### COMMUNICATIONS IN 東亞天文學會「火星通信」since 1986

# MARS

25 June 2010

**OBSERVATIONS** Published by the OAA Mars Section

### CMO 2009/2010 Mars Report #17 — OAA Mars Section —

Ithough the planet is going away, we still receive further work and so here we review the observations made during the period from

16 May 2010 ( $\lambda$ =091°Ls) to 15 June 2010 ( $\lambda$ =105°Ls)

During the period the apparent diameter  $\delta$  went down from 6.6" to 5.6", and the central latitude  $\varphi$  went up from 20°N to 25°N, much northwards. The phase angle I was down from 37° to 36°. The apparent declination D was quite down from 16.75°N to 11°N. At Fukui the rainy season began from 13 June.

♂·····今回は16 May 2010 (λ=091°Ls) から15 June 2010 (λ=105°Ls)までの一ヶ月間の観測報告を行う。 もう観測も終盤で、視直径 $\delta$ は6.6"から5.6"に落ちた。中央緯度 $\phi$ は20°Nから25°Nへと北半球がこちら を向いている。位相角ιは37°から36°へと回復して来ている。視赤緯Dは16.75°Nから11°Nとだいぶ楽 になった。福井の入梅は6月13日であった。例年より三日遅いとか(去年より十日遅い)。

·····We received the observations this time as follows. 今回拝受の報告は次の通りである。

GERSTHEIMER, Ralf ラルフ・ゲルシュトハイマー(RGh) ドイツHabichitswald, Deutchland 1 IR Image (16 May 2010) 32cm speculum @f/51 with a DMK21AF04

**GHOMIZADEH, Sadegh サデグ・ゴミザデ (SGh)** テヘラン Tehran, Iran 6 Colour Images (22, 26, ~28 May; 1, 14 June 2010) 28cm SCT @f/37 with a DMK21AU04.AS

HERNANDEZ, Carlos E カーロス・ヘルナンデス (CHr) フロリダ Miami, FL, USA

1 Set of Colour Drawings (10 June 2010) 300, 390×23cm Maksutov-Cassegrain

MAKSYMOWICZ, Stanislas

スタニスラス・マクシモヴィッツ (SMk) フランス Ecquevilly, France

6 Sets of Drawings (21, 22, 24<sup>\$1</sup>, 28<sup>\$1</sup> May; 4<sup>\$1</sup>, 11<sup>\$2</sup> June 2010) 340, 290×30cm Cassegrain, 260, 290×20cm Cassegrain<sup>51</sup>, 300×15cm Refractor<sup>52</sup>

MELILLO, Frank 「フランク・メリッロ (FMI) ニューヨーク Holtsville, NY, USA

1 Colour Image (27 May 2010) 25cm SCT with a ToUcam pro II

MELKA, James T ジム・メルカ (JMl) ミズーリ Chesterfield, MO, USA

4 Sets of RGB Images (19, 23, 26, 31 May 2010) 30cm speculum with a DBK21AF04.AS

MINAMI, Masatsugu 南 政 次 (Mn) 福井 Fukui\*, Fukui, Japan

29 Drawings (16, 17, 21 May; 10, 12 June 2010) 400, 600×20cm F/12 Goto ED refractor\*

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

20 Sets of RGB + 20 LRGB Colour + 21 L Images

(16, 17, 20, 21, 29, 31 May; 2, 3, 5, 10, 11 June 2010) 25cm spec @f/85~90 with a Lu-075M

MURAKAMI, Masami 村上 昌己 (Mk) 藤澤 Fujisawa, Kanagawa, Japan

13 Drawings (16, 17 May; 1, ~3 June 2010) 400×20cm F/8 speculum

CMO No. 373

NAKAJIMA, Takashi 中島 孝 (Nj) 福井 Fukui\*, Fukui, Japan

16 Drawings (16, 17, 21 May; 10, 12 June 2010) 400×20cm F/12 Goto ED refractor\*

PARKER, Donald C ドン・パーカー (DPk) フロリダ Miami, FL, USA

2 Sets of RGB + 1 UV Images (27 May; 14 June 2010) 41cm speculum @f/47 with a SKYnyx 2-0M

PEACH, Damian A デミアン・ピーチ (DPc) 英国 Selsey, West Sussex\*, UK

11 Sets of RGB Colour Images (18, ~20, 22, 23, 27 May; 2\*, 3\* June 2010)

36cm SCT with a SKYnyx 2-0M

PELLIER, Christophe クリストフ・ペリエ (CPI) フランス Seine-St-Denis, France

1 Set of RGB + 1 IR Images (3 June 2010) 25cm Cassegrain @f/50 with a SKYnyx 2-0M

SMET, Kris クリス・スメト (KSm) ベルギー Bornem, Belgium

3 Colour Drawings (17, 19 May; 4 June 2010) 300, 375×30cm Dobsonian

(\*Fukui City Observatory 福井市自然史博物館屋上天文台)

• A) Hellas: Since the tilt  $\phi$  is 20°N, Hellas is near the southern limb, while the season is now over  $\lambda$ =090°Ls, and so it must be in a very active state. At Fukui, NAKAJIMA (Ni) and one of us (Mn) watched from before sunset on 16 May ( $\lambda$ =091°Ls) and observed from  $\omega$ =284°W to  $\lambda$ =357°W. Hellas was sufficiently bright, and at  $\omega$ =304°W it was seen at the opposite side of the npc: The brightness was similar. On 17 May ( $\lambda$ =092°Ls), we also started from  $\omega$ =274°W and chased upto  $\omega$ =328°W: The situation was the same as the day before. Another of us (Mk) also observed on 16 May ( $\lambda$ =091°Ls) at  $\omega$ =296°W~326°W and on 17 May ( $\lambda$ =092°Ls) at  $\omega$ =280°W, 289°W and obtained similar results. From 16 May ( $\lambda$ =091°Ls), we have the ccd images of MORITA (Mo) who took at  $\omega$ =295°W, 300°W, 304°W: Hellas is bright in the RGB composites whereas it is slightly more bluish than the npc. Hellas is lighter in L than in R and also evident in B. On 17 May ( $\lambda$ =092°Ls) Mo took one set at  $\omega$ =301°W: Hellas is bright but they all show that the lhs, that is, the eastern part is brighter. On 27 May ( $\lambda$ =096°Ls), Hellas began to be seen from Europe, and PEACH (DPc) took Hellas at the evening limb at  $\omega$ =322°W, 332°W to be whitish heaped up while the northern part is brighter than the southern area. On 2, 3 June ( $\lambda$ =100°Ls) Hellas was already at the morning side in Europe, and on DPc's images from 2 June ( $\lambda$ =099°Ls) at  $\omega$ =276°W Hellas is just like a weak morning mist, and on 3 June ( $\lambda$ =100°Ls) at  $\omega$ =261°W Hellas is not identified while Syrtis Mj is quite evident: Perhaps the basin is still inside the shadow. On the same day PELLIER (CPI) produced a set of images at  $\omega$ =271°W where Hellas is barely visible: It is very apparent in B but not in IR. SMET (KSm)'s drawing on 4 June ( $\lambda$ =100°Ls) at  $\omega$ =259°W may also show a light Hellas or Ausonia. **B) South Circumpolar Region:** Outside Hellas some parts of the southern limb looked light: Mk observed that the S limb was light from 1 June ( $\lambda$ =099°Ls,  $\phi$ =23°N) to 3 June ( $\lambda$ =100°Ls) at the angles from  $\omega$ =135°W to  $\omega$ =155°W. At Fukui it was observed that the S limb was rather light on 10 June ( $\lambda$ =103°Ls,  $\varphi$ =24°N) and on 11 June ( $\lambda$ =103°Ls) at the angles from  $\omega$ =038°W to  $\omega$ =068°W. **C)** Strong Morning Mist: Since the noon line is moved to the eastern side ( $\iota$ =37°), the morning area is quite larger with the morning mist, and on 19 May ( $\lambda$ =093°Ls) at  $\omega$ = 039°W KSm visually observed it and also on DPc's images on 20 May ( $\lambda$ =093°Ls) at  $\omega$ =027°W~ 035°W, the morning mist near at Chryse is beautiful. Same on his images from 22 May ( $\lambda$ =094°Ls) at  $\omega$ =014°W (017°W). The morning mist is also apparent on MELKA (JMI)'s image on 23 May ( $\lambda$ =094°Ls) at  $\omega$ =105°W. CPl's B image on 3 June ( $\lambda$ =100°Ls) at  $\omega$ =272°W shows a bit of morning mist at Æria which suggests a large morning mist as the time went on. This period Mo chased not only the morning mist but also the band mist, and it is typical on the images made on 2 June ( $\lambda$ =099°Ls) at  $\omega$ =140°W, 146°W, and also the images on 5 June ( $\lambda$ =100°Ls) at  $\omega$ =108°W, 113°W are also excellent (inside the morning mist we see the dark spot of Olympus Mons; This was also the same on JMl's image as stated later again). Mo's images

