://www.lazzarotti-optics.com>

●.....**Date: Sun, 29 Oct 2006 18:42:26 +0100**  
**Subject: CPI's note for the CMO**

Dear Masatsugu and Masami, Please find attached a proposition of paper for the 2005 Mars CMO notes. It focuses mainly on the activity detectable on the 17th october of that year, the day before the unambiguous beginning of storm activity. Please read it and tell me if it fits and if you find points to correct before publication. The text propose insertions of the 6 sets of images for illustration, but I will let you assure the *mise en pages* as you like. Sincerely yours,

○.....**Date: Mon, 30 Oct 2006 21:13:26 +0100**  
**Subject: Re: CPI's note for the CMO**

Dear Masatsugu, Thank you for your proposition of framework. I think that the argumentation is much clearer as you imagine it. The original text I've written has been modified sometimes extensively 6 to 7 times since july (I'm late...) - the analysis is quite more ambitious than my 2003 Mars report and this requires a strong text organisation! In have kept that first manuscript into modest limits as I didn't know how long I could wrote and some important passages have been cut. I'm mostly thinking about a detailed description of the activity of the north polar hood near Acidalium. There is much to say there as the conjunction of the particular topography of that region creates important disturbances in the atmosphere, and this is one of the most important points of all that theory of descending dust clouds. I will also listen to your other advices as referencing to more images. This is one of the basic rules of CMO papers. François Debricon and Marc Stemmelin are french observers who sent their images to the french forum astrosurf.com after that night

and gave me their permission to use their work. I feel above all fortunate to present Marc's image that makes a precious link between my image and François's to the US. I'm thinking about the emphasis you made on your last CMO note just published this week-end on hour to hour observations. Here we have a nice example of how much it's important. The images taken in the USA are unequal but all show the suspected small triangle dust cloud. Don's image looks much more pessimist than those of *WFl* and *EGf* but his image of october 18th also looks to minimize the aspect of the Eos cloud in respect again to *WFl* and *EGf*, so I think it has been quite much affected by the seeing on those two days. But it's also visible on Clay Sherrod's image. I will send you soon a new version. The 1st november is not a working day so you can hope to have news from me on your afternoon (my evening !) With best wishes,

○.....**Date: Wed, 01 Nov 2006 16:03:14 +0100**  
**Subject: CPI's note for the CMO (second draft)**

Dear Masatsugu, here is the second draft. I hope you'll find ok but don't hesitate to make further remarks. . . .

I have shifted the images with south up so I'm sending them again. Note that one have been added to illustrate some elements about the behaviour of the NPH I have added so they are now seven. Best wishes,

○.....**Date: Thu, 16 Nov 2006 21:28:50 +0100**  
**To: marsobservers@yahoogroups.com**  
**Cc: Masatsugu Minami <vzv03210@nifty.com>**  
**Subject: Re: [marsobservers] Re: Geysers/was Cyclonic Storm on Mars**

Hi Joel, MGS images are difficult to check but here are some examples: First for your 3rd august image :

[http://www.msss.com/moc\\_gallery/s05\\_s10/full\\_gif\\_non\\_map/S09/S0900252.gif](http://www.msss.com/moc_gallery/s05_s10/full_gif_non_map/S09/S0900252.gif)

This is not the exact longitude and the band imaged is narrow but a light area is visible at north (processing the image can help...) Another example, just a bit more clear, is that image from Christophe Guillou on july 21th :

[http://perso.orange.fr/christophe.guillou/2005\\_juillet/pages/M050721-CGu.htm](http://perso.orange.fr/christophe.guillou/2005_juillet/pages/M050721-CGu.htm)

And the corresponding MGS band (again not the exact longitude) :

[http://www.msss.com/moc\\_gallery/s05\\_s10/full\\_gif\\_non\\_map/S08/S0802278.gif](http://www.msss.com/moc_gallery/s05_s10/full_gif_non_map/S08/S0802278.gif)

(the cloud is visible just at upper left of the SPC) The difference of contrast is a bit disappointing but our images are in reality so much enhanced ! Another example is the circular haze veil over the SPC in august of last year. It's spectacular on some images, and I did see it myself visually; but I have not been able to find one single clue on the probe's data: Regards

