

MARS

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OBSERVATIONS

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♂..... This time we review the observations made during the period between

16 November ($\lambda=010^\circ\text{Ls}$) and 15 December ($\lambda=024^\circ\text{Ls}$) 2009

During the period the apparent diameter δ went up from 8.8" to 11.2", and it became easier to observe the planet after the northern spring equinox: Especially the central latitude ϕ was 19°N so that the northern hemisphere having a large the npc/nph was largely facing towards us. The phase angle went down from 38° to 30° and the disk has become much roundish. The apparent declination D was minimal at the end of the period around 17°N + a bit α . The weather condition in Japan was rather fine though the seeing condition was poor.

♂..... 今回の報告は16 November ($\lambda=010^\circ\text{Ls}$) から15 December ($\lambda=024^\circ\text{Ls}$) 2009迄の期間である。δも8.8"から11.2"に進捗し、北半球の春分後を観測できる態勢である。中央緯度φは 19°N で、北半球がよく見え、北極冠を捉えるのに好機である。欠けも 38° から 30° に落ち円くなった。赤緯度Dは期間末には少し落ちて 17°N 後半になり、屈折には稍有難い。天候は日本では先ず順調であった。

♂..... We received the observations this time as follows.

AKUTSU, Tomio 阿久津 富夫 (Ak) セブ・フィリッピン Cebu, the Philippines

16 Sets of RGB + 15 IR Images (17, 18, 25 November; 3, 4, 6, 10, 12, 14 December 2009)
36cm SCT @f/30, 36, 55 with DMK21AU04

ANDERSON, David デイヴィッド・アンダーソン (DAAd) サウス・カロライナ, SC, USA

1 Set of Colour + 1 IR Images (16 November; 4 December 2009)
40cm spec @f/40 with a ToUcam 740

ARDITTI, David デイヴィッド・アーディッチ (DAr) バッキンガムシャー Edgware, UK

1 Set of RGB Images (14 December 2009) 36cm SCT with a SKYnyx 2-0

BARNETT, John ジョン・バーネット (JBr) バージニア Richmond, VA, USA

2 Drawings (29 November; 12[†] December 2009)
260, 530×18cm F/15 refractor (Ragland Observatory); 270×12cm F/8.3 refractor[†]

BATES, Donald R ドン・ベーツ (DBt) テキサス Houston, TX, USA

2 Colour Images (22 November; 6 December 2009) 25cm spec @f/30 with a ToUcam Pro II

GERSTHEIMER, Ralfラルフ・ゲルシュトハイマー (RGh) ドイツ Habichtswald, Deutschland

2 IR Images (19 November; 7 December 2009) 32cm speculum @f/27, 57 with a DMK21AF04

GORCZYNSKI, Peter ピート・ゴルチンスキー (PGc) コネチカット Oxford, CT, USA

9 Sets of RGB + 9 IR Images (18[§], 21[§], 29 November; 1, 2, 4, 7, 8, 12, 13 December 2009)
36cm SCT @f/31; 18cm Maksutov-Cassegrain[§] @f/42 with a DMK21AF04

GRAFTON, Edward A エド・グラフトン (EGf) テキサス Houston, TX, USA

1 Set of LRGB Images (23 November 2009) 36cm SCT @f/39 with an ST402

KUMAMORI, Teruaki 熊森 照明 (Km) 堺 Sakai, Osaka, Japan

6 Sets of *Colour Images* (21, 25, 26, 30 November; 8, 9, 13, 14 December 2009)
20cm Dall-Kirkham @f/70 with a DMK21AF04/DFK21AF04

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

1 Set of *RGB + 1 Colour + 1 IR Images* (21[†], 29 November; 12 December 2009)
25cm SCT with a ToUcam pro II; Starlight Xpress MX-5[†]

MINAMI, Masatsugu 南 政次 (Mn) 福井 Fukui*, Fukui, Japan

64 Drawings (21, 23, 26, 28 November; 2, 4, 7, ~ 9, 12, 13 December 2009)
340, 400, 600×20cm Goto ED refractor*

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

14 Sets of *RGB + 15 IR Images* (27, 29 November; 1, 4, 6, ~8, 13 December 2009)
25cm speculum @f/60 with a Lu-075M

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

1 Drawing (27 November 2009) 320×20cm F/8 speculum

NAKAJIMA, Takashi 中 島 孝 (Nj) 福井 Fukui*, Fukui, Japan

9 Drawings (8, 13 December 2009) 400×20cm Goto ED refractor*

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

3 Sets of *RGB + 2 IR + 2 UV Images* (8, 10, 14 December 2009)
41cm F/6 speculum @f/22 with a SKYnyx 2-0M

POUPEAU, Jean-Jacques ジャン=ジャック・プーポー (JPp) フランス Essonne, France

13 Sets of *RGB + 17 L(R)RGB Images* (20, 26 November; 1, 4, 7, 11, 13, 15 December 2009)
35cm Cassegrain @f/29 with a SKYnyx2-0

ROSOLINA, Michael マイケル・ロゾリーナ (MRs) ウェストバージニア Friars, WV, USA

1 *Colour Drawing* (21 November 2009) 200, 340, 400×20cm SCT

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

3 *Colour Drawings* (7, 14 December 2009) 250, 300×30cm Dobsonian

TYLER, David デーヴ・タイラー (DTy) バックinghamシャー Flackwell Heath, Bucks, UK

2 *Colour Images* (4, 10 December 2009) 36cm SCT @f/44 with a SKYnyx 2-0

WALKER, Sean ショーン・ウォーカー (SWk) ニューハンプシャー Chester, NH, USA

1 Set of *RGB Images* (18 November 2009) 36cm SCT with a DMK21AF04

WARREN, Joel ジョエル・ウォーレン (JWn) テキサス Amarillo, TX, USA

6 Sets of *RGB Images* (18, 23, 27, 28 November 2009)
28cm SCT (⊗3× Barlow) with a DBK21AF04.AS

WESLEY, Anthony アンソニー・ウエズレイ (AWs)

ニューサウスウェールズ Murrumbateman, Australia

2 *Colour + 2 IR Images* (17 November; 6, 11 December 2009)
37cm speculum with a Dragonfly2

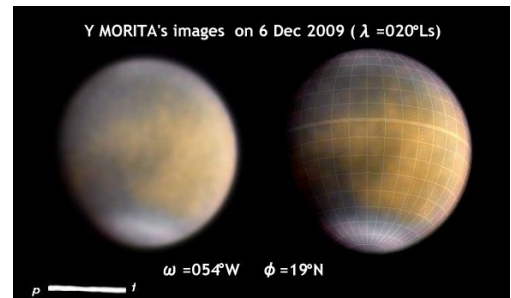
WHITBY, Samuel R サミュエル・ホイットビー (SWb) バージニア Hopewell, VA, USA

1 Drawing (16 November 2009) 250, 370×15cm F/5 speculum

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

♂.....A. **The NPC and NPH:** One of the most important things during this period is of course the observation of the largest north polar cap (npc) haunted by the north polar hood (nph). δ is not enough, but the tilt ϕ is quite northward. The npc looks definite on GRAFTON (EGf)'s images on 23 Nov ($\lambda=014^\circ$ Ls) at $\omega=105^\circ$ W, and GORCZYNSKI (PGc)'s images on 2 Dec ($\lambda=018^\circ$ Ls) at $\omega=342^\circ$ W look to show a thick npc, though its morning side still is invaded by the misty-like cloud around M Acidalium (see B image). PGc's

images on 29 Nov ($\lambda=016^\circ\text{Ls}$) at $\omega=018^\circ\text{W}$ were also good but the boundary of the npc was not definite. So this is a story we usually review at this time of the Martian year, whilst this time we found more important and indisputable fact: As seen on the images of MORITA (*Mo*) produced on 6 Dec ($\lambda=020^\circ\text{Ls}$) at $\omega=054^\circ\text{W}$, 064°W , 075°W , the npc apparently declined up towards to the direction of M Acidalium. This was turned out



thanks to *Mo*'s good habit of checking $p \leftrightarrow f$ of the images (see Gallery). Here we pick out the images made at $\omega=054^\circ\text{W}$ which well prove the declination of the npc: This is possibly be because of the presence of the nph but we can also suppose that the npc protrudes to the side of lowland of M Acidalium as is the case we see some protrusion of the spc towards Hellas in another season. AKUTSU (*Ak*) also observed on the day at $\omega=065^\circ\text{W}\sim 086^\circ\text{W}$: He does not check $p \leftrightarrow f$, but we corrected the declination of his images by the use of grids and found they show the similar tendency (see Gallery). WESLEY (*AWs*)'s image on the day at $\omega=061^\circ\text{W}$ looks to be nearly right. See also *Mo*'s images on 7 Dec ($\lambda=020^\circ\text{Ls}$) at $\omega=054^\circ\text{W}$ which was taken at the same angle as on 6 Dec. *Ak*'s images on 10 Dec ($\lambda=022^\circ\text{Ls}$) at $\omega=028^\circ\text{W}\sim 051^\circ\text{W}$ also show the declination of the npc as we corrected his original images. Note also that the images on 8 Dec ($\lambda=021^\circ\text{Ls}$) made by KUMAMORI (*Km*) at $\omega=035^\circ\text{W}$, and another set by *Mo* at $\omega=042^\circ\text{W}$ where the npc (or nph) protrudes southwards making a triangular shape of the brighter portion. The obvious fact that the npc or nph showed a zigzagged perimeter was checked visually at Fukui from 7 Dec ($\lambda=020^\circ\text{Ls}$) at $\omega=018^\circ\text{W}$ to 9 Dec ($\lambda=021^\circ\text{Ls}$) at $\omega=068^\circ\text{W}$ (unfortunately on 8 Dec it became cloudy at around $\omega=019^\circ\text{W}$); Visually it looked the npc invaded to the southern areas (see below). Same tendency was also observed on 2 Dec ($\lambda=018^\circ\text{Ls}$) and 4 Dec ($\lambda=019^\circ\text{Ls}$). The unevenness of the npc is also apparent on *Km*'s images on 9 Dec ($\lambda=021^\circ\text{Ls}$) at $\omega=041^\circ\text{W}$. These images also show that the northern limb of the npc is rather shadowy. It is possible therefore the centre of the npc, receiving the sunshine always, has begun to thaw to show the older npc core. Another interesting images are provided by *PGc* on 29 Nov ($\lambda=016^\circ\text{Ls}$) at $\omega=018^\circ\text{W}$. On 13 Dec ($\lambda=023^\circ\text{Ls}$) *Km*'s images at $\omega=345^\circ\text{W}$ show that M Acidalium was covered by a thin cloud, and on *Mo*'s B image at $\omega=018^\circ\text{W}$ shows an invasion of the matter into M Acidalium. This is also visible in IR, and so it must have been the phenomenon of the outer npc. See also *Km*'s images on 14 Dec ($\lambda=024^\circ\text{Ls}$) at $\omega=334^\circ\text{W}$. It is now still difficult to judge about the behaviour of the nph: Compare for example *POUPEAU* (*Jpp*)'s images on 26 Nov ($\lambda=015^\circ\text{Ls}$) at $\omega=332^\circ\text{W}$ with those by *PGc* on 4 Dec ($\lambda=019^\circ\text{Ls}$) at $\omega=326^\circ\text{W}$. Anyway even after $\lambda=020^\circ\text{Ls}$ the cloud activity near the npc is strong. In this case we may conversely consider that they are caused by the presence of the invasion of the npc to the lawland of M Acidalium. **B. Syrtis Mj:** There are a lot of images which shot out the disks where Syrtis Mj prevailed. They all show that there was no dust cloud anomaly around Utopia this time. Out of many images we pick out two nice images of Syrtis Mj: One is given by *PGc* on 7 Dec ($\lambda=020^\circ\text{Ls}$) at $\omega=274^\circ\text{W}$ and the other by *PARKER* (*DPk*) on 8 Dec ($\lambda=021^\circ\text{Ls}$) at $\omega=278^\circ\text{W}$. These two clearly isolated, at the NW coast of Syrtis Mj, a so-we-may-call paintbrushed marking down from the place once called Antigones Fons (which was unknown from several ten years ago) despite the small angular diameter. As to the marking see the colour drawing of Professor Audouin DOLLFUS which was for example cited at page 6 of http://www.hida.kyoto-u.ac.jp/~cmo/cmomn5/IWCMO_Dollfus.pdfThis brushed marking is of course visible when the δ is large but usually too southward, and in 2007 it was dirty because of the dust. **C. Mare Serpentis:** The area around the dark and broad M Serpentis was also shot in several images, but we cite here two: one is *Jpp*'s images on 26 Nov ($\lambda=015^\circ\text{Ls}$) at $\omega=332^\circ\text{W}$, and the other *PGc*'s ones made on 4 Dec