from 10 June ( $\lambda$ =103°Ls) at  $\omega$ =063°W, 069°W also show the thick morning mist at the classical Tharsis, and on 11 June ( $\lambda$ =103°Ls) at  $\omega$ =052°W, 059°W also the same. The morning mist was quite strongly seen visually: At Fukui  $N_i$  and  $M_i$  observed on 10 June ( $\lambda$ =103°Ls) from  $\omega$ =048°W to 082°W while it was very evident always. It was the same on 11 June ( $\lambda$ =103°Ls) when seen from  $\omega$ =038°W to  $\omega$ =073°W: At  $\omega$ =058°W the brighter it was the nearer at the morning terminator. Note here that when the area of Tharsis is ticker with the morning mist, the mist is scarce in the area to the west of Tempe and visually this area is pinkish and dark in B light. A precedent will be found in a set of HST images in 1997: See for example http://homepage2.nifty.com/~cmo/97Note14.htm or http://photojournal.jpl.nasa.gov/catalog/PIA01246 We further note that PARKER (DPk)'s images on 14 June ( $\lambda$ =104°Ls) at  $\omega$ =244°W show a thick mist at the morning Libya. **D)** Equatorial Band Mist: The images of DPk on 27 May ( $\lambda$ =096°Ls) at  $\omega$ =051°W are also full of the morning mist while they also show other mist at the evening side and it looks they are connected, and hence it will be classified as an ebm: It really thinly covers Nilokeras and Niliacus L near the CM. As another example of the ebm we can pick out the case of Mo from 3 June ( $\lambda$ =099°Ls) at  $\omega$ =129°W, 134°W where the evening part is mostly hidden. Visually we also suspected at Fukui that the morning mist was resonantly connected with the evening mist over the limb side (Thymiamata) on 11 June ( $\lambda$ =103°Ls) at  $\omega$ =068°W. Also on *DPk*'s images from 14 June ( $\lambda$ =104°Ls) at  $\omega$ =244°W, an ebm is suspected. **E) Morning** Olympus Mons: Since the angular diameter has shrunk, there decreased the opportunity to grasp the tops of Tharsis Montes in the morning poking out of the lower morning mist. Still such images as JMI's on 23 May ( $\lambda$ =094°Ls) at  $\omega$ =105°W and Mo's ones taken on 2 June ( $\lambda$ =099°Ls) at  $\omega$ =140°W, 146°W and on 5 June ( $\lambda$ =100°Ls) at  $\omega$ =108°W, 113°W show up a shadowy spot of the summit of Olympus Mons. This kind phenomenon will continue during the northern summer, and hence it is quite expected in the coming apparitions to see as well. F) Evening Olympus Mons: Almost all true evening area is now scarcely unseen, and so the orography of Olympus Mons is difficult to see. Mo's images on 29 May ( $\lambda$ =097°Ls) at  $\omega$ =179°W and on 31 May ( $\lambda$ =098°Ls) at  $\omega$ =159°W, 164°W show Olympus Mons, but it is far from the so-called cottonball-like cloud. The angle  $\omega$ =159°W at  $\iota$ =37° implies that it is just about 10 minutes after the noon line. **G) Elysium Mons:** On *DPc*'s images on 2 June ( $\lambda$ =099°Ls) at  $\omega$ =276°W and on 3 June ( $\lambda$ =100°Ls) at  $\omega$ =261°W the orography of Elysium is not conspicuous. However it looks strong on DPk's images on 14 June ( $\lambda$ =104°Ls) at  $\omega$ =244°W: There must be a difference of the processing, but Elysium Mons looks to be covered by (if weak) an orographic cloud before noon. H) Olympia: As to Olympia we referred in the preceding report: This time it is seen on Mo's images on 16 May ( $\lambda$ =091°Ls) at  $\omega$ =295°W, 300°W, 304°W. JMl's image on 19 May ( $\lambda$ =093°Ls) at  $\omega$ =150°W seems to show it. It is also apparent on *DPc*'s images on 3 June ( $\lambda$ =100°Ls) at  $\omega$ =258°W, 261°W. It is quite apparent on *DPk*'s images on 14 June ( $\lambda$ =104°Ls) at  $\omega$ =244°W: It is wholly separated from the npc. Already the apparent diameter  $\delta$  is too small to detail, but in the next apparition the following article will be useful concerning the fragments of the npc:

http://www.hida.kyoto-u.ac.jp/~cmo/cmo/183/Coming1996\_97\_05.html (CMO#183-25Jan1997). *I) Hyperboreus L:* GERSTHEIMER (*RGh*)'s image on 16 May ( $\lambda$ =092°Ls) at  $\omega$ =059°W shows a dense Hyperboreus L. *DPk*'s Hyperboreus L on 27 May ( $\lambda$ =096°Ls) at  $\omega$ =051°W is conspicuous, while *DPc*'s one on 20 May ( $\lambda$ =093°Ls) at  $\omega$ =027°W~035°W is mild showing a shade and light. *DPc*'s images on 27 May ( $\lambda$ =096°Ls) at  $\omega$ =322°W, 332°W show dark fringe surrounding the npc (Olympia is faintly seen as well). His images on 18 May ( $\lambda$ =093°Ls) at  $\omega$ =059°W, also on 22 May ( $\lambda$ =094°Ls) at  $\omega$ =014°W, and on 23 May ( $\lambda$ =095°Ls) at  $\omega$ =015°W show the same structure. On *Mo*'s images on 10 June ( $\lambda$ =103°Ls) at  $\omega$ =063°W it is present, but looks deformed due to the small  $\delta$  and the seeing condition.

**♂・・・・A) ヘッラス**:φは20°Nに達しているが、季節λはλ=090°Lsを越え、VAの状態になってきた。福

井では中島(Nj)氏と筆者の一人(Mn)が16May( $\lambda$ =091°Ls)には日没前から観測し $\omega$ =284°Wから $\lambda$ =357°Wま で追跡した。ヘッラスは充分に明るくω=304°Wでは北極冠の対極に見える。明るさは北極冠に遜色 が無い。筆者のもう一人(Mk)も同日 $\omega$ =296°W~326°Wまで観測し、同じ様な結果を得ている。17May ( $\lambda$ =092°Ls)も福井では $\omega$ =274°Wより開始し、 $\omega$ =328°Wまで追った。状況は前日と同じである。またMk $\omega=280^{\circ}W$ 、289°Wと観測し同じ結果を得ている。 $16May(\lambda=091^{\circ}Ls)$ には森田(Mo)氏が $\omega=295^{\circ}W$ 、300°W、 304°Wとccd撮像し、RGBでは何れもヘッラスを明るく出しているが、北極冠に比べると青味が強い。L 像ではR像より明るいし、Bでも出ている。17May( $\lambda$ =092°Ls)にもMo氏は $\omega$ =301°Wで一組撮っている。 ヘッラスはどれも明るいが東側(夕方側)が西側に比べて明るいという特徴を出している。27May ( $\lambda$ =096°Ls)になってヨーロッパ側にも夕端に顕れ出し、ピーチ(DPc)氏の $\omega$ =322°W、332°Wでは白く盛 り上がっているが、北側より南側の方が弱くなっているのが特徴である。2、3June(λ=100°Ls)にはヨ ーロッパ側では朝方に来ており、DPc氏の2June(λ=099°Ls)ω=276°Wでは朝霧程度に見え、同氏の3June (λ=100°Ls)ω=261°Wではシュルティス・マイヨルは見えるがヘッラスは見えない。多分陰に入ってい るのであろう。同日のペリエ(CPI)氏のω=271°Wでは辛うじてヘッラスが顔を出している。Bで明らか だがIRでは出ない。スメト(KSm)氏の $4June(\lambda=100^{\circ}Ls)\omega=256^{\circ}W$ のスケッチも明るいヘッラスかアウソ ニアを描いている。B)他の南端:ヘッラス以外のところでもときどき南端が明るく見えた。Mkは 1June( $\lambda$ =099°Ls、 $\varphi$ =23°N)から3June( $\lambda$ =100°Ls)の間、 $\omega$ =135°Wから $\omega$ =155°W辺りで南端を明るく見てい る。福井でも10June(λ=103°Ls、φ=24°N)、11June(λ=103°Ls)でω=038°Wからω=068°Wで観察している。C) 強い朝霧:noon線が東側に移っていることにも依るが(⊫37°)、朝の部分が広くなり朝霧が強く見えて いる:  $19\text{May}(\lambda=093^{\circ}\text{Ls})\omega=039^{\circ}\text{W}$ のスメット(KSm)氏の眼視にも出ているし、 $20\text{May}(\lambda=093^{\circ}\text{Ls})$ のDPc氏 の $\omega$ =027°W~035°Wではクリュセ辺りの朝霧が綺麗である。同氏の22May( $\lambda$ =094°Ls) $\omega$ =014°W(017°W)も 然りである。23May(λ=094°Ls)ω=105°Wのメルカ(JMI)氏の像にも見える。CPI氏の3June(λ=100°Ls)のω= 272°WのB光でアエリアに朝霧を出している:時間が経てば相当広がったと思われる。この時期の朝 霧(のみならず面全体に渡っての霧)を追求したのはMo氏で2June(λ=099°Ls)ω=140°W、146°Wなど典型 で、 $5June(\lambda=100^{\circ}Ls)\omega=108^{\circ}W$ 、 $113^{\circ}W$ なども見事である(オリュムプス・モンスが黒斑で見える、先のJMI氏の像も然り、後述)。10June( $\lambda=103^{\circ}$ Ls) $\omega=063^{\circ}$ W、 $069^{\circ}$ Wでもタルシス地方の濃い朝霧が出ており、 11June( $\lambda$ =103°Ls) $\omega$ =052°W、059°Wでも然りである。眼視でもこの朝霧は強烈であった。福井ではNj 氏とMnが $10June(\lambda=103^{\circ}Ls)$ には $\omega=048^{\circ}W$ から $082^{\circ}W$ まで観測したが、終始明瞭であった。 $11June(\lambda=100^{\circ}Ls)$  $103^{\circ}$ Ls)にも $\omega$ = $038^{\circ}$ Wから $\omega$ = $073^{\circ}$ Wまで観測したが、同様であった。 $\omega$ = $058^{\circ}$ Wでは朝方側の方が遙か に濃くなっていた。ここで注意したいのは、タルシスのところが朝霧で濃いときに、テンペから西 南に掛けては霧が消えていることで、これはB光では暗く写る。前例があって、HSTの1997年の像が よく示している。CMO#221(25Jan1999)で扱っていて、http://homepage2.nifty.com/~cmo/97Note14j.htm 又 http://photojournal.jpl.nasa.gov/catalog/PIA01246 を参照。尚、14June(λ=104°Ls)ω=244°Wのパーカー(DPk) 氏の画像ではリビュアに濃い朝霧が出ている。 $\mathbf{D}$ )赤道帯霧:  $\mathbf{DPk}$ 氏の27 $\mathbf{May}(\lambda=096^{\circ}\mathbf{Ls})\omega=051^{\circ}\mathbf{W}$ も朝 霧の強い画像であるが、夕方の霧との繋がりを見ると、これは赤道帯霧に分類してよかろうと思う。 ニロケラスからニリアクス・ラクスまで覆っている。他に例えばMo氏の3June(λ=099°Ls)ω=129°W、 134°Wを見ると夕方は隠れているが赤道帯霧が出ていると考えて好いであろう。肉眼でも例えば福井 で11June(λ=103°Ls)ω=068°Wなどで強い朝霧と夕端の強いテュミアマタ上の夕霧とが共鳴して赤道帯 霧の様に見えていた。14June(λ=104°Ls)ω=244°WのDPk氏の像にもebmが窺える。**E)オリュムプス・モンス** ○朝方:流石に視直径が小さくなり、以前ほど朝方のオリュムプス・モンスを暗点として捉える機 会が少なくなってきたが、23May(λ=094°Ls)ω=105°WのJMl氏の像や、2June(λ=099°Ls) ω=140°W、146°W や5June( $\lambda$ =100°Ls) $\omega$ =108°W、113°WのMo氏の像には未だ見えている。これは夏半球の間続くと思わ れるので来期も楽しみである。**F)タ方のオリュムプス・モンス**:夕方の領域は少なくなり本当の夕方は 見られない。Mo氏の例えば29May(λ=097°Ls)ω=179°Wや31May(λ=098°Ls)ω=159°W、164°Wなどにオリ