○.....**Date: Sun, 19 Nov 2006 16:55:18 +0100**  
**Subject: Re: [marsobservers] Re: Geysers/was Cyc**

Dear Masatsugu : please correct the paper the way you feel it fits into the CMO's usages. About the martian atmospheric circulation, it's said that it's much more simple than the Earth's. Papers generally draw a unique cell that effectively joins one polar region to the other, but they call it "hadley cell", maybe by extension of the original definition. No Ferrel cell (mid-latitude circulation) is identified. During northern winter, the ascending branch of this hadley cell is located near 40 - 50°S and the de



scending at 60°N. This last one creates a winter jet-stream similar to that of the Earth. The localisation of "cross-equatorial movements" looks to be otherwise governed by topography beneath the jet-stream: it must exist a topographic slope that creates a destabilisation of the jet, favorizing the existence of a low and high pressure system with northerly winds. So it can't exist elsewhere on the martian globe. . . .

The discussion I have forwarded to you dealt with some of the details observed last summer on the martian SPR. On many images in July/August there are bright details such as those one visible in Joel's or Guillou's images. I had once been a bit surprised because they looked to be quite contrasted, like ice deposit, but it turns out that it can't be anything except dust clouds. Joel asked if ever it could be created by the geysers that have been very recently conceived to appear through the seasonal CO<sub>2</sub> ice at the SPR. Of course it's a too low scale phenomenon to be detected - not dust clouds.

Finally I'm showing you these photos of my Mars globe ! I've painted it in 2002. The dark markings pattern corresponds to those prior to the 2001 dust; sadly no dust cloud can be simulated. Best wishes

○ . . . . . **Date: Mon, 20 Nov 2006 21:52:09 +0100**  
**Subject: Re: PDF version of your article**

Dear Masatsugu, many thanks for the pdf ! It's nice to see the article. I would have those final remarks of pure shaping or orthograph, if ever you can still change some things : . . . . .

You're right about the difference between the Earth Hadley cell and the martian's. However, if I can dare, we could say that the Earth Hadley cell was the first to be identified, maybe particular to this planet; and maybe one could call "hadley cell" every kind of atmospheric cell-movement, as it's clear that the basic phenomenon is the same, even if particular modalities will differ from the planet. The term hadley cell would become more general... but I'm not meteorologist myself.

I didn't know that 40% of *Beaujolais Nouveau* was for Japan ! If true, it's quite amazing. Would you believe that I have never tasted it ? I'm not keen on wines... this makes me a kind of "bad French" I guess: Best wishes

**Christophe PELLIER** (クルストフ・ペリエ *nr* Paris 法)  
<http://pellier.christophe.club.fr/index.htm>

● . . . . . **Date: Mon, 30 Oct 2006 03:35:30 +0900**  
**Subject: Re: 鳥越村**

> 前略、長 兼 弘様、先日はどうも。阿久津さんとは無事会えました。「xxxxx」のロビーにはしかし、ゴキブリが這っていました。

阿久津さんに会えず残念です。次回は我が家にも泊まって戴ければよろしいかな？

> 鳥越の一向一揆の資料館へ先ず寄りました。映画をやっている、北の庄の柴田勝家は悪いやっちゃということを知りました。展示は、丁度、>吉崎御坊特別展でした

一向宗から見ると柴田勝家は確かに悪者です。でも、柴田から見ると忠義に厚く一途な人物でもあります。ただ、自分本位で判断するところが多くて、出っ張った印象が強いですね。本当は案外真面目な人物と思います。織田は利家も秀吉も上

手に使っていますので、酷い話しでは富樫を見捨てたと言って正解と思います。一向一揆ではあまりに拡がり過ぎ、もはや手の打ちようがなかったわけです。放っておけば富樫が破れるので一向は一箇所に集まります。その時がチャンスです。周囲を取り囲むことができるので中央の本拠地で親分を不意打ちすれば一向の逃げ場は無くなります。富樫を打った時の一向の報告書である官知論にはべたべたの誇張した勝利報告書になっています。つまり勝利に酔いしれていたのでしょう。Wordの『官知論』現代語訳を添付しておきました。

吉崎御坊(別院)の展示室の鳥瞰図は面白いものです。どう見ても要塞です。(^^)