($\lambda=019^\circ\text{Ls}$) at $\omega=326^\circ\text{W}$. **D. Evening clouds over Alba, Tharsis, Olympus and Elysium Montes:** Since the northern spring equinox passed, the water vapour is immigrated southwards from the npr and the summits or higher flanks of the higher Montes will become covered by the afternoon cloud. The cloud covering of the high latitude Alba Mons was checked by WALKER (SWk) on 18 Nov ($\lambda=011^\circ\text{Ls}$) at $\omega=113^\circ\text{W}$: In it the Arsia cloud is also clearly seen, and in B, the clouds over the Tharsis three mountains are evident. On the same day PGC also showed at $\omega=126^\circ\text{W}$ the Tharsis tres Mons and Alba in B. They seem also to be seen on PGC's images on 21 Nov ($\lambda=013^\circ\text{Ls}$) at $\omega=096^\circ\text{W}$. Mo's B images on 29 Nov ($\lambda=017^\circ\text{Ls}$) at $\omega=134^\circ\text{W}$ show the trace of Tharsis Montes, and Alba is also visible. Km's images on 30 Nov ($\lambda=017^\circ\text{Ls}$) at $\omega=134^\circ\text{W}$ has no B but his L looks to show Arsia and Alba. Mo's images on 1 Dec ($\lambda=017^\circ\text{Ls}$) at $\omega=104^\circ\text{W}$, 114°W also show Alba clearly and Ak also showed on 3 Dec ($\lambda=019^\circ\text{Ls}$) at $\omega=125^\circ\text{W}$ that, in addition to Tharsis Montes, Olympus is covered by the cloud in B (Mo's and Ak's images also strongly show the south polar limb is whitish bright). Ak's images on 4 Dec ($\lambda=019^\circ\text{Ls}$) at $\omega=094^\circ\text{W}$ also show Alba Mons. The B image of JPP on 11 Dec ($\lambda=022^\circ\text{Ls}$) at $\omega=172^\circ\text{W}$ shows obviously the whiteness of Olympus Mons, and his B images on 13 Dec ($\lambda=023^\circ\text{Ls}$) at $\omega=148^\circ\text{W}$, 156°W show Alba and Olympus. ARDITTI (DAR)'s B images on 14 Dec ($\lambda=023^\circ\text{Ls}$) at $\omega=139^\circ\text{W}$ and JPP's B on 15 Dec ($\lambda=024^\circ\text{Ls}$) at $\omega=149^\circ\text{W}$ show the five Montes evidently. On the other hand the Elysium shield was trapped also in the evening: JPP's B image on 7 Dec ($\lambda=020^\circ\text{Ls}$) at $\omega=239^\circ\text{W}$ shows it, and DPK's images on 10 Dec ($\lambda=022^\circ\text{Ls}$) at $\omega=237^\circ\text{W}$ quite really depicts the cloud over Elysium Mons in details. PGC's images on 12 Dec ($\lambda=023^\circ\text{Ls}$) at $\omega=243^\circ\text{W}$ as well as on 13 Dec ($\lambda=023^\circ\text{Ls}$) at $\omega=220^\circ\text{W}$ show it variously as the filter changes. TYLER (DTy) took the morning Elysium on 10 Dec ($\lambda=020^\circ\text{Ls}$) at $\omega=188^\circ\text{W}$ where the whole Elysium area is light. **E. Phlegra Complex:** This area is interesting, and finally DPK sent us an excellent image of the area taken on 14 Dec ($\lambda=023^\circ\text{Ls}$) at $\omega=200^\circ\text{W}$. Ak's images on 25 Nov ($\lambda=015^\circ\text{Ls}$) at $\omega=185^\circ\text{W}$, 199°W show the area vaguely, though the latter image shows a southward extension of the Ætheria dark patch. Km's images on the day at $\omega=183^\circ\text{W}$ are dull while the next images on 26 Nov ($\lambda=015^\circ\text{Ls}$) at $\omega=180^\circ\text{W}$ are better. JPP produced a long series of the area on 11 Dec ($\lambda=022^\circ\text{Ls}$) at $\omega=161^\circ\text{W}$, 167°W , 172°W , 179°W , 187°W , 197°W , and 207°W , but the procedure of the R images were not good to show the Phlegra complex. **F. Area around Solis L:** There are many that took the area of Solis L, but it now went upwards and difficult to show properly. GERSTHEIMER (RGh) took an IR image on 19 Nov ($\lambda=012^\circ\text{Ls}$) at $\omega=079^\circ\text{W}$ where Nilokeras is dark and Ophir is light. PGC's images (already cited) on 21 Nov ($\lambda=013^\circ\text{Ls}$) at $\omega=096^\circ\text{W}$ show Solis L in contrast with an old light Tharsis area. BATES (DBt)'s image on 22 Nov ($\lambda=013^\circ\text{Ls}$) at $\omega=062^\circ\text{W}$ shows a bright Argyre. EGf's images on 23 Nov ($\lambda=014^\circ\text{Ls}$) at $\omega=105^\circ\text{W}$ quite detail the area around Solis L. Near the evening terminator Ophir is misty. WARREN (JWn) put forward several images on 23 Nov ($\lambda=014^\circ\text{Ls}$) at $\omega=085^\circ\text{W}$, 096°W , 27 Nov ($\lambda=016^\circ\text{Ls}$) at $\omega=051^\circ\text{W}$, and 28 Nov ($\lambda=016^\circ\text{Ls}$) at $\omega=049^\circ\text{W}$, while they lack true description including that of Nilokeras. Mo's images at $\omega=069^\circ\text{W}$, 087°W as well as Ak's ones at $\omega=094^\circ\text{W}$ on 4 Dec ($\lambda=019^\circ\text{Ls}$) show that Solis L is dense in R. Mo's and Ak's images on 6 Dec ($\lambda=020^\circ\text{Ls}$), afore-discussed, also show the area of Solis L is dense in R: Especially Ak's Solis at $\omega=086^\circ\text{W}$ is good. AWs's image at $\omega=061^\circ\text{W}$ was strongly processed. **G. Area around Mare Acidaliu:** The scene where M Acidaliu is at the morning side is one of the attractive ones: JPP's images on 20 Nov ($\lambda=012^\circ\text{Ls}$) at $\omega=354^\circ\text{W}$, 010°W are standard while the perimeter of the nph is not definite. JPP's images on 26 Nov ($\lambda=015^\circ\text{Ls}$) at $\omega=332^\circ\text{W}$ show the scene where the morning mist prevails. MELILLO (FMI)'s on 29 Nov ($\lambda=016^\circ\text{Ls}$) at $\omega=354^\circ\text{W}$ shows a wrong B image. JPP's one on 1 Dec ($\lambda=017^\circ\text{Ls}$) at $\omega=322^\circ\text{W}$ is attractive: M Serpentis is dark and broad. On the same day PGC's IR image at $\omega=359^\circ\text{W}$ shows minutely the whole of M Acidaliu. We already stated about PGC's superb images on 29 Nov, 2 Dec, 4 Dec etc. Ak's,

Km's and *Mo*'s images in Japan are also noteworthy. **H. Visual Observations:** Even except for the visual observations@Fukui by NAKAJIMA (*Nj*) and *Mn*, there were pleasantly issued a lot of drawings. WHITBY (*SWb*) made on 16 Nov ($\lambda=010^\circ\text{Ls}$) at $\omega=169^\circ\text{W}$, ROSOLINA (*MRs*) on 21 Nov ($\lambda=013^\circ\text{Ls}$) at $\omega=117^\circ\text{W}$, one of us (*Mk*) on 27 Nov ($\lambda=016^\circ\text{Ls}$) at $\omega=112^\circ\text{W}$, BARNETT (*JBr*) on 29 Nov ($\lambda=016^\circ\text{Ls}$) at $\omega=350^\circ\text{W}$ and on 12 Dec ($\lambda=023^\circ\text{Ls}$) at $\omega=252^\circ\text{W}$, and finally SMET (*KSm*) put forward two sketches on 7 Dec ($\lambda=020^\circ\text{Ls}$) at $\omega=220^\circ\text{W}$, 249°W and another on 14 Dec ($\lambda=024^\circ\text{Ls}$) at $\omega=066^\circ\text{W}$: The npc has been bright and *Vastitas Borealis* bordered darkly its perimeter so that the NS line was easily identified. The last drawing by *KSm* shows the evening mist from *Chryse* to *Xanthe* in colour. In Fukui we made many but since it is not easy to watch the planet near the meridian, we start earlier while the seeing remained still poor. But sometimes we could use 600 \times . We here restrict ourselves just concerning to the colour tendency which lacks in the usual LRGB method. On 26 Nov ($\lambda=015^\circ\text{Ls}$) at $\omega=179^\circ\text{W}$ we saw by 600 \times the white and clear npc which was broad and dense in the east and bounded in the west by *Utopia*. It was hard however to check the *Phlegra* complex. On 2 Dec ($\lambda=018^\circ\text{Ls}$) at $\omega=065^\circ\text{W}$, 075°W , *Nilokeras* was dark brownish and *Chryse* was covered by the evening whitish mist. At $\omega=084^\circ\text{W}$, 094°W the terminator area where *M Acidalium* just sank looked very dark in a brownish dense tint. *Xanthe* was light and *Auroræ S to Solis L* became visible. On 4 Dec ($\lambda=019^\circ\text{Ls}$) at $\omega=037^\circ\text{W}$, 047°W , *M Acidalium* was near CM, while the evening side is misty. The npc was really brilliant. At the same time the south-eastern polar limb was also whitish bright. At $\omega=056^\circ\text{W}$, 066°W , *Chryse* and *Xanthe* became whitish light. On 7 Dec ($\lambda=020^\circ\text{Ls}$), the npc looked slightly deformed and at $\omega=018^\circ\text{W}$ the brighter part was smaller. At $\omega=038^\circ\text{W}$ it appeared not-roundish. At $\omega=048^\circ\text{W}$, 057°W (used 600 \times) the npc was not roundish and especially in the east. On 8 Dec ($\lambda=021^\circ\text{Ls}$) at $\omega=359^\circ\text{W}$, the desert was reddish and *M Acidalium* was dark brownish. The npc was not particularly bright. At $\omega=019^\circ\text{W}$, the npc looked rectangular, and invaded to *M Acidalium*. *M Acidalium* was brownish but quite dark. Afterward it became cloudy. On 9 Dec ($\lambda=021^\circ\text{Ls}$), usable 600 \times , at $\omega=019^\circ\text{W}$ *S Meridiani* was still visible, and the evening desert was rather dim reddish. The npc was rather roundish but at the centre there was a slight protrusion; while watching at rest at $\omega=034^\circ\text{W}$ it was not so particularly deformed but appeared roundish. At $\omega=039^\circ\text{W}$ (scheduled), *Nilokeras* was brown, and *M Acidalium* was made of dark spots. The npc looked normal. *M Erythræum* was dark as in 2007. From this day we used a filter-turret. However in "Int" we sometimes did not use any filter. The npc was clear and roundish in O56. In Int *Chryse* and *Xanthe* was whitish from around $\omega=058^\circ\text{W}$. At $\omega=068^\circ\text{W}$ *Tempe* was a bit light. *Xanthe* was also light in Y48. On 12 Dec ($\lambda=023^\circ\text{Ls}$) at $\omega=340^\circ\text{W}$, *S Sabæus* was broad and *M Serpentis* was dark in Int. Possible to use 600 \times . *S Meridiani* was also evident. The npc was brilliant, while its perimeter black-dark in the east and brownish in near noon. At $\omega=349^\circ\text{W}$ *S Sabæus* was dark bluish or greenish. Eastern half of *M Acidalium* was rather reddish. The northern desert was reddish up until the evening. The perimeter of the npc was complexed, while the morning mist looked to extend to the limb. *Argyre* is bright. At $\omega=359^\circ\text{W}$, the reddish tint of the desert is in good contrast with the whiteness of the npc: The desert was reddish up until the eastern terminator. *M Acidalium* the darkest, and *S Sabæus* the next. The morning mist looked rather greyish. The npc is not completely roundish. At $\omega=009^\circ\text{W}$, the space from *Deucalionis R* to *Aram* was evident. *M Acidalium* still dark brownish. The desert was reddish by 600 \times , and pinkish by 400 \times . The npc was rather rectangular. *M Erythræum* was quite dark as in 2007, and the area of *Margaritifer S* was rather fainter than expected. The sp limb was bright, seen until $\omega=028^\circ\text{W}$. On 13 Dec ($\lambda=023^\circ\text{Ls}$), windless but seeing was poor. At around $\omega=311^\circ\text{W}$ *Hellas* was bright in O56. In O56 and *Green Libya* was terminator light. Even at around $\omega=321^\circ\text{W}$ *Hellas* was considerably bright. So was in Y48. But it became weaker at around $\omega=330^\circ\text{W}$. The junction of *Syrtris Mj* and *S Sabæus* was quite

dark. Similarly at around $\omega=340^\circ\text{W}$. Nj watched until $\omega=005^\circ\text{W}$, but the markings were rather fainter.