ュムプス・モンスが出ているが、いわゆる綿毛のような山岳雲からはほど遠い。ω=159°Wで計算し てみると(ι=37°)、未だnoon線から10°程しか午後側に入っていない。G)エリュシウム・モンス: DPc氏の 2June( $\lambda$ =099°Ls) $\omega$ =276°Wや3June( $\lambda$ =100°Ls) $\omega$ =261°Wではエリュシウムの山岳雲は然程目立たないが、 14June( $\lambda$ =104°Ls) $\omega$ =244°WのDPk氏の像では強い。処理の違いに依るかも知れないが、エリュシウム・ モンスは正午前から雲を被るようである。H)オリュムピア:オリュムピアについては前号にも触れたが、 今回はMo氏の16May(λ=091°Ls)ω=295°W、300°W、304°Wに出ていると思う。JMI氏の19May(λ=093°Ls)  $\omega$ =150°Wにもオリュムピアが見えていると主張している。3June( $\lambda$ =100°Ls) $\omega$ =258°W、261°WのDPc氏 の像にも明確である。 $14June(\lambda=104^{\circ}Ls)\omega=244^{\circ}W$ のDPk氏の像でも分離が明確である。なお、既に $\delta$ は 小さくなってどうにもならないが、今後の為に過去のCMO#183(25Jan1997)の記事を挙げておくと http://www.hida.kyoto-u.ac.jp/~cmo/cmo/183/cmo183.html のドルフュス氏の観測の解説が参考になろうI) と **ュッペルボレウス・ラクス**: ゲルシュトハイマー(RGh)氏の16May( $\lambda=092$ °Ls) $\omega=059$ °Wで濃いヒュペルボレ ウス・ラクスが見えている。DPk氏の $27May(\lambda=096$ °Ls) $\omega=051$ °Wのヒュペルボレウス・ラクスは濃くひ どく際立っているが、20May( $\lambda$ =093°Ls) $\omega$ =027°W $\sim$ 035°WのDPc氏のは柔らかくそれも濃淡があって捨 てがたい。DPc氏の $27May(\lambda=096^{\circ}Ls)$ ω= $322^{\circ}W$ 、 $332^{\circ}W$ では北極冠を取り巻いてダークフリンジが出て いる(同時にオリュムピアも幽かに見える)。18May( $\lambda=093$ °Ls) $\omega=059$ °W以下、22May( $\lambda=094$ °Ls)  $\omega=014$ °W、 23May ( $\lambda$ =095°Ls)  $\omega$ =015°Wも同様。尚Mo氏の10June( $\lambda$ =103°Ls) $\omega$ =063°W等でも健在だが、 $\delta$ が小さくな り形が崩れている。

♂·····追加報告: We further received as follows:

# MORALES RIVERA, Efrain エフライン・モラレス=リベラ (EMr) プエルト・リコ Aguadilla, Puerto Rico

3 Sets of *RGB* + 1 *RGB* Images (20 December 2009; 4, 10 January 2010)

31cm SCT with a DMK21AF04

*EMr* sent us his earlier images. The images of *EMr* on 20 Dec ( $\lambda$ =026°Ls) at  $\omega$ =143°W, 151°W are quite important and show the dust cloud covering the eastern half largely [see b) in Note (1) below]. Regretfully no chase was accomplished. The images on 4 Jan ( $\lambda$ =033°Ls) at  $\omega$ =357°W look normal. His images on 10 Jan ( $\lambda$ =036°Ls) at  $\omega$ =303°W show clearly Hellas but never whitish yet. The npc must have been governed a bit by a nph and the perimeter is zigzagged. This image is a good image showing the Huygens crater.

EMr氏の20Dec( $\lambda$ =026°Ls) $\omega$ =143°W、151°Wの画像は極めて重要で、遅出し追加報告だった為、『天界』のMkの報告には間に合っていないが、今回の以下のNote(1)ではレヴューした[b)参照]。北極冠の東側半分が大規模に黄雲で隠れている風景である。残念乍ら追跡がない。4Jan( $\lambda$ =033°Ls) $\omega$ =357°Wはノーマルな風景である。10Jan( $\lambda$ =036°Ls) $\omega$ =303°Wではヘッラスが出ているが未だ明るくない。北極冠は稍北極雲に支配されているように縁が惚けている。ホイヘンスのクレータも出て良像の内に入る。

 $\delta$ ······In the next issue we shall review the observations made during the one-month period from 16 June ( $\lambda$ =105°Ls,  $\delta$ =5.6") to 15 July 2010 ( $\lambda$ =119°Ls,  $\delta$ =4.9").

#### 南 政 次・村上 昌己 M MINAMI & M MURAKAMI

#### = CMO 09/10 Mars Note (1)

Dust Disturbances at the Peripheral Area of the NPC

北極冠周邊の黄塵による擾亂

We here pick out some dust disturbances which were seen around the periphery of the npc in the 2009/2010 apparition after the northern spring equinox. These disturbances can be considered to occur

due to the thermometrical differences between the perimeter of the npc and its outside. So it is possible that, if it occurs and is varied in the day time, it is different from the usual dust storm seen near the equatorial band in the southern summer season. Furthermore it is also possible for the disturbance to make a quantum jump to the more southern region, and hence it is important to check the polar dusts. Here however we don't treat the cases the interaction which occurs inside the npc: this may occur because of the thermo-difference between the npc and the residual cap.

a) Bill FALANGAN (WFl) in Houston observed

CMO No. 373

successively from 1 Nov 2009 to 5 Nov just after the spring equinox. The images on 3 Nov 2009 ( $\lambda$ = 004°Ls,  $\phi$ =17°N) at  $\omega$ =276°W, 281°W show clearly between Utopia and Boreosyrtis a white cloud which was not seen on 1 Nov and 2 Nov. This must have invited a dust disturbance on 4 Nov ( $\lambda$ =  $004^{\circ}$ Ls) at  $\omega=265^{\circ}$ W( $268^{\circ}$ W),  $270^{\circ}$ W where Boreosyrtis had disappeared and a spread of dust was seen triangularly to the south of Utopia. N Alcyonius is faintly seen but Utopia looked deformed to be divided into two. From 5 Nov ( $\lambda$ = 005°Ls) at  $\omega$ =256°W, 261°W Boreosyrtis recovered but the dust made a spread rather vastly to the direction of Cebrenia. N Alcyonius is slightly faint, but Utopia looked to have recovered. This was observed when the apparent diameter was mere  $\delta$ = 8.2". Unfortunately no other observations after that were made in the US, and WFl just caught the planet on 11 Nov ( $\lambda$ =008°Ls) at  $\omega$ =199°W, 204°W, and it looks there might have not occurred further expansion.