> 「唐変木の仲間」とあったので、兄弟店かと思いましたが、どうも>正解だったようです。とても太い、馬方とかいう蕎麦を食べました。>上等です。柱時計が逆さになっていたり、唐変木でしょうな。

お口にあって良かったです。各地方にうんちく蕎麦屋が多くて、石川県ではこの唐変木が中心になっています。京都では拓朗亭が中心です。

> このギャレリは三年ほど前に出来たところらしいのですが、気持ち>のいいところでした。Galleriaという名前です。

Galleriaだったのですか。ここが江津に入るとは知りませんでした。筋向かいにあるウッドセンターを時々実験で利用しています。

> このギャレリーのオーナーは若い女性ですが、三好達治の詩集の>小野忠弘装幀版の翻刻版をInternet古本屋で入手したと言って飾って>ありましたから、なかなかのものですよ。

未だ行ってませんので近々寄ってみます。 . . .  
 金沢星の会有志による45cm望遠鏡が形になってきました。現在はニュートンの短焦点ですが、後にナスミス焦点を計画しています。とりあえずの設置は私の家ですが、完全に完成後は中嶋秀夫さんの家に据え付けられる予定です。

○ . . . . . **Date: Wed, 08 Nov 2006 02:36:16 +0900**  
**Subject: Re: 鳥越村+鳥越氏**

> 長さん、おはようございます。未だ起きていない事を望みます。

布団に入って10分後のメールでした(^\_^)

このNHK番組は、見たいと思っていたのですが、残念ながら新入社員の教育に追われて見れませんでした。一向宗の残党では無いのですが、どちらかというとも私も右翼は嫌いですが。 . . .

> 私は二三日京都へ行って、昨夜帰って来たのですが、4日に湯川・朝永>生誕百年記念のシンポみたいなのがあって、それを聴いてきたので>すが、展示も含めている見聞して、この人達に少し思いを新たに>しました。朝永さんはよく知らなかったのですが、やはり湯川さん同様>好く読み書き好く活動されているようです。

湯川秀樹先生には一度お逢いしたかったのですが夢叶わずでした。下鴨にお住いだった高木公三郎先生にお逢いしたときに紹介して戴きましたが、なかなか都合が合わずそれっきりになりました。確かにお家の入り口の様子でも千の家元より品がありました。茶室のような門に踏み石には打ち水がされていました。

高木先生をご存じの方も少なくなりました。宇宙物理なのに何故か教養部で保健体育を教えたようですよ。ボート部の顧問をしていたのでそうなのでしょう。向井苑生先生は、保健体育を習ったと言っていました。確か高木先生は南京天文台の台長を終えて帰国された時は下京区西洞院にお住いだったと思います。私の宝物の一つに高木先

生の描かれた月面図の青焼きがあります。トレーシングペーパーの原図は生駒の火災で焼失しています。ですから唯一残っている物です。おまけに1910年にウィルソンで撮影されたハレーの紙焼きも頂戴しました。

京大関係の先生から戴いた物に北海道日食のモニタージュ写真があります。撮影者は藤波先生です。このあたりの繋がりには縁としか言いようのないことです。実家は桂の檜原(かぎはら)ですので、桂駅前の写真屋に出入りしていました。もう亡くなっていますが写真屋の先代は京都写真工業に勤めていたことがあり、藤波先生との技術研究をしていたそうです。話しの内容から藤波式カメラがそうだと思います。おまけに藤波先生も桂にお住いでした。余談続きですが、その頃は佐伯先生も写真工業に勤めておられました。

**長 兼 弘** (Kanehiro OSA 野々市 Ishikawa)

●.....Date: Thu, 16 Nov 2006 02:16:25 +0900  
Subject: Re: Mn です。確認お願いします。

今日はお電話有難うございました。早速、原像を取り出して処理してみました。画面左側が元の像、真ん中のすじが像が流れた痕、左が修正後二倍に拡大してあります。P=321.57とするとこれで良いのではないのでしょうか？

よろしくお願いします。

○.....Date: Sat, 18 Nov 2006 01:15:38 +0900  
Subject: Mo13Mar\_04

13Mar\_04を出してみました。9Marのものと同じです。左が原像、中が流れた線、右が修正後P=321.88として処理してあります。

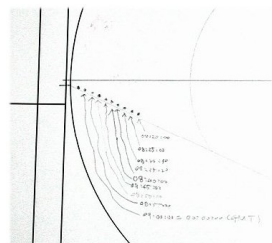
画像処理はRegistax3D、回転及び拡大、アンシャープマスク、ぼかしはステライメージ5で行っ