♂……**A.北極冠と北極雲**：この時期、最も重要なのは北極冠の問題である。δは充分ではないが、φが北により傾いていて、絶好機である。例えば、グラフトン(EGf)氏の23Nov($\lambda=014^\circ\text{Ls}$) $\omega=105^\circ\text{W}$ では北極冠がシッカリしてきている感じであるし、ゴルチンスキー(PGc)氏の2Dec($\lambda=018^\circ\text{Ls}$) $\omega=342^\circ\text{W}$ ではコンモリとした北極冠が如実であろう。しかし、注意すべきは朝方には矢張り未だ北極雲の残りがマレ・アキダリウムの方に漂っていて、Bでは明白である。PGc氏の29Nov($\lambda=016^\circ\text{Ls}$) $\omega=018^\circ\text{W}$ も良像であるが、未だ北極冠の境界はハッキリしていない。これだけならばこの時期の常識である。実は今回もつと重大なことが判明している。それは森田(Mo)氏の6Dec($\lambda=020^\circ\text{Ls}$) $\omega=054^\circ\text{W}$ 、 064°W 、 075°W において北極冠に傾きが出ていることである。これはMo氏が $p\leftarrow f$ を同時観測している為に判明したことで、Galleryを見ていただければ納得する。英文では $\omega=054^\circ\text{W}$ を挙げている。明らかに北極冠乃至北極雲がマレ・アキダリウムの方向に競り上がっているわけであるが、もし北極冠としてもマレ・アキダリウムが低地で、丁度南極冠がヘッラスの方に張り出すように突出する可能性がある。阿久津(Ak)氏も同日 $\omega=065^\circ\text{W}\sim 086^\circ\text{W}$ と観測していて、 $p\leftarrow f$ の指示はないが、こちらでグリッドを埋めることによって南北線を正し、Galleryに納めたので、参照していただきたい。同日のウェズレー(AWs)氏の $\omega=061^\circ\text{W}$ もほぼ正しいと思う。またMo氏の7Dec($\lambda=020^\circ\text{Ls}$) $\omega=054^\circ\text{W}$ を参照されたい。同じ ω である。同じくAk氏の10Dec($\lambda=022^\circ\text{Ls}$) $\omega=028^\circ\text{W}\sim 051^\circ\text{W}$ にも傾きが見られるが、これもこちらで傾きを修正したものである。尚、8Dec($\lambda=021^\circ\text{Ls}$)の熊森(Km)氏の $\omega=035^\circ\text{W}$ 、Mo氏の $\omega=042^\circ\text{W}$ では明らかに北極冠乃至北極雲のマレ・アキダリウムの方への突出が見られる。こうしたマレ・アキダリウム以北の北極冠の境界に凹凸や明るさの違いが見られることは、7Dec($\lambda=020^\circ\text{Ls}$) $\omega=018^\circ\text{W}$ 以降、9Dec($\lambda=021^\circ\text{Ls}$) $\omega=068^\circ\text{W}$ 迄の連続観測で福井の観測でチェックしているが(8Decには残念ながら $\omega=019^\circ\text{W}$ 辺りで曇って仕舞い、Km氏やMo氏を補完できなかった)、眼視観測では北極冠がマレ・アキダリウムの方に浸食しているように見える(後述)。ほぼ同じ傾向は2Dec($\lambda=018^\circ\text{Ls}$)や4Dec($\lambda=019^\circ\text{Ls}$)にも見えている。境界の凸凹はKm氏の9Dec($\lambda=021^\circ\text{Ls}$) $\omega=041^\circ\text{W}$ にも顕著だが、特にこの像では北端が暗くなっている。既に、北極冠中央では溶解が始まって古い北極冠が出ているのかも知れない。少し詳細が見られる例としては、前出のPGc氏の29Nov($\lambda=016^\circ\text{Ls}$) $\omega=018^\circ\text{W}$ がある。尚、北極雲とは言えないかも知れないが、13Dec($\lambda=023^\circ\text{Ls}$)のKm氏の $\omega=345^\circ\text{W}$ などでは朝方のマレ・アキダリウムを霧が覆っているほか、同日のMo氏の $\omega=018^\circ\text{W}$ ではBでマレ・アキダリウムへの浸食が見られる。IRでも見られないことではないので、北極冠の縁の現象かと思われる。Km氏の14Dec($\lambda=024^\circ\text{Ls}$) $\omega=334^\circ\text{W}$ にも注目。ただ、北極冠の縁については判断の難しいところがある。例えば、プーポー(JPp)氏の26Nov($\lambda=015^\circ\text{Ls}$) $\omega=332^\circ\text{W}$ 等とPGc氏の4Dec($\lambda=019^\circ\text{Ls}$) $\omega=326^\circ\text{W}$ 等とを比較した場合、判断に迷う。しかし何れにしても $\lambda=020^\circ\text{Ls}$ を越えても、マレ・アキダリウム近辺では雲の動きが激しいように思うが、これはマレ・アキダリウムの方に北極冠が張り出している所為かもしれない。**B. シュルティス・マイヨル付近**：シュルティス・マイヨルを写し撮った画像は数多い。ウトピア付近にも異常がないようである。この内で二葉だけ採り上げる。一つはPGc氏の7Dec($\lambda=020^\circ\text{Ls}$) $\omega=274^\circ\text{W}$ と二つはパーカー(DPk)氏の8Dec($\lambda=021^\circ\text{Ls}$) $\omega=278^\circ\text{W}$ である。この二葉は嘗てアンチゴネス・フォンスと呼ばれたところ(数十年前から不明である)に刷毛を穿いたような模様がこのδで分離して出ているからである。これは例えばドルフェス氏の大口徑によるスケッチなどでは兼ねてから知られていて、例えば http://www.hida.kyoto-u.ac.jp/~cmo/cmomn5/IWCMO_Dollfus.pdf 第6頁のドルフェス氏のスケッチを見ればわかる。PGc氏の8Decの像には分離しない。勿論2007年などにも見えているが、黄雲の所為で綺麗ではない。なお、タイラー(DTy)氏は4Dec($\lambda=019^\circ\text{Ls}$) $\omega=214^\circ\text{W}$ で朝方のシュルティス・マイヨルを既に捉えているが、非常に早い例である。**C. マレ・セルペンティス**：濃く太いマレ・セルペンティスの辺りの様子についての描写も幾つかあるが、JPp氏の26Nov($\lambda=015^\circ\text{Ls}$) $\omega=332^\circ\text{W}$ 、PGc氏の4Dec($\lambda=019^\circ\text{Ls}$) $\omega=326^\circ\text{W}$ を挙げておく。**D. アルバ、タルシス、オリュムプス**、

エリュシウム・モンテスの夕雲：北半球の春分が過ぎたので、水蒸気の南上に伴い高山に夕雲が掛かるようになる。アルバ・モンスは18Nov($\lambda=011^\circ\text{Ls}$)のウォーカー(SWk)氏の $\omega=113^\circ\text{W}$ で顕著で、アルシアも出ており、Bでは三山共に見える。同日PGc氏の $\omega=126^\circ\text{W}$ でも三山とアルバはBで明白である。PGc氏の21Nov($\lambda=013^\circ\text{Ls}$) $\omega=096^\circ\text{W}$ にも出ている様である。Mo氏の29Nov($\lambda=017^\circ\text{Ls}$) $\omega=134^\circ\text{W}$ のBにはタルシスも残り、アルバが見える。Km氏の30Nov($\lambda=017^\circ\text{Ls}$) $\omega=134^\circ\text{W}$ にはBが無いが、Lでアルシアとアルバは見えている。Mo氏の1Dec($\lambda=017^\circ\text{Ls}$) $\omega=104^\circ\text{W}$ 、 114°W にもアルバは明確。Ak氏の3Dec($\lambda=019^\circ\text{Ls}$) $\omega=125^\circ\text{W}$ では三山の他、オリュムプスもBで見えている(尚、Mo氏とAk氏像では南極地が白く明るいことを強調しておく)。またAk氏の4Dec($\lambda=019^\circ\text{Ls}$) $\omega=094^\circ\text{W}$ のアルバも見事。JpP氏の11Dec($\lambda=022^\circ\text{Ls}$) $\omega=172^\circ\text{W}$ のBにはオリュムプスの白雲がクッキリ、また彼の13Dec($\lambda=023^\circ\text{Ls}$) $\omega=148^\circ\text{W}$ 、 156°W のBでアルバとオリュムプスが出ている。アーディッチ(DAr)氏の14Dec($\lambda=023^\circ\text{Ls}$) $\omega=139^\circ\text{W}$ やJpP氏の15Dec($\lambda=024^\circ\text{Ls}$) $\omega=149^\circ\text{W}$ のBでは五個とも見えている。一方、エリュシウム・モンスであるが、JpP氏の7Dec($\lambda=020^\circ\text{Ls}$) $\omega=239^\circ\text{W}$ のBで出ているほか、DPk氏の10Dec($\lambda=022^\circ\text{Ls}$) $\omega=237^\circ\text{W}$ では実に明白で詳細も分かる。PGc氏の12Dec($\lambda=023^\circ\text{Ls}$) $\omega=243^\circ\text{W}$ 、13Dec($\lambda=023^\circ\text{Ls}$) $\omega=220^\circ\text{W}$ にも出ている各色での違いが面白い。DTy氏は10Dec($\lambda=020^\circ\text{Ls}$) $\omega=188^\circ\text{W}$ で朝方のエリュシウムを撮っているが、全体明るい。

E. プレグラ辺り：プレグラ辺りはなかなか好い像が出揃わなかったが、14Dec($\lambda=023^\circ\text{Ls}$)になって、DPk氏の $\omega=200^\circ\text{W}$ の良像が届いた。それ以前はAk氏の25Nov($\lambda=015^\circ\text{Ls}$) $\omega=185^\circ\text{W}$ 、 199°W 等で、後者ではアエテリアの暗斑が南へ延びて良像だが、プレグラの辺りは曖昧。Km氏の同日の $\omega=183^\circ\text{W}$ でもハッキリしないが、翌26Nov($\lambda=015^\circ\text{Ls}$) $\omega=180^\circ\text{W}$ は前日より好い像。JpP氏は11Dec($\lambda=022^\circ\text{Ls}$)に $\omega=161^\circ\text{W}$ 、 167°W 、 172°W 、 179°W 、 187°W 、 197°W 、 207°W という連作を絶好の機会にものにしたが、R像の処理が好くなく、プレグラ・コンプレックスの表現は浅い。

F. ソリス・ラクス辺り：ソリス・ラクスを撮り込んだccdも多いが、高緯度で難しい。ゲルシュトハイマー(RGh)氏の19Nov($\lambda=012^\circ\text{Ls}$) $\omega=079^\circ\text{W}$ (IR)ではニロケラスが濃く、オピルが明るい。先述のPGc氏の21Nov($\lambda=013^\circ\text{Ls}$) $\omega=096^\circ\text{W}$ のソリス・ラクスは旧タルシスと好い対照をなしている。ベーツ(DBt)氏の22Nov($\lambda=013^\circ\text{Ls}$) $\omega=062^\circ\text{W}$ にはアルギュレが明るい。EGf氏の23Nov($\lambda=014^\circ\text{Ls}$) $\omega=105^\circ\text{W}$ ではソリス・ラクス辺りが詳しい。縁近くのオピルにも夕雲が出ている。ウォーレン(JWn)氏の23Nov($\lambda=014^\circ\text{Ls}$) $\omega=085^\circ\text{W}$ 、 096°W 、27Nov($\lambda=016^\circ\text{Ls}$) $\omega=051^\circ\text{W}$ 、28Nov($\lambda=016^\circ\text{Ls}$) $\omega=049^\circ\text{W}$ などはニロケラスも含めて描写力に欠ける。4Dec($\lambda=019^\circ\text{Ls}$)のMo氏の $\omega=069^\circ\text{W}$ 、 087°W 、Ak氏の $\omega=094^\circ\text{W}$ のソリス・ラクスは赤系で濃いことが分かる。6Dec($\lambda=020^\circ\text{Ls}$)のMo氏やAk氏の像については既に議論をしているが、AWs氏の $\omega=061^\circ\text{W}$ はソリス・ラクスからニロケラスに掛けて描写が強力。

G. マレ・アキダリウム周辺：朝方のマレ・アキダリウムの風景は魅力の一つである。JpPの20Nov($\lambda=012^\circ\text{Ls}$) $\omega=354^\circ\text{W}$ 、 010°W は標準的だが、未だ北極雲の縁がハッキリしない。同じくJpP氏の26Nov($\lambda=015^\circ\text{Ls}$) $\omega=332^\circ\text{W}$ には朝方に未だ霧が出ている風景。メリッロ(FMI)氏の29Nov($\lambda=016^\circ\text{Ls}$) $\omega=354^\circ\text{W}$ はBがおかしい。JpP氏の1Dec($\lambda=017^\circ\text{Ls}$) $\omega=322^\circ\text{W}$ は魅力的。マレ・セルペンティスが濃い。同日のPGc氏の $\omega=359^\circ\text{W}$ のIR像はマレ・アキダリウムの全貌が出て細かい。PGc氏の29Nov、2Dec、4Dec等の良像については既に述べた。また日本のAk氏やKm氏、Mo氏の像についても注目されて好い。