- **b)** On the images on 20 Dec 2009 ( $\lambda$ =026°Ls) at  $\omega$ =143°W, 151°W taken by Efrain MORALES (*EMr*) at Puerto Rico, the lhs of the npc looks to have been quite vastly muddy by the dust air (sediment?). It is unknown on Don BATES (*DBt*), and the time of Joel WARREN (*JWn*) at  $\omega$ =197°W was too late. Perhaps the images of Damian PEACH (*DPc*) on 21 Dec ( $\lambda$ =027°Ls) at  $\omega$ =063°W look to show its influence. *DBt*'s and *JWn*'s images at  $\omega$ =162°W and  $\omega$ =166°W respectively seem to show a rift-like aspect and so still an influence remains on the lhs.
- c) Independent of the dust mud of *EMr*, Ed GRAFTON (*EGf*)'s images on 21 Dec 2009 ( $\lambda$ = 027°Ls) at  $\omega$ =168°W showed an protrusion of dust from the npc near the CM, and *WFl*'s images at  $\omega$ =172°W, 177°W detailed further: It is deep also inside the npc and the outsider dust might have spread into Gyndes and further.
- d) On Jesús SÁNCHEZ (JSc)' images on 21 Jan 2010 ( $\lambda$ =041°Ls) at  $\omega$ =095°W it is shown a zigzagged perimeter especially at the rhs (west side) of the npc which may imply a disturbance. The place is far from M Acidalium which is located at the evening limb. On 22 Jan ( $\lambda$ =041°Ls) at  $\omega$ =208°W, 211°W from the US side WFl might have described it at the eastern side. On the same terrestrial day, but on the following day on Mars, José SOLDEVILLA (JSd)'s angle at  $\omega$ =082°W is somewhat early. On 23 Jan ( $\lambda$ =042°Ls) the images of Joachim LORENZ (JLr) at  $\omega$ =109°W show some influence. DPc's images (on the following Martian day) at  $\omega$ =085°W are early in time. Pete LAWRENCE (PLw)'s images on 25 Jan( $\lambda$ =043°Ls) seem to show an influence at  $\omega$ =110°W.
- e) The north of M Acidalium received a deformation around from 26 Jan 2010 ( $\lambda$ =043°Ls): It continued until about 29 Jan ( $\lambda$ =044°Ls) where Paulo

CASQUINHA (PCq) put forward a good set of images at  $\omega$ =053°W. One Martian day after, however on the same terrestrial day, DPc took images at  $\omega$ =008°W~021°W where a dust disturbance at the place is visible. Simon KIDD (SKd) roughly shows it at  $\omega$ =009°W. Otherwise Dave TYLER (*DTy*)'s images at  $\omega$ =010°W, 032°W also show that a dust disturbance from the inside of the npc to the outside. On the images of Ian SHARP (ISp) at  $\omega$ =027°W there are seen at least two dust streaks towards M Acidalium; one directing to WS and another to ES. These are also shown on David MASON (DMs)'s image at  $\omega$ =028°W. Furthermore Peter EDWARDS (PEd)'s images at  $\omega$ =034°W show them, where the following WS one is clearer. Succeedingly (the terrestrial day changes to 30 Jan ( $\lambda$ = 045°Ls)) Jean-Jacque POUPEAU (JPp) and Martin LEWIS (MLw) observed them at  $\omega$ =040°W~048°W, and  $\omega$ =041°W respectively. *PLw*'s at  $\omega$ =053°W made the west-side one clearer. On the same day (however the next Martian day) the trace seems to be seen on CPl's images at  $\omega$ =002°W, 011°W, but JPp's suggest at  $\omega$ =023°W~057°W a last and recovering stage.

f) Not far from the days, on 31 Jan ( $\lambda$ =045°Ls) at  $\omega$ =226°W, 235°W, AKUTSU (Ak) at Philippine observed a pretty dust disturbance in a (reversed) > letter at Utopia. Unfortunately however since Ak was in a poor physical condition, his first report reached us on 7 Feb at 23:29 JST and so we could not dispatch any Alert. On 2 Feb ( $\lambda$ =046°Ls), Ak and MORITA (Mo) took images at  $\omega$ =220°W and  $\omega$ = 237°W respectively, but the dust already dispersed and some remnants remain on the side of Utopia. g) On 1 Feb ( $\lambda$ =046°Ls), Nicolas BIVER (NBv) visually at  $\omega$ =330°W, 354°W and ccd *PLw* at  $\omega$ =338°W, 343°W observed a dust streak inside the npc along the residual cap and it flew out into the side of M Acidalium. DPc also took images around the time but the seeing condition was not good. Even then the place was different from the aspect on the preceding day (31 Jan). Otherwise, JSd shows a bit at ω=342°W. On Francisco-José FERNÁNDEZ (FFn)'s and Antonio BERDEJO (ABd)'s at  $\omega$ =348°W and  $\omega$ =349°W respectively it looked to have somewhat developed. PCq's images at  $\omega$ =355°W are good and show some details, and on the following terrestrial day (2 Feb ( $\lambda$ =046°Ls)), PCq's images at  $\omega$ =042°W the dust looks started from the deep inside of the npc and is directed to M Acidalium. We note here that within 1 Feb Albert BOSCH (ABs) and Javier LARREA (*JLa*) faintly observed it at  $\omega$ =002°W and ω=009°W respectively. On 2 Feb (λ=046°Ls), *JSc* described it definitely at  $\omega$ =027°W, 032°W, and then PCq's comes, and finally EMr also shows it at  $\omega$ =060°W. It was however not easy to see at the angle when Pete GORCZYNSKI (PGc) observed at  $\omega$ =073°W. It is difficult to discuss the phenomenon

near the limb, but we may consider it has developed. On the same day on 2 Feb ( $\lambda$ =046°Ls), but on the following Martian day, it still remains on the images of Luis-Miguel AZOLÍN (LAz) and ABs at  $\omega$ =333°W and  $\omega$ =342°W respectively, where the eastern part still survives. At the polar region the thermo-difference must be few in the daytime and at night, and so the dust disturbance may remain preserved. However on the images on 3 Feb ( $\lambda$ =047°Ls) EMr and DPk at  $\omega$ =047°W and  $\omega$ =063°W respectively it looks dispersed.

h) On the images of JSc and DPk on 7 Feb ( $\lambda$ =048°Ls) at  $\omega$ =335°W (Spain) and  $\omega$ =016°W (the US) respectively, a dust streak is visible similar to the one treated in g). However DBt slightly differently describes it at  $\omega$ =044°W, and WFl's images at  $\omega$ =049°W show just some dispersed faint but zigzagged dust disturbances from the npc to M Acidalium. On EMr's images at  $\omega$ =347°W on the following day it is not clear.

That's all. We have thus picked out the dust disturbances near the npc seen in this apparition: The activity of the MGS weather reports in 2002 seems to be ended about at  $\lambda$ =030°Ls, and hence the above results add new one. However the present writer is aware that a dust streak inside the npc found by the MGS on 7 Aug 2004 ( $\lambda$ =071°Ls) and so it will be expected to find more in the coming apparitions.

(Mn)

2009/2010年接近に於ける北半球の春分以降、北極冠の周邊に起こった黄塵を拾い上げておく。こうした黄塵は北極雲側と外側の温度差によるものと考えられるが、通常の赤道附近の黄雲(多分朝方の温度差による)とは性質が違うであろうが、稀には南にジャンプすることがあるかも知れない。その意味でも監視は必要であろうし、それ自體としても面白い現象である。但し、今回は北極冠内部で起こる擾亂(永久極冠との温度差が問題になる)については省くことにする。

a) ヒューストンのフラナガン(WFI)氏は春分直 後の1Novから5Novまで連續觀測したが、3Nov  $(\lambda=004$ °Ls、 $\phi=17$ °N) $\omega=276$ °W、281°Wでウトピア とボレオシュルティスの間に白雲を觀測してい る。これは1Nov、2Novには見られなかったもの である。次いで $4Nov(\lambda=004^{\circ}Ls)\omega=265^{\circ}W(268^{\circ}W)$ 、 270°Wでは先の水蒸氣が黄塵の發生を招來したよ うで、ボレオシュルティスは見えなくなり、ウト ピアの南に三角形に黄塵が擴がり、ノドゥス・ア ルキュオニウスは見えるが、ウトピアは二分され たように變形した。 5Nov(λ=005°Ls)ω=256°W、 261°Wではボレオシュルティスは回復したが、黄 塵はケブレニアの方に大きく擴がっている。ノド ウス・アルキュオニウスは少し霞んで來たが、ウ トピアは回復傾向である。δ=8.2"で珍しい觀測 の例である。殘念ながらその後美國側の該當する 觀測は他に無く、再開できたWFI氏の11Nov (λ=008°Ls)ω=199°W、204°Wでは當該地域は朝方