**藤澤だより** (Letter from Fujisawa)

●.....Date: Thu, 9 Nov 2006 11:43:25 +0900  
Subject: Fw: (速報)水星日面通過

南 政次 様 前略失礼します。今朝は良く晴

①水星の太陽面通過が、日本時間で十一月9日の早朝に見られました。全経過が見られたのは米西海岸からハワイあたりの太平洋地域で、日本では日の出時には既に深く進んでいて、現象の後半だけが観測範囲でした。②関東南部のここ藤澤では当日快晴に恵まれて、朝日を浴びた冠雪の富士山はうす紅色にきれいでした。③黒点観測と同様に投影板の上の太陽像を撮影することとして、観測用紙には五分毎の位置を記録する方法を採った。④高度が少し上がって来た頃から望遠鏡の視野に入り始め、08:20(JST)から観測開始となった。太陽面は黒点活動極小期で、黒点は少ないが、右端に久しぶりの中型の黒点群AR#10923が出現してきている(阿久津氏像の群は#10921でこれとは違う)。本影部は水星像より大きい。⑤第3接触の頃の水星像はシーイングは悪く、ブラック・ドロップ現象は判らない。当地では、09:10(JST)すぎには第4接触となって、現象は終了した。⑥7 May 2003以来、三年半ぶりの現象だったが、今回は日本では二十六年後の、13 Nov 2032の夕方まで見られない。



ています。画像はn像。

**森田 行雄** (Yukio MORITA 廿日市 Hiroshima)  
[http://homepage2.nifty.com/~cmons/2005/index\\_Mo.html](http://homepage2.nifty.com/~cmons/2005/index_Mo.html)

●.....Date: Fri, 17 Nov 2006 21:42:18 +0900  
Subject: Re: RE:Re:

南様、菊岡@河内長野です。近くの山々もそろそろ紅葉が始まりだしています。お変わり無くご活躍のことと思います。

さて、以前にメールしました**佐伯氏『火星とその観測』校正刷り**ですが発送致しました。明日の土曜日に配達できるとのことでした。遅くなって申し訳ありません。実は、ここに使用していたスケッチを探していました。佐伯さんがご自身の観測ノートから模写されたものですがどうしても出てきませんでした。昔、プラネタリウムのオート番組で電気科学館時代に佐伯さんが「わが町」に出演している映画やスケッチを使ったのですが、その折りに制作者から戻っていなかったのかとも思います。どうぞお身体ご自愛ください。

**菊岡 秀多**(Hidekazu KIKUOKA 河内長野Osaka)  
(註) 火星課で保存し、福井で閲覧に供します。

●.....Date: Wed, 22 Nov 2006 15:42:49 EST  
Subject: Re: Mars in 2001 bis

Dear Masatsugu, My thanks for the two emails and attached drawings. All most useful, and of course any more will be welcome in your own time. Best regards

**Richard McKIM** (理查・麥肯Peterborough 英)

Director, the BAA Mars Section  
<http://www.britastro.org/mars/>

☆☆☆

れて、水星凌日をたのしめました。早朝の仕事を終えてからなので、現象の終わりを見ただけでしたが、**一星会**(九段高校天文部同窓会)のメーリングリストに流した速報を転送します。ご覧下さい。それではまた。 草々Mk

水星凌日 8/9 November 2006



**村上 昌己** (高19回)

○Here is Masami MURAKAMI (Mk)'s report of the Mercury Transit on 8/9 Nov 2006 made at Fujisawa, Japan