H. 眼視観測：今回は福井の中島(Nj)氏とMnを除いても、スケッチ観測が増え、喜ばしいことである。ホイットビィ(SWb)氏が16Nov($\lambda=010^\circ\text{Ls}$) $\omega=169^\circ\text{W}$ 、ロズリーナ(MRs)氏が21Nov($\lambda=013^\circ\text{Ls}$) $\omega=117^\circ\text{W}$ 、われわれの一人Mkが27Nov($\lambda=016^\circ\text{Ls}$) $\omega=112^\circ\text{W}$ 、バーネット(JBr)氏が29Nov($\lambda=016^\circ\text{Ls}$) $\omega=350^\circ\text{W}$ および12Dec($\lambda=023^\circ\text{Ls}$) $\omega=252^\circ\text{W}$ 、スメット(KSm)氏が7Dec($\lambda=020^\circ\text{Ls}$) $\omega=220^\circ\text{W}$ 、 249°W および14Dec($\lambda=024^\circ\text{Ls}$) $\omega=066^\circ\text{W}$ で行っている。北極冠が明るくなり、ワスティタス・ボレアリスの下黒地が縁取りになるために南北線が取り易くなっている所為であろう。スメット氏の最後のスケッチではクリュセからクサンテに掛けて夕方の白霧が描写されている(カラー)。福井では南中時の観測が難しい為(天を仰ぐことになる)、低い内から連続観測を狙い(したがってccd観測とは時刻が狂う)、シーイングに恵まれないが、時には600×が使える事もある。以下、ccdのL系では窺えない色彩関係を抽出して述べる。26Nov

($\lambda=015^\circ\text{Ls}$) $\omega=179^\circ\text{W}$ では600×で北極冠がクリアで東の方が太く、朝方はウトピアで濃く限られている。2Dec($\lambda=018^\circ\text{Ls}$) $\omega=065^\circ\text{W}$ 、 075°W 等ではニロケラスが濃い茶系統でクリュセが夕霧を被っている。 $\omega=084^\circ\text{W}$ 、 094°W となるとマレ・アキダリウムの沈んだ辺りが茶系統で実に濃い。クサンテは明るくアウロラエ・シヌスからソリス・ラクスが見えてくる。4Dec($\lambda=019^\circ\text{Ls}$) $\omega=037^\circ\text{W}$ 、 047°W ではマレ・アキダリウムが南中だが、夕縁にミストが出ている。北極冠は実に明るい。この頃から南極東端が白く明るい。 $\omega=056^\circ\text{W}$ 、 066°W ではクリュセ・クサンテが明るくなる。7Dec($\lambda=020^\circ\text{Ls}$)には北極冠が稍変形して見え、 $\omega=018^\circ\text{W}$ では小さく見える。 $\omega=038^\circ\text{W}$ では北極冠が角形になる。 $\omega=048^\circ\text{W}$ 、 057°W では600×で、北極冠は円くなく東側がおかしい。8Dec($\lambda=021^\circ\text{Ls}$)は途中で曇られたが、 $\omega=359^\circ\text{W}$ では砂漠の赤いのが顕著で、マレ・アキダリウムは茶系統である。北極冠は特に明るくない。 $\omega=019^\circ\text{W}$ では北極冠が四角いマレ・アキダリウムの方に盛り上がっている。マレ・アキダリウムの色は稍茶系統だが、寧ろ黒い。9Dec($\lambda=021^\circ\text{Ls}$)も600×が使えた。 $\omega=019^\circ\text{W}$ ではシヌス・メリディアニは未だ見える。夕方の砂漠は赤い。北極冠は円い方だが中央で山形になっている。しかし、休憩中 $\omega=034^\circ\text{W}$ で見てみたが、然程でなく円い方である。正規の $\omega=039^\circ\text{W}$ ではニロケラスが茶系統、マレ・アキダリウムが斑点で出来ている。北極冠は正常に見える。マレ・エリュトゥラエウムは2007年型に濃い。この日からフィルター・ターレットを取り付け、フィルター観測が出来るようにしたが、色彩を見る為にはフィルターを外すこともした(素通しもあるのだが)。北極冠はO56でクリアで円く見える。Intではクリュセ・クサンテは $\omega=058^\circ\text{W}$ 辺りから白く見える。 $\omega=068^\circ\text{W}$ ではテムペが稍明るい。クサンテはY48でも明るい。12Dec($\lambda=023^\circ\text{Ls}$) $\omega=340^\circ\text{W}$ ではIntでシヌス・サバエウスは太くマレ・セルペンティスは濃い。600×可能。シヌス・メリディアニも明らか。北極冠は輝くが縁は東側が暗黒色、昼間茶系統である。 $\omega=349^\circ\text{W}$ ではシヌス・サバエウスは濃い蒼い艸色に見える。マレ・アキダリウムの東半分は寧ろ赤い。北半球の砂漠は夕方まで赤い。北極冠の境界は複雑だが、朝方に霧が伸びているように見える。アルギュレが入ってきて白く明るい。 $\omega=359^\circ\text{W}$ では砂漠の赤味が、北極冠の白さと好対照。夕方のターミネータまで鈍く赤いのが好く見える。マレ・アキダリウムが最も濃く、シヌス・サバエウスが次である。朝方のミストは灰色に見える。北極冠は綺麗な円形ではない。 $\omega=009^\circ\text{W}$ では、デウカリオニス・レギオからアラムに抜けるところが明確に見えた。マレ・アキダリウムは濃い茶系統。砂漠は600倍で赤色、400倍でピンク色である。北極冠は四角く濃淡がある。マレ・エリュトゥラエウムは濃くマルガリティフェル・シヌスは予想以上に淡い。南極縁は明るい。これは $\omega=028^\circ\text{W}$ まで続く。13Dec($\lambda=023^\circ\text{Ls}$)は風がないのにシーイングが不好。Nj氏との協同観測なので、総合的に書くが、 $\omega=311^\circ\text{W}$ 辺りでヘッラスはO56で好く見える。O56とGでリビュアに夕霧か。 $\omega=321^\circ\text{W}$ 辺りでヘッラスは可成り明るい。Y48でも然り。しかし $\omega=330^\circ\text{W}$ では弱まる。シュルティス・マイヨルとシヌス・サバエウスの結合部分は濃い。 $\omega=340^\circ\text{W}$ でも似たようなもの。Nj氏は $\omega=005^\circ\text{W}$ (17:40MT)まで観測したが、マレ・アキダリウムに集中したようである。その後は火星は高すぎて神経が集中できないのである。

♂..... 追加報告 : We Further Received as follows:

BARNETT, John ジョン・バーネット (JBr) バージニア Richmond, VA, USA

1 Drawing (21 October 2009) 360×18cm F/15 refractor (Ragland Observatory)

GARBETT, Peter J ピーター・ガーベット (PGb) ベッドフォードシャー Sharnbrook, UK

1 Colour Image (29 October 2009) 36cm SCT @f/39 with a SKYnyx 2-0 M

WHITBY, Samuel R サミュエル・ホイットビー (SWb) バージニア Hopewell, VA, USA

1 Drawing (15 November 2009) 250, 370×15cm F/5 speculum

The drawing by JBr on 21 Oct ($\lambda=357^\circ\text{Ls}$) was made at $\omega=020^\circ\text{W}$ showing a large nph and show M Acidalium and S Sabæus. The image of GARBETT (PGb) on 29 Oct ($\lambda=001^\circ\text{Ls}$) at $\omega=258^\circ\text{W}$ is a very important and interesting image which clearly shows a disturbance inside Utopia independent of the npc,

and we suppose this must have been precursively related with the polar-dust phenomenon caught by Bill FLANAGAN (WFI) at the beginning of November. We also have images by JPp on 28 Oct ($\lambda=001^\circ\text{Ls}$) at $\omega=250^\circ\text{W}$ and on 29 Oct ($\lambda=001^\circ\text{Ls}$) at $\omega=226^\circ\text{W}$, 238°W , but the description of the npc/nph was not clear. At least PGB's image clearly proves that there was an interesting event and it is an important topic of this period (to be discussed later). SWb's drawing on 15 Nov ($\lambda=010^\circ\text{Ls}$) at $\omega=176^\circ\text{W}$ seems to try to depict the Phlegra complex: the rhs marking must be an extension of the Ætheria dark patch.

♂.....JBs氏の21Oct($\lambda=357^\circ\text{Ls}$) $\omega=020^\circ\text{W}$ は大きな北極雲とマレ・アキダリウムとシヌス・サバエウスが出ている。29Oct($\lambda=001^\circ\text{Ls}$) $\omega=258^\circ\text{W}$ のガーベット(PGb)氏のccd像はたいへん重要な観測で、ウトピアの中に北極冠から独立した北極雲の擾乱と思われるものが跋扈していて、これは1Nov以降のフラナガン(WFI)氏の極黄塵の観測と繋がるものかもしれない。実は前後にJPp氏の28Oct($\lambda=001^\circ\text{Ls}$) $\omega=250^\circ\text{W}$ の像と29Oct($\lambda=001^\circ\text{Ls}$) $\omega=226^\circ\text{W}$ 、 238°W の像が存在するのであるが、北極雲の縁が曖昧で一寸判断の材料にならないのは残念であった。兎に角29Octに擾乱があり、3Novにも存在したことは確かで、関連が不確かであるが、関連はあろうと思われる。15Nov($\lambda=010^\circ\text{Ls}$)のSWb氏の $\omega=176^\circ\text{W}$ にスケッチはプレグラ周辺を描いたものであろうと思う。右辺に出ている模様はアエテリアの暗斑であろう。

♂.....In the next issue we shall review the observations made during a period from 16 December ($\lambda=024^\circ\text{Ls}$, $\delta=11.2''$).

南 政 次・村上 昌己 M MINAMI & M MURAKAMI

Forthcoming 2009/2010 Mars (10)

Mars in 2009/2010 (2009/2010年の火星). II

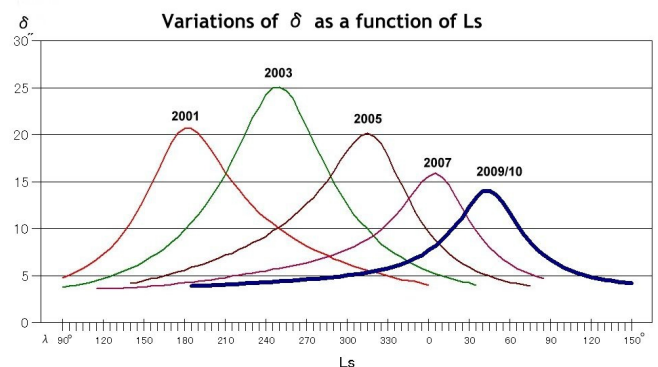
Masami MURAKAMI and Masatsugu MINAMI

村上 昌己(Mk)、南 政 次(Mn)

A. This is a sequel to the preceding article "Mars in 2009/2010. I" which was published in CMO #357 (25 April 2009 issue): When it was written, the planet Mars was very far and the angular diameter was quite small, but now the opposition day is around the corner. The planet Mars will be closest to the Earth on 27 January 2010 at around 19h GMT with the maximal diameter $\delta_{\max}=14.1''$, and will be at opposition on 29 January 2010 at around 19.5h GMT. The δ_{\max} this time is inferior to the previous one $\delta_{\max}=15.9''$ in 2007, and makes a pair with the smallest maximal diameter $\delta_{\max}=13.9''$ in 2012 March. However in the present apparition only we can observe the northern spring and the following season in an appropriate diameter: Especially it is most suitable to chase the thawing of the north polar cap (npc).

The Martian season λ passed the northern spring ($\lambda=360^\circ\text{Ls}=000^\circ\text{Ls}$) on 26 October 2009 when the angular diameter δ was $7.6''$. It was enough for the ccd observation, but we need $\delta=10''$ to watch visu-

ally, which occurred quite near at the beginning of December 2009. The apparent declination D was near 18°N , and it rose rapidly if it appeared on the



eastern sky. On 22 December, it became stationary in the east of Leo when $\lambda=027^\circ\text{Ls}$, $\phi=19^\circ\text{N}$, and $\delta=11.8''$. The apparent declination D on the day was $18^\circ05'\text{N}$, and afterward it will run reversely and make a loop in Cnc. The planet is quite approaching, while D will go further north, and it will reach an maximal value $23^\circ50'\text{N}$ on 28 February 2010: It will be difficult to use visually the refractor-type telescope when the planet comes to the meridian.

We must wait until around 21 May 2010 ($\delta=6.4''$) if we want the planet to go down to $D=15^\circ N$.

B. As shown here in a graph, the apparent diameter δ will exceed the one in 2007/08 at around $\lambda=027^\circ Ls$, after that we can observe the planet in a better condition as far as δ is concerned. This season has already been attained when this issue is published; that is, we should know we have already been in a new period.