にあり、更なる擴大は無かったように見える。

- **b)** 20Dec( $\lambda$ =026°Ls) $\omega$ =143°W、151°Wのプエルト・リコのモラレス(EMr)氏の像では北極冠の左半分が黄雲に塗れて見える。可成り大きな規模である。ドン・ベーツ(DBt)氏の畫像では判らないが、ウォーレン(JWn)氏の $\omega$ =197°Wでは時刻が稍遅い。21Dec( $\lambda$ =027°Ls)のピーチ(DPc)氏の $\omega$ =063°Wではその影響が残って居るようである。DBt氏の $\omega$ =162°W、JWn氏の $\omega$ =166°Wでは北極冠が縦に割れているように見えるが、左側には未だ影響があるかもしれない。
- c) 實はb)のEMr氏の黄雲とは獨立しているが、 $21Dec(\lambda=027^{\circ}Ls)\omega=168^{\circ}W$ のグラフトン(EGf)氏の畫像では北極冠の中央附近で黄塵が北極冠から噴き出しているように見え、同日のWFI氏の $\omega=172^{\circ}W$ 、 $177^{\circ}W$ ではもっと詳細が判り、北極冠内部にも深く、外側にもギュンデスを越えて擴がっているかも知れない。
- d) 21Jan( $\lambda$ =041°Ls)のヘスス・サンチェス(JSc)氏の $\omega$ =095°Wでは北極冠の縁が複雑で右側(西側)で擾亂がある様に見える。マレ・アキダリウムは沈みつつあり、遙か遠い。22Jan( $\lambda$ =041°Ls)  $\omega$ =208°W、211°WのWFI氏の像では逆の東側に少し描寫があるかも知れない。同日、しかし火星日では翌日のホセ・ソルデビーヤ(JSd)氏の $\omega$ =082°Wでは少し時間が早い。23Jan( $\lambda$ =042°Ls)のヨアヒム・ロレンツ(JLr)氏の $\omega$ =109°Wでは未だ影響が出ているようである。DPc氏の(火星日では一日後) $\omega$ =085°Wでは未だ時間が早い。25Jan( $\lambda$ =043°Ls)のローレンス(PLw)氏の $\omega$ =1110°Wでは未だ少し擾亂が殘っているように見える。
- e) マレ·アキダリウムの北では26Jan(λ=043°Ls)頃 から少し様子がおかしくなる。29Jan(λ=044°Ls)の カスキニヤ(PCq)氏のω=053°Wでもその怪しさは 續いている。一回りして(火星日が進んで)同日の DPc氏のω=008°W~021°Wでは境を挾んで黄塵の起 っているのが窺える。キッド(SKd)氏の $\omega$ =009°W でも(像は好くないが)それらしく見える。他にタ イラー(DTy)氏のω=010°W、032°Wでも北極冠内 から外に黄塵が見える。シャープ(ISp)氏のω= 027°Wでは明らかに黄塵が二本、北極冠内からマ レ・アキダリウムに向かって西南に一本、東南に もう一本出ているのが明確である。メースン (DMs)氏の $\omega$ =028°Wにも見える。更にエドワーヅ (PEd)氏の $\omega$ =034°Wでは特に西側の描寫が好い。 引き續き(地球日は30Jan(λ=045°Ls)に變わるが)プ ーポー(JPp)氏がω=040°W~048°Wでも、ルイス (MLw)氏の $\omega$ =041°Wでも然りで、PLw氏の $\omega$ = 053°Wでは西側が更に明確になる。地球日は同じ だが、火星日では翌日になって、ペリエ(CPI)氏  $\omega$ =002°W、011°Wでは痕跡は見せているようで ある。しかしJPp氏のω=023°W~057では擾亂の最 終段階を示してい様に見える。
- f) 日には餘り隔たりがないが、31Jan( $\lambda$ =045°Ls) にフィリッピンの阿久津( $\Delta$ k)氏が $\omega$ =226°W、235°W で北極冠内からウトピアに掛けて「逆くの字」型の綺麗な黄塵を検出している。しかし残念ながら

Ak氏は体調を崩していて、通知が來たのが07Feb, 23:29JSTであったからAlertは出せなかった。2Feb ( $\lambda$ =046°Ls)には Ak氏が  $\omega$ =220°W、森田 (Mo)氏が  $\omega$ =237°Wで撮っているが、未だ残滓が(特にウトピア側に)あるかといった程度の結果であった。

1Feb( $\lambda$ =046°Ls)には眼視のビヴェール(NBv)氏 が $\omega$ =330°W、354°Wで、ccdのPLw氏が $\omega$ =338°W、 343°Wで、北極冠内部の永久極冠の縁にあると思 われる黄塵の筋がマレ・アキダリウムの方に流れ 出ているのを見ている。DPc氏も同じ頃撮ってい るがシーイングが好くなかったようである。それ でも前日31Janとは様子が違っている。他にJSd氏 のω=342°Wに少し出ている。フランシスコ=ホセ・ フェルナンデス(FFn)氏のω=348°Wやアントニオ・ ベルデホ(ABd)氏の $\omega$ =349 $^{\circ}$ Wでは少し發達して見 える。PCq氏の $\omega$ =355°Wは良像であるが、まだ黄 雲部は曖昧である。しかし、地球日は變わるが (2Feb( $\lambda$ =046°Ls)になる)、 $\omega$ =042°Wでは深いところ から黄雲が出てマレ・アキダリウムに向かってい るように見える。その前に1Febの内にアルベルト ·ボッシュ(ABs)氏のω=002°W、ハビエル・ラレア (JLa)氏の $\omega$ =009°Wにもその兆候は見える。2Feb  $(\lambda=046^{\circ}\text{Ls})$ に入ってはJSc氏の $\omega=027^{\circ}\text{W}、032^{\circ}\text{W}$ で 明確で、PCq氏の先の像が續き、EMr氏の $\omega$ =060°W でも見える。ゴルチンスキ(PGc)氏の $\omega$ =073°Wでは苦しくなる。縁のことだから難しいが發達をしたと考えた方が好いだろう。2Feb( $\lambda$ =046°Ls)の一回り後のルイス・アソリン(LAz)氏の $\omega$ =333°W、ABs氏の $\omega$ =342°Wでも東側の擾亂が殘っている。極地の場合、昼夜の差が大きくないから、温存する傾向があるかもしれない。然し3Feb( $\lambda$ =047°Ls)の EMr氏 の $\omega$ =063°Wでは擴散して見える。

h) 7Feb( $\lambda$ =048°Ls)の JSc氏 の  $\omega$ =335°W、 DPk氏 の  $\omega$ =016°Wの像では再びg)で最初に述べたような様子 が出ているが、 DBt氏の  $\omega$ =044°Wや WFI氏の  $\omega$ =049°Wでは北極冠縁からマレ・アキダリウムに掛けて薄い黄塵のモヤモヤが見えるだけで、黄塵の筋の描寫の違いが出ているようである。翌日の EMr氏の $\omega$ =347°Wの像ではハッキリしない。

以上、今回の北極冠周邊部の黄塵活動を擧げたが、2002年のMGSの觀測では $\lambda$ =030°Lsぐらいで終わっているようで、上の結果は新しいものを齎すものである。 尤も筆者は $7Aug2004(\lambda$ =071°Ls)のMGSが北極冠内に黄塵の筋を撮像しているのを知っているので、來期・再來期にも期待できることである。 (Mn)

### 便り

Letters to the Editor

#### • · · · · · Subject: Mars of 21st from SMk Received: Sun 23 May 2010 00:44 JST

Dear Richard, dear Minami san, Here is my last obs of Mars 21st with the 305mm cassegrain. Clouds cover the Solis Lacus area on the morning side (all filters). The NPC area is well whitish, extention appeared with the W11 filter and under the best seeing conditions. Chryse/Xanthe is not bright withish. Syrtis Major and Sinus Sabaeus are occulted on the evening side at the limb by clouds. Refer to the brightness clouds quotation. For your perusal. Best regards

http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100521/SMk21May10.jpg  $\bigcirc \cdot \cdot \cdot \cdot \cdot Subject$ : mars on 22nd from SMk Received: Sun 23 May 2010 18:24 JST

Dear Richard, dear Minami san, Here is my last obs of Mars 22nd with the 305mm cassegrain. Clouds cover the Solis Lacus area on the morning side (all filters). The NPC area is well whitish, Chryse/Xanthe is not seen bright withish. Syrtis Major and Sinus Sabaeus are occulted on the evening side at the limb by clouds. Refer to the brightness clouds quotation. Better views than those of 21st May. For your perusal. Best regards

http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100522/SMk22May10.jpg O·····Subject: mars 28th from SMk Received: Sat 29 May 2010 16:14 JST

Dear Richard, dear Minami san, Here is my last obs of Mars 28th with the 200mm cassegrain. The NPC area is well whitish still but NPC not seen itself,. Syrtis Major is occulted slightly on the evening side near the limb by clouds. Refer to the brighness clouds quotation anf filters used. Better views than those of 24th May. For your perusal. Regards