## 廿年如一 目 (四)

## 南 政 次

☆つい先日の事だが、偶然廿年前のカセットテープが一本見つかった。何故廿年前かと云えば、ちゃんと來歴がはっきりしていて、1986年の何月に貰ったものかも判るからである。廿年前のカセットテープ等という一寸たじろぐのではないかと思うが、鳴らしてみても私の音感では差異がない、どころか廿年の昔が歳月を越えて一遍に蘇ってきたのである。これもいまそれを當時のものとは違う天井のスピーカーで流し乍ら書いている。昔の音と同じである。☆1986年と云えば、これもはっきりしていて私は何本か蔡琴(TSAI Chin)のテープは持っていた。いまは行方知れずだが、これらはいまでは、尾代孝哉君のお蔭で皆CDになっている。街頭で聴いた蔡琴の歌唱力に吃驚して最初に買ったテープは『傷心小站』というアルバムの管で、多分このタイトル曲を最初に耳にしたのだと思うのだが、直ぐに初っぱなに「戀」というのがあり氣にいつてしまった。春先の池の♪波動♪という発音は魅力的であった。他にいま一寸思い浮かぶのは「寂寞的風」とか「不曾放棄」とかであろうか。然し、残念ながらこのCDは長くNs氏の車のステレオに入っていて(乗っけて貰う時に聴いていたという譯)、彼から返ってきた時はケースが見当たらないとかで何か見窄らしく、目印がないからケースも容易に見つからない(彼の車もその後大破してまったが、相當昔の事)。☆蔡琴のこのテープは日本の勤務先の事務室にも送ったのだが(一曲ずつ女性陣誰々にと全部指名したのであるが)、歸ってから尋ねると餘りアピールしなかった由。歸國してから家でも好く鳴らしたけれども、息子達にも不評であった。臺北で既に驚いたのは、下宿の傍の林森北路の音楽喫茶みたいなところへ曾さんという日本語の出来る老板とその女友達に聯れて行った貰った時、ここはバンド付きのプロ歌手が歌うのだが、リクエストしたら?というものだから「不曾放棄」と紙に書いて渡したら、知らない曲だと云われたことである。歌手はそう若くもなく音域も蔡琴型と思ったのだが、結局「最後一夜」を歌って貰ったのだと思う。これならTVの主題歌で、曾さん達も誰もが知っているということであった。不曾放棄って先生意味解るの?というから、それぐらいはね、と言ったのだが、然し唱って貰ったら何か飲み物を差し上げなきゃというのは知らなかった。尚、この「先生」というのは臺灣では「旦那」ぐらいの意味である。☆こういう贅澤な音楽喫茶はしょっちゅうは行ける譯はなく、火星の出の遅い間は、これも近くの、これは前に書いたが「馬蹄」という處であった。ここは時間決めてフィリピンの爺さんがピアノを弾いていた。専らジャズ系で、リクエストも自然そうになった。尤も私は大して知っているわけではなく、80年代初頭は眞梨邑ケイに凝ったから、彼女のMood IndigoやThe Man I loveか

らの曲を愉しんだ程度である。「馬蹄」は曾さんも、妻子は日本であったから、自然彼に付き合っ貰った譯である。マネージャーは大陸系の容姿を持った若い女性で、英語は出来るということであったが、私の英語が恥ずかしいから、全部通譯して貰った。ここは好く通った。☆これは前に書いたかも知れないし、音楽とは離れるが、士林に好く王さんと入ったイタリア料理店があった。王さんも日本語は上手だから、安心なのだが、両方とも日本人に見えなかつたらしい。ある時、王さんが向こう端にいるマネージャーに合圖をして、聲が届かないから、口へ指を二本當て、指を附けたり離したりしたわけである。好く日本式に、パッパを頼むという感じである。私には一寸王さんのマナーが悪い様な氣がしたのだけど、その女店員は私の處へやって来て丁寧に私に向かって済まなそうに對不起以下何か口上を述べたのである。王さんはそれをニヤニヤしながら聞いていて、口上が終わると、やおら、あなたの話し掛けている相手は日本人、こいつはカラッキン中國語がわかんないんだよ、と中國語で云って、私に面白いネと日本語で結んだ。後で、どういう口上だったのか訊くと、「あなたのお連れ日本人は煙草を所望なさっているが、生憎切らしています。何でしたら私が外で買って來ますから、銘柄など教えて下さい」というような意味だつたらしい。案外こういう横柄な日本人がいるのかも知れない。私が王さん以上に中國人にも見えるということは普段マナーが好かつたのであろうか。☆曾さんのレストランでは私は獨りで食べるが、私は日本人とは見えないのか、時折日本人同士が日本語で馬鹿なことを言っているのを耳にしたし、雙城街邊りで王さんだったか曾さんだったかと食べている時でさえ(われわれは小聲だが日本語で喋っているのに)、明らかに猫待ちの日本人複數が大聲で私にはよせやいと思ふ様なことを人目憚らず言い合っているのは出くわしている。ウム私は日本人には見えないらしい。☆上のイタリア料理屋さんでBGMがどうであったか覺えないのだが(老板は西洋人)、ある時、これは日本人と林森北路も可成り南の方で、空いた臺菜料理の店に入ったことがある。そのときBGMに懐かしい音が鳴っていると思ったのだが、蔡琴と納得するのにいつとき時間が掛かった。スピーカーの音質が違うのと、彼女は數多歌っているが私はホンの數曲しか知らないのだから、確かにという迄には時間が掛かつたのであるが、その間の心地好かつたこと。