As was stressed in I, the central latitude (tilt) ϕ points rather deeply to the north in this season, so that it is suited to observe the northern hemisphere, especially the north polar region (npr). At the time of opposition the season was over $040^\circ Ls$, and especially so it was possible to observe the thawing npc in a preferable condition. As was elucidated in I, in order to chase whether the so-called Baum Plateau is effective or not, we must more precisely observe the period from $\lambda=010^\circ Ls$ to $\lambda=060^\circ Ls$, and so this apparition is most suitable: The season $\lambda=060^\circ Ls$ will come around 5 March 2010 ($\delta=11.7''$).

C. After the northern spring equinox ($\lambda=000^\circ Ls$), the npc begins thawing despite the fact the north polar hood (nph) is haunting, and the evening summits of higher mountains or terraces become to be covered by the active clouds. Here it should be remarked that Arsia Mons is exceptional because it receives a decisive effect from the southern circum-polar region, but other Tharsis Montes including Olympus Mons will be covered by the orographic clouds, and the clouds associated with Pavonis Mons and Ascraeus Mons will be thicker from around $\lambda=025^\circ Ls$, and will be conspicuous from around $\lambda=060^\circ Ls$.

Especially the evening cloud of Olympus Mons will also be active from around $\lambda=060^\circ Ls$, and from around $\lambda=100^\circ Ls$ it becomes like a *white cotton ball*. Elysium Mons also shows a similar behaviour and so it is necessary to watch the evening one before the advent of the Tharsis region. In the ccd observation, the Blue light images are effective. As to the Alba Mons, which is also interesting, it is known that it will have peaks at earlier around $\lambda=050^\circ Ls$

and later at around $\lambda=130^\circ Ls$.

Here we should be careful that different from the orographic cloud pattern, the summits or flanks of the higher mountains shine at the opposition time. That is, irrespective of the season, the higher mountains like Olympus Mons show the "*opposition effect*". As is known, Nix Olympica was found on 10 November 1879 by G SCHIAPARELLI and named by him so because it was very brilliant: The planet was at opposition two days after on 12 November 1879, and the season was near $\lambda=320^\circ Ls$ and hence it was never due to the orographic cloud. This time at the end of January 2010 the tilt ϕ is near $15^\circ N$ while the position of Olympus Mons is $\Phi=17^\circ N$, and so the reflection because of the opposition will be conspicuous. This phenomenon quite recurred in 2005, and several European observers noticed the effect. See for example CMO #313 OAA Report #14 etc. This time, as was aforementioned, we should be attentive to Alba Mons, Tharsis Montes, Olympus Mons, and Elysium Mons around 29 January ($\delta=14.1''$, $\lambda=044^\circ Ls$): However the opposition effect is expected only when the phase angle ι is smaller than about 8° , and so the period will be limited during the period from 20 January to 8 February, implying that we cannot observe all the phenomena. As to the Olympus Mons opposition effect, the following time table when $\omega=133^\circ$ will be suggestive:

20 Jan at 00:30 GMT	$\iota=8.6^\circ$	
21	01:06	7.9°
22	01:41	7.1°
23	02:17	6.3°
24	02:53	5.5°
25	03:29	4.9°
26	04:05	4.3°
27	04:40	3.6°
28	05:16	3.1°
29	05:52	3.0°
30	06:27	3.1°
31	07:03	3.2°
01 Feb at 07:39	3.5°	
02	08:14	4.1°
03	08:51	4.8°
04	09:26	5.4°
05	10:02	6.1°
06	10:38	6.9°
07	11:14	7.7°
08	11:50	8.5°
09	12:26	9.2°

Apparently, the phenomenon is to be observed

mainly in the US (6h GMT=1h EST=23h MST). One difference in 1879 or in 2005 is that the season was already just after $\lambda=040^\circ\text{Ls}$, and so it is also possible to see the cloud covering in the afternoon. Hence it should be wisely distinguished between the opposition effect and the forthcoming cloud covering. In Japan it is impossible to chase the opposition effect of Olympus Mons, while however it is expected that the opposition effect of Elysium Mons ($\Omega=213^\circ\text{W}$) is observable at the end of January: Just the position of Elysium is at $\Phi=25^\circ\text{N}$ which slightly far from $\phi=15^\circ\text{N}$:

25 Jan at 08:55 GMT (low in the evening sky)
26 09:30
27 10:10
28 10:45
29 11:20
30 11:55
31 12:30
01 Feb at 13:05
02 13:45
03 14:20 (Mars at meridian)
04 14:55
05 15:30
06 16:05
07 16:40
08 17:15

D. The planet Mars is stationary on 11 March ($\delta=11.2''$), and goes forward henceforward. As noticed, on 5 March, the season becomes $\lambda=060^\circ\text{Ls}$, and the Baum Problem will come to cease. On the other hand the orographic clouds will be more active. At the end of March the angular diameter δ goes down under $10''$. On 29 March the season will reach $\lambda=070^\circ\text{Ls}$, and at around the season the Equatorial Band Mist (ebm) will be much more evident, in resonance with the activity of the higher mountains. This is caused because the water vapour mass which is warmed at the north polar area ascends, emigrates toward the equatorial zone, finally stays over there because the air mass loses the Coriolis force and then cooled down: This phenomenon will be visible until $\lambda=140^\circ\text{Ls}$, but will disappear when the lower equatorial zone will be more warmed up around the autumnal equinox ($\lambda=180^\circ\text{Ls}$).

In mid-April the planet will again approach Præsepe (M44) as was in the preceding case on 1

November 2009 and at the beginning of May, the planet will enter Leo. On 13 May the northern summer solstice $\lambda=090^\circ\text{Ls}$ visits, when $\delta=6.7''$, $\phi=20^\circ\text{N}$, $\iota=37^\circ$. At around the time the planet attains the eastern quadrature, and the observation season will enter into a final stage. On 6 June, Mars of $\delta=5.8''$ will approach Regulus. On 18 July the season comes to $\lambda=120^\circ\text{Ls}$, and $\delta=4.9''$, $\phi=26^\circ\text{N}$, $\iota=32^\circ$. At the end of July the planet moves into Vir, and at the beginning of August it approaches Saturn and Venus. Further low Mercury will be seen. The conjunctions with other planets will imply the end of the Mars season, and the altitude of Mars will be just about 30° when the sunset, with $\lambda=126^\circ\text{Ls}$, $\delta=4.7''$, $\phi=26^\circ\text{N}$.

A. この記事はCMO#357(25April 2009号)のIに続くもので、当時は未だ火星の最接近は遠い先の話であったが、いよいよ今期の火星が目前に近づいて来ている。火星は2010年一月27日の19hGMTころに最接近($\delta_{\max}=14.1''$)し、黄経衝は同じく一月29日の19.5hGMT頃に起こる。今回の接近は2007年の最大視直径 $\delta_{\max}=15.9''$ を下回る小接近で、次回の2012年3月の小接近($\delta_{\max}=13.9''$)とペアである。しかし、今回の接近の特徴は適当な視直径のもとで北半球の春分以降を観察できることで、特に北極冠の縮小の観測に最も適している。火星の季節 λ が北半球の春分($\lambda=360^\circ\text{Ls}=000^\circ\text{Ls}$)を迎えたのは2009年の十月26日のことで、視直径 δ は $7.6''$ であった。既にccdでの観測には十分な視直径であったが、 δ が眼視にも可能な10秒角を越えたのは2009年十二月初めのことで、つい最近のことである。視赤緯Dは 18°N 近く、東の空に現れると直ぐに高くなる。十二日22日には「しし座」東部で「留」となり、 $\lambda=027^\circ\text{Ls}$ 、 $\phi=19^\circ\text{N}$ 、 $\delta=11.8''$ に達している。視赤緯Dは $18^\circ05'\text{N}$ で、以後は逆行して「かに座」でループを描き接近してきて、視赤緯Dは更に上がり、最大値で落ち着くのは2010年二月28日で、 $23^\circ50'\text{N}$ となる。屈折望遠鏡の使用者には南中時辛いことになる。Dが頃合いの 15°N 台に落ちてくるのは五月21日頃である。

B. 視直径 δ の変化を示すグラフ(英文の部)を見れば分かる様に、今接近では $\lambda=027^\circ\text{Ls}$ 過ぎからは、前回2007/08年の接近を上回る視直径で火星を観

測が出来る事が分かる。既に2009年十二月の下旬初めにはこの時期に達しているの、今号の出る時には既に新しい時期に入っている訳である。

今接近では、中央緯度 ϕ は北に向いて、北半球の観測に適した接近であることは既にIで強調している。季節 λ も最接近の頃には 040°Ls を越えて、大きな視直径の頃に縮小していく北極冠の様子を観測出来る機会である。Iで述べた様にボームのプラトーと呼ばれる現象を追跡するのは $\lambda=010^\circ\text{Ls}$ ~ 060°Ls の頃に集中すべきであるから、今季は絶好である。 $\lambda=060^\circ\text{Ls}$ は2010年三月5日頃^{あた}に中る。

C. また春分($\lambda=000^\circ\text{Ls}$)には、既に(未だ北極雲が漂っているにもかかわらず)北極冠の融解が始まり、火星面午後になると北半球の高地や山岳に懸かる雲の活動が活発になってくる。アルシア・モンスは南からの影響を受けて振る舞いが他のタルシス山と違うが、オリュムプス・モンスをはじめ、パウオニス・モンス、アスクラエウス・モンス等は春分後から夕方雲に覆われるようになり、 $\lambda=025^\circ\text{Ls}$ 頃から濃くなり始め、 $\lambda=060^\circ\text{Ls}$ 頃(2010年三月上旬)には顕著になるので注意する。オリュムプス・モンスの夕雲は、同じく $\lambda=060^\circ\text{Ls}$ 頃から活発になり、 $\lambda=100^\circ\text{Ls}$ を越えると更に盛んになり、午後の火星面で綿帽子のような姿を見せる。エリュシウム山も似たような傾向を見せるので、タルシスに先だって午後のエリュシウムに注目すると好い。ccdではB光が有効である。アルバ・モンスも春分後雲を被るようになり、 $\lambda=050^\circ\text{Ls}$ と $\lambda=130^\circ\text{Ls}$ 辺りにピークがある。

しかし、ここでもう一つ忘れてはならないのは、高山は衝効果を示すということである。つまりオリュムプス・モンス等は衝の時に雲とは関係なく、その頂上(または近く)が明るく輝くことである。スキアパレリが1879年十一月10日に発見したのであるが、実はこの年の衝は十一月12日に起こっているの、彼が見たものは山頂に輝く雲ではなく、山頂そのものの太陽光の照り返しであったわけである。オリュムプス・モンスの位置は $\Phi=17^\circ\text{N}$ であるのに対し、今回一月下旬の衝の頃には ϕ は 15°N であるから殆ど正面に向かうことになる。スキアパレリの時は季節的には $\lambda=320^\circ\text{Ls}$ あたりであった筈で、夕方になっても夕雲は現

れていなかったと考えられる。このことによく似たケースとして2005年に注目され、アメリカやヨーロッパで多く観測されている(CMO#313のReport#14など参照。) なおエリュシウムの位置は $\Phi=25^\circ\text{N}$ で、角度上はオリュムプス・モンス劣る。

今年、先述のように一月29日(20hGMT)が衝($\delta=14.1''$ 、 $\lambda=044^\circ\text{Ls}$)であるから、この前後に、オリュムプス・モンス、タルシス三山、エリュシウム・モンスなどの頂上に注目すべきである。位相角 i は 8° 以下でなければ衝効果は期待できないので、短期間で同じ対象を全世界で観測できる訳ではない。しかも、季節が $\lambda=040^\circ\text{Ls}$ 台に入っていて、夕雲が出る時期にも当たっているから、微妙なところでその区別が容易でないかも知れない。しかし、衝効果は正午近く、夕雲は午後だから注意深ければその区別は思ったほど難しくはないであろう。兎に角、位相角 i を考え一月20日頃から二月8日頃迄の間が観測の期間で要注意である。オリュムプス・モンスはアメリカ方面からしか見られないが(英文の部)、日本では一月下旬にエリュシウム・モンス($\Omega=213^\circ\text{W}$)が視野に入り期待される。

エリュシウム・モンスの正中の時刻(GMT)は、ほぼ以下のように、一月25日頃から日本で観測可能となる。1日約40分ずつ遅くなっていく。

25 Jan at	08:55 (東天低い)
26	09:30
27	10:10
28	10:45
29	11:20
30	11:55
31	12:30
01 Feb at	13:05
02	13:45
03	14:20 (火星南中)
04	14:55
05	15:30
06	16:05
07	16:40
08	17:15

D. その後、火星は三月11日($\delta=11.2''$)に「留」となり順行へ移り更に遠ざかっていく。しかし、三月5日には $\lambda=060^\circ\text{Ls}$ に達していて、ボーム問題の決着と、山岳雲の活動が顕著になってくる。今接近の大事な興味ある時期である。