 $http://www.hida.kyoto-u.ac.jp/\!\!\sim\!\!cmo/cmons/2009/100528/SMk28May10.jpg$ 

### O····Subject: mars obs from SMk Received: Sat 05 June 2010 20:56 JST

Hi! Here is my last obs of Mars 04th with the 200mm cassegrain F9 Vixen. The NPC area is well whitish, the NPC itself not seen, again. Syrtis Major is occulted slightly on the side at a terminator, clouds, as shown. Hellas is clear slight whitish as the south polar regions, in blue light. Refer to the brightness clouds quotation and filters used on. A suspected EBC clouds is expected, still. This last, it seems out of an EBC normal collected period, anybody to answer this? The 200 mm is near perfect for getting even with the 42% obstruction, for dso views normally. The 150mm refractor F10 get the same data at 300xfiltered same. For your perusal. Best regards

http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100604/SMk04June10.jpg  $\bigcirc \cdot \cdot \cdot \cdot Subject$ : mars and venus last 11th before the local storm Received: Sun 13 June 2010 01:23 JST

Hi! Here is my last obs of Mars 11th with the 150mm refractor F10. The NPC area is well whitish, the NPC itself not seen, again. Eridania appears bright, Lybia area too. Refer to the brightness clouds quotation and filter used on, a W11. A clear area is suspected, still above the equator south regio on the meridian. The 150 mm makes same data as the 200F9 even with the 42% obstruction but with less seeing effect. A venus sketch is get here witout exceptionnal data, as clear bright dots/area. For your perusal. Best regards

http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100611/SMk11June10.jpg

#### Stanislas MAKSYMOWICZ

(スタニスラス・マクシモウ゛ィッツ Ecquevilly 法)

#### • · · · · · Subject: Mars Images (May18th, 19th and 20th, 2010.) Received: Sun 23 May 2010 02:50:14 JST

Hi all, Here are some images from May 18th, 19th, and 20th. Very poor seeing on the 18th and 19th, but fairly good seeing on the 20th. Dense clouds over Chryse with an ECB present. Dark collar around the NPC.

May 18th:

25 June 2010 Ser2-1381\_

http://www.damianpeach.com/mars09/2010 05 18rgb.jpg

http://www.damianpeach.com/mars09/2010 05 19rgb.jpg May 20th:

http://www.damianpeach.com/mars09/2010\_05\_20rgb.jpg http://www.damianpeach.com/mars09/2010\_05\_20red.jpg http://www.damianpeach.com/mars09/2010\_05\_20grnblue.jpg

# O·····Subject: Mars Images (May 27th, 2010.) Received: Sat 29 May 2010 05:48:46 JST

Hi all, Some images from the 27th. Syrtis Major is visible. The Planet is rapidly dropping into the twilight here now making good images more difficult. Probably only a few weeks remaining of this apparition.

http://www.damianpeach.com/mars09/2010 05 27rgb.jpg

### O·····Subject: Mars Images (June 2nd, 2010.) Received: Thu 03 June 2010 20:17:16 JST

Hi all, Here are some images from last night. Syrtis Major is prominent, with the blue syrtis cloud. Bright Elysium cloud. Hellas is also bright.

http://www.damianpeach.com/mars09/2010\_06\_02rgb.jpg

# O····Subject: Mars images (June 3rd, 2010.) Received: Sun 06 June 2010 03:10:10 JST

Hi all, Pretty good seeing on this night. These will be my final set of images for the apparition. Once again its been a great apparition and i've enjoyed seeing all the fine images people have sent over the last year.

These images nicely show Syrtis Major and Elysium with a distinct NPC.

http://www.damianpeach.com/mars09/2010 06 03rgbred.jpg http://www.damianpeach.com/mars09/2010\_06\_03grnblue.jpg

### O·····Subject: Mars -Whole Planet Map 2007 Received: Mon 07 June 2010 23:55:18 JST

Hi all, I recently made this 2007 map of Mars from my images for the BAA report which is currently in progress. Better late than never :-)

http://www.damianpeach.com/mars07/2007wholemap.jpg

## O·····Subject: RE: Mars -Whole Planet Map 2007 Received: Tue 08 June 2010 23:05:15 JST

Dear Masatsugu, Thanks for your mail. Im sorry to hear you've not been well. I hope you're feeling better now.

I was aware this could be a problem as defining the N-S axis accurately wasn't possible simply by eye. Perhaps Christophe has a suggestion on how better to do this. With the 2005 map it was much easier due to the residual SPC, and with Jupiter it is also easy.

#### Best Wishes

- --- On Tue, 8 June 2010, Masatsugu MINAMI wrote:

  > Dear Damian, · · · So already you are aware that your Map in 2007
- > http://www.damianpeach.com/mars07/2007wholemap.jpg
- > may contain some wrong fastenings because of a slight inclination of
- > the SN lines: In fact the S Meridiani on the left-hand end is on the
- > different latitude from the one on the right-hand side: I hope your
- > perusal. With best wishes, Masatsugu

# O····Subject: Mars 2010 - Whole Planet Map & Movie Received: Wed 09 June 2010 07:19:48 JST

Hi all, Here are links to both a 2010 whole planet map: http://www.damianpeach.com/mars09/wholemap2010.jpg and a 2010 full animated rotation movie:

http://www.damianpeach.com/mars09/mars2010mov.wmv

Damian PEACH (デミアン・ピーチ Selsey WS 英)

# • · · · · · Subject: Mo 16 17 20 21May 10 Received: Sun 23 May 2010 23:15:51 JST

16日からの画像をお送りします。16,17日は好 Seeingでしたが、20日は黄砂が酷く透明度は最悪 で光量が足りずL画像しか撮れませんでした。21 日は再びSeeingが悪化しました。ヘッラスは16,17 日は明るく見えていました。画像を見ると北極冠 に亀裂があるように見えます。

http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100516/Mo16May10.jpg http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100517/Mo17May10.jpg http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100520/Mo20May10.jpg http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100521/Mo21May10.jpg
O·····Subject: Mo 29 May 10
Received: Mon 31 May 2010 01:00:08 JST

昨日の火星をお送りします。割とSeeingは良か ったですが、薄雲が出て透明度は良くありません。 本当は今日が最高だったような気がしますが、今 日は定期総会で帰りが遅く、撮れませんでした。

http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100529/Mo29May10.jpg
\( \cdot \cdot \cdot \cdot Subject: Mo31May 02June 10 \)
Received: Mon 07 June 2010 00:09:12 JST

このところ忙しくなかなか時間が取れませんで したが、2日迄を処理しましたのでお送りします。

http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100531/Mo31May10.jpg http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100602/Mo02June10.jpg O·····Subject: Mo03June 10 Received: Wed 09 June 2010 00:22:38 JST

3日の画像を処理しましたのでお送りします。

http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100603/Mo03June10.jpg  $\bigcirc \cdots Subject$ : Mo 05 June 10 Received: Fri 11 June 2010 00:56:58 JST

5日の画像をお送りします。6月に入りB像に雲 が多く写るようになりました。

http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100605/Mo05June10.jpg
.....Subject: Mo 10 June 10

### Received: Sun 13 June 2010 00:49:21 JST

10日、11日とSeeingが良く、少し良い像が撮れ ました。11日の画像はこれから処理します。

http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100610/Mo10June10.jpg  $\bigcirc \cdots Subject$ : Mo 11 June 10 Received: Mon 14 June 2010 700:06:01 JST

11日の画像をお送りします。透明度があまり良 くなく、画像としては前日のほうが良いかもしれ ません。ついに梅雨入りしました。

http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100611/Mo11June10.jpg  $\bigcirc \cdots Subject$ : Mo 16 June 10 Received: Sun 20 June 2010  $\overline{v}$ 1:31:59 JST

梅雨に入ってから条件の良いときはあまりあり ませんが、少しの晴れ間が見えれば撮るようにし ています。

http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100616/Mo16June10.jpg  $\bigcirc \cdots Subject$ : Mo 19 June 10 Received: Sun 20 June 2010 19:08:25 JST

19日は運良く晴れ間が出て撮像できました。只、 薄雲がかかってかなり暗い像を処理しています。

http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100619/Mo19June10.jpg

### 森田 行雄 (Yukio MORITA 廿月市 Hiroshima)

Received: Sun 23 May 2010 23:17:15 JST

Hi OAA- Japan, Here is mars on 22 may seeing was poor. Ciao

http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100522/SGh22May10.jpg

O ....Subject: mars 26 may
Received: Thu 27 May 2010 21:40:06 JST

Hi OAA - Japan, Here is mars on 26 May PLS see you it. B.W

http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100526/SGh26May10.jpg
O····Subject: mars 27 may
Received: Sat 29 May 2010 01:09:36 JST

Hi OAA - Japan, Here is mars on 27 may. B.W http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100527/SGh27May10.jpg

....Subject: mars 28 may

Received: Sun 30 May 2010 05:40:40 JST

Hi OAA - Japan, This is mars on 28 May seeing was poor. B.W

http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100528/SGh28May10.jpg
\[ \cdot \cdot \cdot \cdot \cdot Subject: mars 1 june \]

Received: Thu 06/03/2010 08:51:27 JST

Hi OAA - Japan, Here is mars 1 june seeing was poor. http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100601/SGh01June10.jpg

#### Sadegh GHOMIZADEH

(サデグ・ゴミザデTehran 伊朗)

# • · · · · · Subject: RE:Visual Planetary Observations! Received: Tue 25 May 2010 17:32:24 JST

Dear Masatsugu, I hope I haven't offended you when I mentioned the ALPO Japan and the OAA. I did not know that they were entirely different entities. I will not make the same mistake in future.