☆扱て、最初に暗示したテープは1986年の哈雷彗星日本觀測隊(多分四月2日着)のGさんから貰ったものである。90分のテープでショパンのバラードとスケルツォが四曲ずつ入っている。Gさんは墾丁往きのバスの中でウォークマンで聴いられたのであるが、お歸りのとき(5日であろうか)、私に渡されたのがこの一本である。往年のルービンシュタインだと思う。私は6、~9日と臺北で觀測しているが、日本隊もいなくなつて寂しいものであつた。6日には夜遅くまで郭さんと話



し、7日は臺大の施さんと夕食、8日は王さんと夕食、などと日録にある。この頃には既に私はこのテープを聴くと空が晴れて来るという信仰を持っていた。多分この数日毎夜ドームで聴いていたのであろう。12日には臺大職員の哈雷彗星観望隊のバス數臺に同行して再び墾丁に向かうが、途中から高雄泊まりの本隊から離れて小雨混じりの空模様の中、大PK先生が林松南君と私を先にタクシーで連れ出した際、私はウォークマンでこれを後部座席で寝そべて聴いていて、大PK先生に私のジnkスを告げ、必ず晴れますから、と言った記憶がある。案の定、楓港邊で晴れ出し、哈雷彗星が美事に見え始めた。鵝鑾鼻は大快晴であった。☆14日夜には臺北に歸還、17日臺大講義、19日中研院での講演と續く譯である。☆その後も夜は曇ればこの曲を聴いていたお蔭か、1986年はこれ迄にない成績を上げた。1988年の臺灣での成績が悪いのは信仰を忘れた所爲かも知れない。

☆來年の接近は冬に向かうから天候は望めないが、この曲を福井の天文臺のドーム一杯に鳴らし

てやろうかと思っている。

(★写真は、もう時効だと思うから掲げるが、日本隊墾丁でのもの。向かって左端は小PKで、彼はここで合流し手傳ってくれた様に思う。向かって右端で小PKに張り合っているのが廿年前の筆者。中央の赤パンツの童子は蔡章獻さんのお孫さん。もう立派な青年であろうと思う。) □



### 御挨拶

この度、南政次、中島孝ご兩人、佐藤健様ほか『火星通信』関係の方々の御推挙をいただき、「2006年度山本一清記念東亜天文学会学術研究奨励賞」を受賞いたしました。

これは火星課のインターネットによる火星観測情報の発信等に関する活動に対する表彰です。十月14日に岩手県水沢市で開かれた「東亜天文学会総会岩手大会(水沢)」に出席して、メダルと副賞を戴いてまいりました。今年CMO-Webが発足して丁度十周年ですので、佳い記念になりました。

今回の受賞は、観測報告をお寄せ下さる同人の方々を代表して戴いたものと思っています。内外ともに寄与を頂いた皆様には厚く感謝しています。これからも、微力ながら精進してまいる所存ですので、今後ともよろしくお願い致します。

村上昌己 (Mk) 謹白

★Masami MURAKAMI (Mk) was awarded the Issei Yamamoto Medal this October for his internet activity during these ten years on the occasion of the 2006 OAA Annual Convention held at Mizusawa, Iwaté. (Ed)

シー・エム・オー・フクイ

中島孝 Nj

★前回報告以降、阿久津 富夫様(384)よりカンパを頂戴しました。有難うございました。不

☆ Kasei-Fujishin CMO (Home Page: [http://www.mars.dti.ne.jp/~cmo/oa\\_mars.html](http://www.mars.dti.ne.jp/~cmo/oa_mars.html))

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