三月下旬には、視直径が10秒角を下回る。三月29日には、 $\lambda=070^\circ\text{Ls}$ に達して、赤道帯霧が濃くなっていく時期になる。赤道帯霧現象は、白夜の北極

付近で暖められた気団が上昇して赤道方向へ循環し、赤道付近でコリオリ力を失って停滞して、気団の水蒸気が冷やされて霧が発生する現象で、 $\lambda=140^\circ\text{Ls}$ 位まで見られる。しかし、赤道付近も暖まって来る秋分($\lambda=180^\circ\text{Ls}$)頃までには見えなくなってしまう。

四月中旬には再びプレセペ(前回は2009年十一月1日)に接近して北を通過してゆく。五月上旬には「しし座」へ入り、北半球の夏至 $\lambda=90^\circ\text{Ls}$ となるのは五月13日、この時には視直径 $\delta=6.7''$ 、 $\phi=$

20°N 、 $i=37^\circ$ である。この頃「東矩」となり、観測も終盤に入る。六月6日にはレグルスと接近する($\delta=5.8''$)。七月18日には $\lambda=120^\circ\text{Ls}$ に達して、視直径 $\delta=4.9''$ 以下、 $\phi=26^\circ\text{N}$ 、 $i=32^\circ$ となる。七月下旬には「おとめ座」へ移り、八月初め土星・金星と接近する。そばの低空には水星も見られる。

三惑星との会合を最期に今期の火星観測は終了となるだろう。八月上旬の日没時の火星の高度は 30° ほど、 $\lambda=126^\circ\text{Ls}$ 、 $\delta=4.7''$ 、 $\phi=26^\circ\text{N}$ 、 $i=30^\circ$ となっている。 □

便り

Letters to the Editor

●.....**Subject: Mars Drawings**
Received: Mon 23 Nov 2009 13:43:03 JST

Dear friends, Two recent observations are attached. I will write more later. Sincerely,

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091115/SWb15Nov09.jpg>
<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091116/SWb16Nov09.jpg>

○.....**Subject: Re: Thank you for the drawings**
Received: Wed 25 Nov 2009 03:13:36 JST

Dear Masatsugu, Thank you for your message. I am glad your eye surgery was successful. Perhaps this coming spring I will have the surgery on my right eye. The left one is currently in training as an old fashioned amateur astronomer.

The illness of Don Parker's wife is very sad news.

Since the previous year I have obtained two new telescopes: a 4.5 inch reflector that I have used to entertain the patients at the hospital and a six inch reflector, with which one can do some enjoyable planetary observation. The latter scope has a good equatorial mount and drive. The new telescopes have motivated me to resume observing. I will admit that Parkinson's disease has made me somewhat depressed and, to save energy for work, reluctant to exert myself. A change in medication has improved my condition, for which I am grateful. For example, before the med change I could barely type, using only my left hand. Today I type with both hands in the traditional manner. At work I "pull my own weight" and help the newer employees.

The way I obtain the larger telescope is a story in itself. Last year I received some mail without a familiar return address. Assuming it was an advertisement, I almost threw it away. Something told me to check the envelope first. I did, and I found two \$100 bills, with a note to buy myself something nice. There was no signature. I was so moved by the generosity that I added some money and bought the scope that I later fitted with the drive. It seems that a friend, who will not admit being the donor, gave the money in the hope of motivating me out of the Parkinson's depression. Very kind and generous that was!

I thoroughly enjoyed the photos and papers from the IWC MO. Very well done! We are glad your wife could accompany you.

A few years ago Richard McKim surprised and delighted me with a phone call from England. I am glad you had the chance to meet him in person.

Tyler is almost as tall as I am. He is a very smart, energetic young man, with a kind and sensitive heart.

.....

When the sky clears, I will try to send you some more sketches. Sincerely,

Sam WHITBY (サミュエル・ホイットビー Hopewell VA 美)

●.....**Subject: Mars: November 21, 2009**
Received: Mon 23 Nov 2009 15:01 JST

Hi - I have attached my very first image of Mars this 2009-10 apparition to be posted. Thanks,

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091121/FM121Nov09.jpg>

○.....**Subject: Mars: November 29, 2009**
Received: Mon 30 Nov 2009 13:00 JST

Hi - I have attached my latest image of Mars November 29, 2009 to be posted. Thanks,

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091129/FM129Nov09.jpg>

○.....**Subject: Mars: December 12, 2009**
Received: Sun 13 Dec 2009 09:36 JST

Hi - I have attached my latest image of Mars December 12, 2009 to be posted. Thanks,

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091212/FM112Dec09.jpg>

Frank MELILLO (フランク・メリッホ Holtsville NY 美)

●.....**Subject: Mars Image: 11/22/2009 - D. Bates**
Received: Mon 23 Nov 2009 13:13 JST

Dear Masatsugu: Now that Mars is approaching almost 10" in size, I have dusted off my CCD camera and have started imaging again for the 2009-10 apparition. I feel a bit inadequate compared to some of the other Mars imagers here in Houston; my modest aperture and ancient ToUcam Pro CCD camera are not exactly state-of-the-art. However, I plan to acquire a DMK21AF04 monochrome camera in the next few weeks, which should improve things a bit, as well as offer separate RGB images. Also, I have started a new job as an English teacher, so I should have more time for imaging. I am looking forward to once again "journeying to Mars" with you and everyone else from CMO. All the best,

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091122/DBt22Nov09.jpg>

○.....**Subject: Mars image: Bates 12062009**
Received: Mon 07 Dec 2009 07:12 JST

Dear friends: I imaged Mars last night after a cold front was being replaced by a steadier air mass coming off the Gulf of Mexico. Syrtis Major easily seen. NPC large and bright. I hope conditions have allowed you to begin observing as well. All the best from south Texas;

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091206/DBt06Dec09.jpg>

Don BATES (トドン・ベーツ Houston TX 美)

●.....**Subject: Mars 11-23-09**
Received: Tue 24 Nov 2009 02:35:31 JST

Image from Houston Texas on 11-23-09. Seeing 7/10.
<http://www.egrafton.com/11-23-09.jpg>

○.....**Subject: Mars 12-21-09**
Received: Tue 22 Dec 2009 06:01:05 JST

Image from Houston Texas on 12-21-09. Seeing 7/10
<http://www.egrafton.com/12-21-09.jpg>

Ed GRAFTON (エド・グラフトン TX 美)

●.....**Subject: Images: 11-23-09 11:10 UT**
Received: Tue 24 Nov 2009 04:49:01 JST

Greetings list, An image from this morning. Seeing just won't support 200% rescale, so I've gone down to 150%. Ed and I imaged at close to the same time, and it was nice to see some things match up, like the clouds on the evening terminator. This is about the best view of Solis Lacus I've been able to get so far this season. Just been a long run of bad seeing here

<http://marswatch.amaonline.com/11-23-09@1110.jpg>

○.....**Subject: Image: Nov. 23rd 10:25 UT**
Received: Wed 25 Nov 2009 05:15:29 JST

Greetings list, Another sequence from yesterday. Somewhat better quality than yesterdays image I sent out.

Solis Lacus is right on the CM in this image. Imaged through high thin clouds, but still a decent result.

<http://marswatch.amaonline.com/11-23-09@1025.jpg>

○.....**Subject: Image: Nov. 27th, 10:40 UT**
Received: Sat 28 Nov 2009 11:51:33 JST

Greetings list, due to poor seeing image is only scaled up about 20%. But through the magic of deconvolution a good view of the NPC and the ">" shaped feature that goes from Chryse into Tharsis is evident in this image. Is there a name for this feature? No dust and not much cloud activity that I can see.

<http://marswatch.amaonline.com/11-27-09@1040.jpg>

○.....**Subject: Image: Nov 28th, 11:10 UT**
Received: Sun 29 Nov 2009 04:19:36 JST

Greetings list, By the lack of images coming in lately, I'm guessing i'm not the only one with horrible seeing.

The data I've been capturing is like trying to make a silk purse out of a sow's ear as we say around here. I'm not quite sure I'll keep getting up at 4 am for results like these, but I guess the data can be useful. The NPC is brilliant, and no obvious dust activity. Very good over-all view of Chryse and Mare Eurythraeum. I had to process this image so much the color channels are pretty much useless, but Green gives a decent view. If anyone would like the FITS to see if they can get a better result, just e-mail me off list.

<http://marswatch.amaonline.com/11-28-09@1110.jpg>

○.....**Subject: Animation: Dust, Sept 7th 2009**
Received: Sun 29 Nov 2009 10:26:59 JST

Greetings list, Back in early September, there had been a moderate dust flare up that had been lingering over Arcadia, south of the N. Pole region for a few weeks. I was able to catch some good images of it on the 7th and they match up perfectly with the THEMIS data. Christophe Pellier congratulated me for catching it, ... He also called it, if I'm not mistaken, "unusual". ... Mars was only 5.9 arcseconds at this time. I took my best images out of the set from that morning and made this animated gif. You can see the cloud changing, well, perhaps not changing, but the sunlight hitting it differently as the planet rotates. This was a rather difficult gif to make. I hope you enjoy it.

<http://marswatch.amaonline.com/Sept7arcadiadust.gif>

○.....**Subject: Image: Dec 16th 09:40 UT**
Received: Thu 17 Dec 2009 06:31:29 JST

Greetings all, I would please like some input on something I noticed in this image. Chris, Andrea, David, Damian, Don, etc... On the evening terminator, you can see what I believe is Nix Olympia outlined, and then Olympus Mons right on the terminator. Could this possibly be a shadow that is causing that outline? Olympus Mons is after all a shield volcano with cliffs on the edge that could cast a shadow. I can think of no other reason for this outline to be seen. I believe it matches up correctly in size to be this. Its easily seen in Red, Green and RGB. Its not an artifact, I have it in another 2 sequences.

<http://marswatch.amaonline.com/12-06-09@0940.jpg>

○.....**Subject: Image: Dec 17th 08:35 UT**
Received: Fri 18 Dec 2009 07:32:05 JST

Greetings list, An image from this morning. All info on the image.

<http://marswatch.amaonline.com/12-17-09@0835.jpg>

○.....**Subject: Images**
Received: Fri 18 Dec 2009 3:25 PM

Greetings Masami, Here is a much improved version of the image I sent you earlier. Regards,

○.....**Subject: Image: Dec 20th 10:35 UT**
Received: Mon 21 Dec 2009 04:05:08 JST

Greetings list, Somewhat of a break in seeing conditions. I'd call it average - good. All info on image. The shrinking of the NPC is becoming obvious now in my opinion.

<http://marswatch.amaonline.com/12-20-09@1035.jpg>

○.....**Subject: Re: [marsobservers] Mars 12-21-09**
Received: Tue 22 Dec 2009 07:32:29 JST

Hi Ed and list, I'm working on a set of about 7 images showing 30 minutes worth of rotation, around when you imaged. In each one I picked up the same bright spot on the NPC that you did. I hope to have the images and an animation showing it along with the Olympus Mons cloud in a few hours. Seeing was rather good. Regards,

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091221/JWn21Dec09.jpg>

Joel WARREN (ジョエル・ウォーレン Amarillo TX 美)

○.....**Subject: Re: IWCMO Photo-Album**
Received: Wed 25 Nov 2009 07:51:34 JST

Dear Masatsugu, I remember well Stéphane but it seems

Dear Masatsugu, I remember well Stéphane but it seems that it just does not appear in any photo, even from far... (well it must be on the groups shots but nobody can be recognize either;) Regs

○.....**Subject: Jupiter images 6 december 2009**
Received: Thu 10 Dec 2009 07:41:59 JST

Hi all, It's very hard to observe currently but here are a few images - seeing of course poor. Focal length was reduced to $F/25$

<http://astrosurf.com/pellier/J091206-CPE>

The fading of the SEB and GRS intensification are still going on. On another topic, note the final darkening of the NTB in near IR... Best wishes

PS: as a reminder, this is my new e-mail: chrisspellier_at_sfr.fr

○.....**Subject: Re: [marsobservers] Image: Dec 16th 09:40 UT**
Received: Thu 17 Dec 2009 22:50:25 JST

Hi Joel, You will have a nice comparison with a set of images taken by Peter Gorczynski on 13 december at the same exact longitude :

<http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/091213/PGc13Dec09.jpg>

My opinion is that these are albedo patches. The mountains you identified must be too small to cast any shadow detectable from Earth. The shadows of the volcanoes are casted by ground reliefs much more important than those very small ones (just look the relief map you found and compare with Elyisum !) Best wishes

○.....**Subject: Jupiter images 16 december 2009**
Received: Fri 18 Dec 2009 01:19:37 JST

Hi all, Again a set of poor images, showing none the less the much darkened GRS.