Looking forward to submitting observations, I hope one day we manage to meet face to face! All best wishes,

### O·····Subject: (no subject) Received: Fri 11 June 2010 22:53:20 JST

Dear Dr. Minami, I'm afraid the Martian apparition of 2009-10 has now come to an end for me; the disk size is too small and the planet too low down for me to be able to continue to do useful work. I have attached to this email my End of Apparition report summarising my observations of Mars for 2009-2010. I have also attached a Mars Map which is based on observations made in 09-10. If you should like a larger copy of the map, please let me know. Please make the report available to anyone who is interested! all best wishes.

(註) See the following PDf: http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/Mars\_2009-10\_AppRep\_PAbel.pdf for ABEL's report (Ed).

#### Paul ABEL (ポール・エーベル Leicester 英)

### • · · · · · Subject: Mars: May 27, 2010 Received: Fri 28 May 2010 14:17 JST

Hi - I have attached my latest image of Mars May 27, 2010 at 0:06 UT to be posted. Thanks,

http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100527/FMI27May10.jpg Frank MELILLO (フランク・メリッロHoltsville NY美)

#### · · · · · Subiect: Mars 27 Mav Received: Sun 30 May 2010 11:57:43 JST

Hi All, I have attached RGB Mars images from 27 May. Lots of clouds! Best,

http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100527/DPk27May10.jpg O·····Subject: Mars 14 June Received: Thu 17 June 2010 07:11:50 JST

I have attached RGB and UV Mars images from 14 June. Clouds persist, with the Elysium Shield orographic prominent. An equatorial cloud band (ECB) is conspicuous in UV light. Best,

http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100614/DPk14June10.jpg

Don PARKER (ドナルド・パーカー Miami FL 美)

COMMUNICATIONS IN 東亞天文學會『火星通信』since 1986

----CMO #232 (25 June 2000) pp2751~2762

http://www.hida.kyoto-u.ac.jp/~cmo/cmo/232/cmo232.html

巻頭は、1998/99 Mars CMO Note(10) 「下午のオリュムプス・モンス」"Olympus Mons in the after- noon" である。070°Lsから130°Lsにかけて午後のオリュムプス・モンスにかかる山岳 雲に関しての考察で、1997年、1999年の観測で季節的な範囲が観測出来ていた。この様な山岳雲

の消長を解析する時に大切なのは、Ls値と火星の地方時を把 握して比較することで、例として比嘉保信氏の1999年の画像 が取り上げられている。

http://www.hida.kyoto-u.ac.jp/~cmo/cmo/note/9910/10.html http://www.hida.kyoto-u.ac.jp/~cmo/cmo/note/9910/10j.html

次いで1998/99 Mars CMO Note(11)「アスクラエウス雲 の消長」" Trend of the Ascræus white cloud"が掲載されて いる。この現象は、アスクラエウス・モンスとオリュムプス ・モンスの間の低地に、朝方に発生してとどまる低空の朝霧 で、午後には消滅してして、山岳雲といれかわる。こちらも 1997年、1999年の観測で捉えられていて、季節的なピーク は 095°Ls~120°Lsに あろうとしている。ドン・パーカー (DPk)氏の画像を火星の地方時をそろえて引用している。

http://www.hida.kyoto-u.ac.jp/~cmo/cmo/note/9911/11.html http://www.hida.kyoto-u.ac.jp/~cmo/cmo/note/9911/11j.html

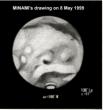
LtEには、R SCHULZ (Austria), S WHITBY (VA, USA), A NIKOLAI (Germany), G TEICHART (France), G DI GIOVANNI (Italy)の外国の諸氏と、中島守正(神奈川)、常間 地ひとみ(神奈川)、伊舎堂弘(沖縄)、佐藤健(広島)、大澤俊彦 (福岡)、比嘉保信(沖縄)の各氏からのお便りがある。

2000年の火星の合は七月1日GMTであった。惑星と太陽の 合の時にはLASCO画像の視野を通過していくのが見られる。

OBSERVATIONS Published by the OAA Mars Section 1998/99 Mars CMO Note (10) --下午のオリュムプス・モンス Olympus Mons in the afternoon ◆午後のオリュムダス・モンスが出品重を装っ で舞毛のボールが浮かんだように見える時があ ち。これは時間的にも又、帯声的にも変化する ち。これは時間的にも又、帯声的にも変化する 1999年の襲散で、その概を捉えていると思う。 ペイリュムダス・モンスの干後の山田素豊が輝 くのは、のが12~13071よの観回であることは好く くのは、のが12~13071よの観回であることは好く に投稿長を日本のは初まり2519年)。(1997年に は新顔のあ、9 下島・(1997年、2257)に指件で、村 に投稿長を日本の単位を対しまったが、1997年に な締毛のボールの様なギリュムダス・モンスを 製造した(18/8)におり970 2000を開発。2017年9 な物モのホールの様々なインエンス・モンスを 戦測した[#188 (25 Feb 1997)  $p2002参照]_o \omega=174^*W$ で、丁度オリュムブス・モンスの地方時は16:30 LMT邊りであった。10 Feb 1997 ( $076^*$ La)には更に 好い条件で、 $\omega=145^*W$  (14:30 LMT)から $\omega=204^*W$ (18:30 LMT)迄、東端に沈むまで観測された。こ の年のオリュムプス・モンスの午後の動向につ ってはCMO #201 p2243の Noteを参照されたい ◆1999年の輝くオリュムブス・モンスの初期(6 =10.3")の観察については、伊含堂(Id)氏の 1 Ma 1999 (104°Ls) ω=177°Wでの観測など#214 p2442に ■入りで報告してある。Id氏のこの場合オリュル プス・モンスの山頂の地方時は17h LMTであっ た。次のラウンドの四月中旬の観測は#216p2479 に矢張り闖入りで示してある。Mk氏(122\*Ls)とは 氏(124\*Ls)のスケッチともオリュムプス・モンス

の地方時は13h LMT邊りである。 ◆從って、1999年にはオリュムプス・モンス ◆從って、1999年にはオリュムプス・モンス の活動の後半が觀測された。次頁に比嘉保信(Hg) 氏のVideo像から、三月、四月、五月の像を選ん で掲載する。未だ活動の顕著な期間に属してい 後時間が進むに連れてどう變化するかを示すが 季節の違いを比較するにはLCMに依ってはいた ないことに注意する(LCMは實際の反射角度に開

25 June 2000



Click CMO (16)は 常間地ひとみさんの紹介でSOHO衛星のColonal Mass Ejectionを捉えた LASCO画像を取り上げている。今回はSOHO衛星の撮影している様々な種類の画像の紹介が主題 で、太陽活動のページへのリンクもある。

TYA(58)には、CMO#088 (25 June 1990)が取り上げられている。20年前の火星は「うお座」 を順行していて、六月はじめに赤緯が北に入り、日の出時の高度も中旬には40度を越す様になっ て、日岐氏が観測を始めた。この号には、巻頭から10ページにわたり南氏の「観測野次馬帖」が掲 載された。毎日40分毎の連続観測の意義、情報交換の必要性など、火星観測に対する所見が述べら れている。また、「1988CMO観測ノート(13)」として、「McKIM氏のSyrtis Mjの観測」がある。 http://www.hida.kyoto-u.ac.jp/~cmo/cmo/232/tya058.html

村上 昌己 (Mk)

25 June 2010 

### • · · · · · Subject: Mars-Late Submissions Received: Tue 01 June 2010 07:06:46 JST

Hi Mr. Minami, I'm submitting these images taken before being a member of this fine group! it was educational on reading the period analysis as they came. The weather has kept me from imaging and it looks to be a bad year for tropical storms hopefully it would clear up as mars is getting difficult to image, Clear Skies to All. http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/091220/EMr20Dec09.jpg http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100104/EMr04Jan10.jpg http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100110/EMr10Jan10.jpg

## O·····Subject: Mars - June 17th, 00:25ut Received: Sun 20 June 2010 21:05:25 JST

Hi Mr. Minami, The weather has prevented me from imaging in the last month or so and was able to take this image between clouds openings on the 17th of june.

http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100617/EMr17June10.jpg

### **Efrain MORALES RIVERA**

(エフライン・モラレス=リヘ゛ラPuerto Rico 波多黎各)

### • · · · · · Subject: Mars sketch 04/06/10 Received: Sat 05 June 2010 06:27:58 JST

Hi, here is my sketch from 4 June. seeing: good

This will probably be the last sketch for me this opposition. it is already very difficult to see details on mars for me even using 12" of aperture. excellent seeing is very rare over here. thanks for all the time and effort you put in for all us! Greetings,

http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100604/KSm04June10.jpg

Kris SMET (クリス・スメト Belgium 比利時)

### • · · · · · Subject: Mars images - 3rd June 2010 Received: Sun 06 June 2010 02:56:08 JST

Hi guys, Here are some Mars images. http://www.astrosurf.com/pellier/M100603-CPE

#### O · · · · · Subject: Re: Mars - Whole Planet Map 2007 Received: Wed 09 June 2010 02:25:17 JST

Hi Damian, Yes, measuring Mars images (wether for mapping or not) is an issue as the N-X axis can be hard to set correctly. I generally use the position of the martian equator to correctly set the frame with WinJupos, better than the n-s axis itself. For this I find some landmarks on the high-precision Map by MGS:

http://www.msss.com/mars\_images/moc/moc\_atlas/indexfull.jpg And then I try to find them on the amateur image. Some landmarks are obvious: Pavonis Mons (can be hard to find at opposition though), all the "fons" (dark craters dots) south of Chryse, etc. Two landmarks at opposite sides of the images are nice. Measuring the coordinates of known details can also help in case this method is not enough... Hope this helps!