<http://astrosurf.com/pellier/J091216-CPE>

I had no chance to observe Mars. Best wishes

Christophe PELLIER (クリストフ・ペリエnr Paris 法)

●.....**Subject: Mars Image - November 21, 2009**
Received: Wed 25 Nov 2009 13:15:20 JST

Gentlemen, Attached is my Mars image from November 21. Regards,

<http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/091121/PGc21Nov09.jpg>

○.....**Subject: Mars Image - November 29, 2009**
Received: Tue 01 Dec 2009 11:04:05 JST

Gentlemen, Attached is my Mars image from November 29. Regards,

<http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/091129/PGc29Nov09.jpg>

○.....**Subject: Mars Images - December 1 & 2**
Received: Fri 04 Nov 2009 10:11:51 JST

Gentlemen, Attached are my Mars images from December 1 & 2. Regards,

<http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/091201/PGc01Dec09.jpg>

<http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/091202/PGc02Dec09.jpg>

○.....**Subject: Mars Image - December 4, 2009**
Received: Mon 07 Dec 2009 00:39:27 JST

Gentlemen, Attached is my Mars image from December 4. Regards,

<http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/091204/PGc04Dec09.jpg>

○.....**Subject: Mars Image - December 7, 2009**
Received: Wed 09 Dec 2009 13:45:49 JST

Gentlemen, Attached is my Mars image from December 7. Regards,

<http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/091207/PGc07Dec09.jpg>

○.....**Subject: Mars Image - December 8, 2009**

Received: Sun 13 Dec 2009 00:38:04 JST

Gentlemen, Attached is my Mars image from December 8. Regards,

<http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/091208/PGc08Dec09.jpg>

○.....**Subject: Mars Image - December 12, 2009**
Received: Sun 13 Dec 2009 20:38:40 JST

Gentlemen, Attached is my Mars image from December 12. Regards,

<http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/091212/PGc12Dec09.jpg>

○.....**Subject: Mars Image - December 13, 2009**
Received: Mon 14 Dec 2009 09:16:20 JST

Gentlemen, Attached is my Mars image from December 13. Regards,

<http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/091213/PGc13Dec09.jpg>

○.....**Subject: Mars Image - December 18, 2009**
Received: Mon 21 Dec 2009 00:57:46 JST

Gentlemen, Attached is my Mars image from December 18. Regards,

<http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/091218/PGc18Dec09.jpg>

Peter GORCZYNSKI (ピーター・コルチンスキーCT 美)

●.....**Subject: RE: R McKIM氏の依頼**
Received: Thu 26 Nov 2009 09:11:03 JST

南政次様、ご無沙汰しております。お元気との事喜んでおります。小生自身最近非常に忙しく、また母の家の改装等と重なりご返事が遅れた事をお詫び申し上げます。ご依頼の件、まことにありがたいと思っておりますがもう少し時間を頂きたいと思っております。落ち着きましたら、出きるだけ早く画像にして送らせて頂きたいと思っております。寒くなりそうですが、くれぐれもご自愛ください。

佐伯 雅夫 (Masao SAHEKI 伊丹Hyogo)

●.....**Subject: Mars sketch; 2009-10-21**
Received: Thu 26 Nov 2009 13:34 JST

Dear Masami, Thanks for keeping me "in the Mars loop" via the CMO. I hope to contribute some this apparition, and am sending my first humble sketch. The particulars are: Taken on Oct. 21, 2009 at 09:10 GMT. 7" $f/15$ refractor at Ragland Observatory in Richmond, Va, USA. Used 356 \times with orange #21 and Light Blue #82a filters. Seeing 8 at best, transparency only 4. Acidalium Mare, "Lowell" N Polar collar prominent. NPHood large, very evident pale white. Some indistinct dark albedo features in S.hemisphere. ...Best!

<http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/091021/JBr21Oct09.jpg>

○.....**Subject: Mars Sketch**
Received: Mon 14 Dec 2009 02:51 JST

Taken on Nov. 29, 2009 at 0745 GMT. 7" $f/15$ refractor at Ragland Observatory in Richmond, Va, USA. Used 257 \times and 533 \times with orange #21 and Light Blue #82a filters. Seeing 8 at best, transparency4. Some morning clouds. NPH pale white.

<http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/091129/JBr29Nov09.jpg>

○.....**Subject: Mars Sketch Dec. 12, 2009**
Received: Mon 14 Dec 2009 03:04 JST

Taken on Dec.12 at 0920 GMT. 120mm $f/8.3$ refractor in Richmond, Va, USA. Used 266 \times with orange #21 and Light Blue #82a filters. Seeing 7 at best, transparency 5. NPH getting smaller than my last view on Nov.29th.

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091212/JBr12Dec09.jpg>

John BARNETT (ジョン・バーネット VA 美)

●.....*Subject: Mars Ak25Nov09*
Received: Thu 26 Nov 2009 18:39:30 JST

しばらく晴れずいきましたが、又晴れ出してきました。少しの間に火星が大きくなりました。

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091125/Ak25Nov09.jpg>

○.....*Subject: Mars Ak03Dec09*
Received: Fri 04 Dec 2009 18:28:26 JST

先週、二男の住む(仕事にて滞在中)バリ島に行ってきました。火星画像と一緒に送ります。セブ島よりも一ランク上のリゾート地です。

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091203/Ak03Dec09.jpg>

○.....*Subject: Mars Ak04Dec09*
Received: Sat 05 Dec 2009 16:27:05 JST

今週は珍しく、上空の風が強く、日本で見るような気流状態で、拡大率を下げました。B光では夕霧、山岳の雲が見えていますが、気流が悪いのでおぼろげ状態です。屋上の気温は24度ぐらいになり、涼しい感じです。セブでは珍しく、気温が下がっています。今夜も晴れの見込みです。明日は休みななので時間は十分取れます。

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091204/Ak04Dec09.jpg>

○.....*Subject: Mars Ak06Dec09*
Received: Mon 07 Dec 2009 22:26:14 JST

気流は少し改善しました。
<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091206/Ak06Dec09.jpg>

TEN YEARS AGO (172)

--- CMO #226 (25 December 1999) pp2639~2658 ---

巻頭はCMO Mars Report #19で、16 November(245°Ls)から15 December(263°Ls)の期間の観測報告が纏められている。火星は夕方の西空でみずがめ座にあり赤緯を上げていた。既に観測末期で観測可能な時間は短く、視直径も既に5秒角台に小さくなっていたが、Noachis黄雲の発生した興味ある期間となっていたためもあり、観測報告者は十名に増えている。国外からもパーカー氏などからCCD画像が届いている。結果は南半球の暗部の様子は異常なしとされていて、この期間に擾乱は発生していなかった。縮小している南極冠が小さく認められていた。次いで、1998/99 Mars CMO Note (2)として「七月上旬のマレ・アキダリウム北の朝雲」"The yellow-white morning cloud patch observed to the north of M Acidalium in early July 1999"が掲載されている。北極雲が北極冠を覆ってくる、北半球の秋分(180°Ls)近くなって捉えられた、マレ・アキダリウム北の朝雲の観測記録で、4Julyと8Julyに明白な白雲塊が観測されている。29June(162°Ls)~9July(168°Ls)までの状況を日を追って解説している。

LtEには、外国からはRichard McKIM (UK), Thomas CAVE(USA), Frank MELILLO (USA), Don PARKER(USA), Sam WHITBY(USA), Brian COLVILLE(Canada), Jim BELL(USA), David GRAY(UK), Damian PEACH(UK), 頼武揚(Taiwan), Giovanni QUARRA(Italy)の皆さんより、他にSeason's Greetingsが、Alan HEATH(UK), Carlos HERNANDEZ(USA), Paolo TANGA(Italy), Johan WARELL(Sweden)氏から寄せられている。国内からは、熊森照明(大阪)、常間地ひとみ(神奈川)、伊舎堂弘(沖縄)、森田行雄(広島)、比嘉保信(沖縄)、木村精二(東京)、尾代孝哉(和歌山)、岩崎徹(福岡)、日岐敏明(長野)氏からのものが紹介されている。

TYA(52)は、廿年前のCMO#081 (25 Dec 1989)からの紹介で、「合」を過ぎて早期に見え始めた火星の暦が掲載されて、観測期の開始を告げていた。また、1988CMO観測ノート(8)として、「小倉/臺北お天気日誌」があった。南政次氏・岩崎徹氏の天候記録の比較である。

<http://www.hida.kyoto-u.ac.jp/~cmo/cmo/226/tya052.html> (Japanese)

CMO # 226の末ページには、皆さんから寄せられた画像を纏めて"CMO GALLERY"が臨時に開設された。常間地さん筆のタコ星人のイラストと共にある。

村上昌己 (Mk)

ISSN 0917-7388

東亜天文学会 『火星通信』 since 1986

MARS

No. **226**
25 December 1999

OBSERVATIONS Published by the OAA Mars Section

CMO Mars Report # 19 (1998/99) OAA Mars Section

.....今日は、16 Nov (245°Ls)から15 Dec (263°Ls) 1999までの観測期間を扱う。1998/99年の火星観測シーズンは既に終盤なのであるが、今回は大事な季節を過ぎて観測者が揃っているの、先ず報告者と観測状況のリストを挙げる。

IN THIS ISSUE, we treat the observations made during the period
 from 16 November (245°Ls) to 15 December (263°Ls) 1999.

While the season of Mars is getting to the final stage, the following observers contributed this period to the CMO:

HIGA, Yasunobu 比嘉 保信 (Hg) 那覇 Naha, Okinawa, Japan
 2 CCD Images (5 December 1999) 25cm F6.7 spec with Sony TRV900

ISHADOH, Hiroshi 伊舎堂 弘 (Id) 那覇 Naha, Okinawa, Japan
 13 Drawings (22, 24, 25, 27 November; 8, 9, 11 December 1999)
 340, 400, 530x31cm speculum

IWASAKI, Tohru 岩崎 徹 (Iw) 北九州 Kita-Kyushu, Fukuoka, Japan
 4 Drawings (18, 19 November; 9, 15 December 1999) 400x21cm speculum

MELILLO, Frank J フランク・メリッロ (FM) ニューヨーク NY, USA
 3 CCD Images (18, 28 November; 4 December 1999) 20cmSC Starlight Xpress MX-5

MINAMI, Masatsugu 南 政次 (Mn) 福井 Fukui, Japan
 23 Drawings (19, ~22, 29 November; 2, 3, 10 December 1999) 400x20cm refractor*

MORITA, Yukio 森田 行雄 (Mo) 甘日市 Hatusuka-ichi, Hiroshima, Japan
 2 CCD Images (14, 28 November 1999) f50x25cm speculum with an ST-5C

MURAKAMI, Masami 村上 昌己 (Mk) 藤澤 Fujisawa, Kanagawa, Japan
 8 Drawings (20, 21, 22, 25 November; 10, 15 December 1999) 425x20cm speculum

NAKAJIMA, Takashi 中島 孝 (N) 福井 Fukui, Japan
 6 Drawings (19, 20, 22 November; 10 December 1999) 400x20cm refractor*

PARKER, Donald C ドナルド・パーカー (DPK) フロリダ Miami, FL, USA
 3 Sets of CCD Images (24, 29/30 November 1999) f55x41cm spec with a Lynx PC
 *福井市自然史博物館上天文臺 Fukui City Observatory

.....形式上、追加報告になるが、HK氏からもタイムリーな報告を受けている。

We also received a copy of earlier observation made by HK:
 HIKI, Toshiaki 日岐 敏明 (Hk) 長野・箕輪 Minowa, Nagano, Japan
 1 Drawing (14 November 1999) 400x22cm speculum

2 6 3 9

○.....**Subject: Mars Ak10Dec09**
Received: Fri 11 Dec 2009 16:03:33 JST

B光アニメーションを添付します。

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091210/Ak10Dec09.jpg>

○.....**Subject: Jupiter 06 Dec 2009**
Received: Fri 11 Dec 2009 16:50:56 JST

久々の木星です。SEBが大分淡くなっています。

○.....**Subject: Saturn S091210**
Received: Mon 14 Dec 2009 17:43:25 JST

土星高度が上がり、気流影響が少なくなってきました、リングの傾きが少しずつ大きくなり、カッシニ空隙が分かるようになって来ました。...

○.....**Subject: Mars Ak12Dec09**
Received: Mon 14 Dec 2009 17:48:07 JST

上空の風がかなり強く、フラフラ状態の火星では、1回のみで諦めました。ではまた

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091212/Ak12Dec09.jpg>

○.....**Subject: Mars Ak14Dec09**
Received: Tue 15 Oct 2009 12:31:19 JST

今朝の火星像です。昨夜は雨が降り、明け方晴れました。風の影響があります。

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091214/Ak14Dec09.jpg>

○.....**Subject: Jupiter & Saturn on 14 Dec 2009**
Received: Wed 16 Dec 2009 17:51:29 JST

木星、土星画像です。

○.....**Subject: Mars Ak20Dec09**
Received: Mon 21 Dec 2009 13:21:04 JST

天気、気流とも不良です。今週の金曜日に日本に帰国、1月7日にセブに戻ります。

阿久津 富夫(Tomio AKUTSU セブThe Philippines)

●.....**Subject: Mars 2009/11/26**
Received: Thu 26 Nov 2009 20:05:37 JST

Hello, Here is Mars on 2009/11/26 04H39 UT.