PS Mastasugu, all my good wishes for your health...

#### O · · · · · Subject: Re: New Society Received: Mon 14 June 2010 02:14:38 JST

Dear Masatsugu, I am released by the news about your recent stay at hospital:)

Yes I have been able to make a final set of Mars images. I'm saying final, because my primary mirror has, again, been sent to Italy, because Ottiche Zen needs it to correct the flawed new secondary, and so by the time they will return to France the planet must be quite away.

Your idea of the ISMO sounds quite good to me, especially if it concentrates the wealth of the people in the world who have editorial capacities about Mars. Let's look at least to who where attending the IWCMO meeting last year, there was a real wealth of different approaches, that was nicely rendered in the dedicated page

at the OAA Mars web site.

As the SAF Mars coordinator, it would give a solution to a particular problem I'm facing - I'm very keen on writing papers about Mars (and some other planets as well) but as a French I give the priority to the french public (this is normal) and so I'm writing only for them in my language. The ISMO would give a legitimate tribune to share comments with other countries as well.

I Cc the message to Marc Delcroix as well, the President of the Commission des Observations Planètaires, who will certainly have thoughts about it. Please keep me informed about the progression of the project. You are certainly the most legitimate person to hold it, as this has already been the path of the CMO for many years.

Best wishes,

Christophe PELLIER (ク リストフ・ペ リェ nr Paris 法)

#### ・・・・・Subject: 転任 Received: 09 June 2010 Posted: 08 June 2010

拝啓、ご無沙汰しておりますが、お元気でしょ うか? 私こと、この度、『朝日新聞』福井総局 のデスクに着任いたしました。十六年ぶりに今度 は記者の原稿を見る立場で転任した福井は、変わ ったようで、変わっていないような妙な感じでし た。朝から深夜までデスクワークの日々ですが。 今後とも何卒よろしくお願いいたします。末尾 ながら、くれぐれもご自愛下さいませ。敬具

### **永井 靖二** (Yasuji NAGAÏ 大阪→福井 Fukui)

## • · · · · · Subject: Mars for your database Received: Thu 10 June 2010 11:32~11:40 JST

Hi, Please see attachment. Sincerely,

http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100519/JMl19May10.jpg http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100523/JMl23May10.jpg http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100526/JMl26May10.jpg http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100531/JMl31May10.jpg

Jim MELKA (ジム・メルカ St Louis MO 美)

### • · · · · · Subject: Re: New Society Received: Thu 17 June 2010 00:14:20 JST

Dear all, Thanks Christophe for informing me of this discussion. I am certainly in favor of such a change, as i believe that there are not that many amateur people who have a deep knowledge in planets and their meteorology, and that grouping them to work together only make sense and brings better efficiency and larger audience. Of course doing such a thing can only be in english and, as Christophe and despite being head of the "French" Astronomical Society's planetary observations commission, i have been thinking for a while that our (and especially Christophe's) works would gain a much wider audience if written and shared in english. And of course links with the other amateur organization makes sense, and having Christophe in ISMO advisory board would be an excellent thing!

Marc DELCROIX (マルク・デ・ルクロアTournefeuille法)

### • · · · · · Subject: Mars Observation (June 10, 2010) Received: Sat 19 June 2010 06:21 JST

Dear Mr. Murakami, I hope that you, Dr. Minami and the CMO staff have been doing well. We have had a productive Mars apparition with excellent images and observations made by talented imagers/observers around the world.

I made an observation of Mars on June 10, 2010. Although the angular diameter was less than six arc-seconds (5.7" to be exact) I was able to detect albedo features when the seeing steadied for moments at a time.

NOTE:01:00 U.T. (CM 276.2°W, Wratten 30 (Magenta): The North Polar Cap (NPC) appears small and brilliant (10/10) with a dark (3/10) collar surrounding it. Lemuria and Cecropia appeared dark to dusky (3-4/10) and mottled. Utopia and Casius appeared dark to dusky (3-4/10; Casius appearing as a dark (3/10) "spike-like" albedo feature). Elyisum appeared bright to very bright (7-8/10) with a very bright (8/10) cloud over it. The Hyblaeus Extension appeared dark to dusky (3-4/10) following Elysium. Mare Cimmerium appeared dusky to dull (4-5/10) over the south-preceding limb. Electris and Eridania appeared shaded (6/10). Mare Tyrrhenum and Syrtis Minor appeared dark to dusky (3-4/10) on the central meridian (CM). Syrtis Major appeared as dark to dusky (3-4/10), mottled, wedge-shaped albedo feature following the CM. Hellas appeared very bright (8/10) with a cloud over it. Zephyria, Æolis, Æthiopis, Ætheria, Isidis Regio, Neith Regio, Meroe Insula, and Æria appeared bright (7/10). Extremely bright (9/10) evening limb haze (ELH), south polar limb haze (SPLH), and morning limb haze (MLH) were noted as well.

The best to luck to you, Dr. Minami, CMO staff and all CMO contributors. Regards,

http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/100610/CHr10June10.jpg
O·····Subject: Re: 10 June?
Received: Sat 19 June 2010 21:25:39 JST

Dear Minami-san, I am sorry for the error on my image as the date of the observation is June 10, 2010. I have attached the images for the date in question. I hope that you and the CMO staff are doing well. The quality of the images and observations of Mars during the current apparition have been outstanding. Have you been able to observe Mars during the current apparition? Mars observers and imagers around the world appreciate the outstanding analysis and effort on the part of the OAA Mars Section to record and display images and observations of Mars for every apparition. Thank you and the rest of the CMO staff for all of your hard work, experience, and admiration for the red planet. The best of luck to you and your family. Regards,

Carlos HERNANDEZ (カーロス・ヘルナンデ ス FL 美)

• · · · · · Subject:Re: Fw: Jupiter and Ganymede 17 June Received: Sat 19 June 2010 15:13:24 JST

南様、ご無沙汰しております。CMOは順調にセ

ブに着いております。ありがとうございます。少 しの間、入院していたと聞いておりましたが、 の後体調は如何でしょうか?

セブでは、本来であれば今が雨期の時期となる のですが、今年は少し、ズレているようで、まだ 晴れる日が多くあります。朝方、スコールような 雨が降りことがあり、雨期の時期も遠くないでし ようね。木星観測にて早寝、早起きの習慣が続い ていますが、そろそろ、時間帯が早くなり、少し しんどくなります。

私こと、十日ぐらい前から、喉の炎症が酷く、 病院でレントゲン、血液検査を行いました。結果 は、異常が見つからず、ホッとしています。ただ、 喉が痛いので食べ物が喉を上手く通らず、少しし か食べられず困っています。体重も3kg減りまし た。悪い峠は過ぎて、回復傾向ですが、もう少し かかるでしょう。6月末、日本へ帰ります。7月7 日にはセブへ戻ります。

阿久津 富夫(Tomio AKUTSU セブThe Philippines)

### ●・・・・・Subject: 南 政次先生 Received: Sun 20 June 2010 01:25:15 JST

近内令一です。先日はメールありがとうござい ました。また本日は大量の『火星通信』バックナ ンバー拝受いたしました。宝の山に踏み込んだ盗 賊の心境であちらの号、こちらの頁と早速楽しま せていただいております。

ちょうど行き違いになりましたが、また性懲り もなく質問等の書状他を宅急便にて発送いたしま したが、全く急ぎませんので、お時間のできた折 にご教示いただけましたら幸いです。よろしくお 願い申し上げます。

**近内 令一** (Reiichi KONNAÏ 福島Fukushima)

☆ ☆ ☆

#### シー・エム・オー・フクイ・

- 中島 孝 Nj -

★前回報告以降、伊舎堂 弘(436)様、近内 令一(437)様よりカンパを頂戴しました。近内様よりはCMO に対するご理解とご激励のお言葉を頂戴しました。ともに有難うございました。不一

★前号は5月26日に印刷・丁合し、海外は即夜、国内は翌日発送しました。横浜(Tsさん)には29日、 藤沢(Mk氏)、宗像(As氏)には30日に配達されたようです。なお、Mn氏は27日に入院(内科と眼科)さ れましたが、無事6月8日に退院されました。不一

☆ KasaFJsûshîn CMO (http://www.hida.kyoto-u.ac.jp/~cmo/cmo/oaa\_mars.html)

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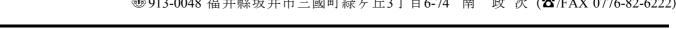
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