The wind was very annoying. Regards

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091126/JPp26Nov09.jpg>

○.....**Subject: Mars 2009/12/01**
Received: Wed 02 Dec 2009 01:17:26 JST

Hello, Here is Mars on 2009/12/01 07H08 UT. Regards

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091201/JPp01Dec09.jpg>

○.....**Subject: Mars 2009/12/04**
Received: Sat 05 Dec 2009 05:46:00 JST

Hello, Here is Mars on 2009/12/04. The transparency was good. T = -0.5°C. Regards

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091204/JPp04Dec09.jpg>

○.....**Subject: Mars 2009/12/07**
Received: Tue 08 Dec 2009 04:21:37 JST

Hello, Here is Mars on 2009/12/07. The transparency was average. T = +2.5°C. Regards

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091207/JPp07Dec09.jpg>

○.....**Subject: Mars 2009/12/11**
Received: Sun 13 Dec 2009 00:52:41 JST

Hello, Here is Mars on 2009/12/11. There are 2 sets of colours images, an animation in colours and an animation of blue images. The transparency was average. T = +1°C.

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091211/JPp11Dec09.jpg>

○.....**Subject: Mars 2009/12/13**
Received: Mon 14 Dec 2009 00:51:08 JST

Hello, Here is Mars on 2009/12/13. The transparency was average. T = -1°C. Regards

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091213/JPp13Dec09.jpg>

○.....**Subject: Mars 2009/12/15**
Received: Tue 15 Dec 2009 18:36:04 JST

Hello, Here is Mars on 2009/12/15 04H09 TU.

The transparency was bad. T = -5°C. Regards

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091215/JPp15Dec09.jpg>

Jean-Jacques POUPEAU

(シヤン=シヤック・プーホー Essonne 法)

●.....**Subject: Mars-2009-11-25-KUMAMORI**
Received: Thu 26 Nov 2009 20:50:23 JST

天気が良さそうで、久しぶりに真剣に？起きましたが、シーイングは今ひとつでした。大きな模様もないので、どこまで写っているかモニター上では良く分かりませんでした。

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091125/Km25Nov09.jpg>

○.....**Subject: Mars-2009-11-26-KUMAMORI**
Received: Fri 27 Nov 2009 20:31:20 JST

二夜連続で撮影してみました。少しシーイングも良くなり、そこそこのディテールも出てきました。ただ、私の眼力では、ほとんど見えていけませんので画像処理の力に委ねるしかありません。

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091126/Km26Nov09.jpg>

○.....**Subject: Mars-2009-11-30-KUMAMORI**
Received: Tue 01 Dec 2009 11:42:23 JST

シーイングは夕方の木星の時の気流に比べると、随分と良くなりましたが、不安定で北極冠も良く見えないときもありました。タルシスあたりの白雲がなんとか写っていると思います。

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091130/Km30Nov09.jpg>

○.....**Subject: Mars-2009-12-08-KUMAMORI**
Received: Wed 09 Dec 2009 20:43:46 JST

ベランダからの撮影可能時間が早くなってきました。まだ起きるタイミングがうまくつかめません。北極雲がせり出しているみたいで、北極冠の完成？はまだでしょうか。

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091208/Km08Dec09.jpg>

○.....**Subject: Mars-2009-12-09-KUMAMORI**
Received: Thu 10 Dec 2009 22:04:34 JST

二夜連続に晴れましたので撮影しましたが、経度的には昨夜とほぼ同じになりました。シーイングは少し良くなってディテールは出たと思いますが、もう一息物足りなさを感じています。私の望遠鏡の限界でしょうか。

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091209/Km09Dec09.jpg>

○.....**Subject: Mars-2009-12-13-KUMAMORI**
Received: Mon 14 Dec 2009 12:07:01 JST

先日は私の愚痴みたいなものへご返事をいただき、ありがとうございました。今しばらく現状の望遠鏡でがんばってみることに致します。LRGBでの微妙な色合いというのは、やはり難しいと思いますが、解像度狙いとバランスで、この方法に落ち着いています。

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091213/Km13Dec09.jpg>

○.....**Subject: Mars-2009-12-14-KUMAMORI**
Received: Tue 15 Dec 2009 12:15:12 JST

夕方は強風注意報が大阪に出ていました。火星時間には静かになっているのですが、シーイングは良くありません。この後、曇ってしまいました。

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091214/Km14Dec09.jpg>

○.....**Subject: Mars-2009-12-16-KUMAMORI**
Received: Thu 17 Dec 2009 18:51:10 JST

本格的な冬型になってきました。気流も良くありません。晴れているだけまだ良い方かもしれませんが、寒い。

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091216/Km16Dec09.jpg>

○.....**Subject: Mars-2009-12-21-KUMAMORI**
Received: Tue 22 Dec 2009 15:59:58 JST

冬型が少し緩んで晴れてきました。シーイングもそこそこで、北極冠？北極雲？あたりが少し込み入っているように写りました。

<http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/091221/Km21Dec09.jpg>

熊森 照明 (Teruaki KUMAMORI 堺 Osaka)

●.....**Subject: 1033 moving off**
Received: Sun 29 Nov 2009 21:26:16 JST

Hi Guys, Here are a couple of images of the widespread disturbances in AR 1033. It is now moving off the solar disc. Twigs waving across the on screen display is responsible for some darkening on the later image. Elevation of the times of imaging was 13° and 17°. Best wishes

○.....**Subject: Mars 4th Dec 09**
Received: Fri 04 Dec 2009 19:47:18 JST

Hi Guys, I did a bit of dark cold astronomy this morning (as opposed to solar) bit of a shock to the system, but once I saw that red dot in the sky again compulsion took over. Leaping around it was, like a mad thing, which is seeing 4/10. Altitude was 40° well before the Meridian.

<http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/091204/DTy04Dec09.jpg>

○.....**Subject: Mars 10 Dec**
Received: Thu 10 Dec 2009 20:17:31 JST

Hi Guys, 2nd attempt at Mars this apparition, Seeing was very poor with added fuzziness. Image is RGB (real green) + R lum'. The light patch at the top, is I believe Eridania. C14 with 4x powermate and Skynix 2.0.

<http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/091210/DTy10Dec09.jpg>

○.....**Subject: AR 11035**
Received: Sat 19 Dec 2009 10:10:16 JST

Hi Guys I have found a window of opportunity of 30 mins wide (if it calm) between 12:30 and 1300 ut and two of my neighbours treetops. The blue sky day today enable me to discover this, and image the latest phenomena named AR 11035. The dark filament on the left was the first thing that hit me as I looked through the untuned scope. tweaking the tuner the "switched on" the intensely bright areas of the disturbance. best wishes,

○.....**Subject: Solar images 20thDec2009**
Received: Mon 21 Dec 2009 08:17:07 JST

Hi Guys, Here are a few images of the latest goings on up there. We have had three blue sky days with the temps' hovering around freezing point, over the top of 6 inches of snow here in southern UK. 20 miles west of London. Very Pretty. There are a couple of new active regions, AR 11036 file timed at 1230 and AR 11037 file timed 1246ut. Best wishes

Dave TYLER (テウァイト・タイラー Bucks 英)

●.....**Subject: Mo 27 Nov 09**
Received: Mon 30 Nov 2009 21:56:02 JST

27日の火星をお送りします。最近ではSeeingが悪く20、21、23、25日と撮り続けていますが、なかなか送れるようなものはありません。今度からも少し像を小さくしようと思っています。

<http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/091127/Mo27Nov09.jpg>

○.....**Subject: Mo 29 Nov 09**
Received: Wed 02 Dec 2009 00:31:19 JST

29日分をお送りします。少しはSeeingも安定し

ていました。が、この時間だけでした。今朝(1日)は起きられず、今日は今から準備に入ります。

<http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/091129/Mo29Nov09.jpg>

○.....**Subject: Mo 04 Dec 09**
Received: Sun 06 Dec 2009 01:23:19 JST

4日分をお送りします。Seeingはかなり悪く雲も多く、雲の切れ間をぬっての撮像です。合成Fを75にあげて撮ってみました。XP14mmを使っています。今日は今から撮ります。

<http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/091204/Mo04Dec09.jpg>

○.....**Subject: Mo08Dec 09**
Received: Sat 12 Dec 2009 01:23:28 JST

天候が悪いのと仕事上のことで忙しくなかなかです。とりあえず8日分を送ります。

<http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/091208/Mo08Dec09.jpg>

○.....**Subject: Mo 06 Dec 09**
Received: Mon 14 Dec 2009 01:26:20 JST

06Decをお送りします。こちらは8日より曇りが続き撮れていませんので、古いものを処理して送ります。...

<http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/091206/Mo06Dec09.jpg>

○.....**Subject: Mo 13 Dec 09**
Received: Wed 16 Dec 2009 01:26:18 JST

13日分をお送りします。比較的落ち着いた日でした。ずっと雲に覆われていましたが、気象衛星の雲の流れを見ながら待っていました。14日は曇って駄目でした。北極冠(北極雲)の一部がマレ・アキダリウムに流れ込んでいるような場所があり少し気になりました。

<http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/091213/Mo13Dec09.jpg>

○.....**Subject: Re: RE: Mo 13 Dec 09**
Received: Wed 16 Dec 2009 23:43:44 JST

メール有難うございます。20日までの間に07Decを送ろうと思っています。...今日は寒くなってきましたし、雲も多いようですが、今から撮ってみます。...

○.....**Subject: Mo 07 Dec 09**
Received: Sun 20 Dec 2009 22:01:24 JST

このところ快晴が続きますが、Seeingは最悪で撮れていません。7日分を処理してみましたのでお送りします。ついでに、処理過程を送ってみます。多分、北極冠(雲)の位置は間違っていないと思うのですが...

<http://www.hida.kyoto-u.ac.jp/~cmo/cmons/2009/091207/Mo07Dec09.jpg>

森田 行雄 (Yukio MORITA 廿日市 Hiroshima)

●.....**Subject: Re: ご報告**
Received: Wed 02 Dec 2009 11:23:21 JST

南 政次様、メール有難うございました。フランスではいろいろご活躍だったようですが、その後ご連絡なかったのも、あるいはご体調が悪いのではとちょっと心配しておりました。

フランスには長いこと御無沙汰していたのですが、私の観測もご紹介いただいたこと、大変うれしく存じます。ムードンの様子など大変懐かしく思い出しますが、もう訪ねることは無いなと思うと残念です。ドルフェスさんもご病気とのこと、みんな老いてゆくのは寂しいことですが、他方では若い人たちが育ってゆくのでしょう。すべて諸行無常です。

眼の手術をなさったとのこと、私もこのところ

加齢黄斑変性というので右目の視力が著しく悪くなり、毎月眼球注射をしておりますがあまり好転しません。長年望遠鏡や顕微鏡で酷使した眼ですから仕方がないのかなと思っております。

そんなわけで今年の火星もまだ覗いていないという始末ですが、今度の接近で観測開始以来丁度70年ですので一目でも見たいものと思っております。幸い若い人でCCD画像をちょいちょい送ってくれる人がありますので、今年の火星の様子を懐かしく見ております。以上とりあえずお返事まで。ご健康くれぐれもお大事に。

村山 定男 (Sadao MURAYAMA 東京Tokyo)

●.....*Subject: Re: IWC MO drafts please*
Received: Wed 02 Dec 2009 20:24:09 JST

Dear Mr MINAMI, I am very sorry having missed the opportunity to meet you in Paris. But I was at the hospital. Thank you for having reproduced the powerpoint document of my talk (which was not presented) about the search for life on Mars. I intended to give also a talk about the observations of Mars at Pic du Midi in 1909, which was not given. The content of the talk is now published in "l'Astronomie", november 2009, in French language. I made a translation in English which is enclosed, including the figures, at your attention. With best regards.

○.....*Subject: Re: Mars at Pic du Midi in 1909*
Received: Fri 04 Dec 2009 20:21:07 JST

Dear Mr MINAMI, Thank you very much and congratulations for the publication of my expected presentation at IWC MO about the observations of Mars at Pic du Midi in 1909. It is perfectly done. With best regards

Audouin DOLLFUS

(オートウアン・ドルフュス Paris/Meudon 法)

●.....*Subject: Image DBA120409B*
Received: Sat 05 Dec 2009 09:46 JST

Attached is my image from Dec 4, 2009 @ 0600ut
<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091204/DAAd04Dec09.jpg>

David ANDERSON(デヴィッド・アンダーソンSC美)

●.....*Subject: Mars this morning, Dec 6*
Received: Mon 07 Dec 2009 10:51 JST

Here is an image of Mars from this morning in average seeing, it's slowly getting larger and better placed for us southerners to image... The limb artifact is still present but somewhat reduced due to better seeing for this image compared to the last one a few days ago. There appears to be some bright material in a line just below the North pole (at bottom), is this dust? regards,

<http://www.acquerra.com.au/astro/gallery/mars/20091206-170707/large.jpg>

○.....*Subject: Mars this morning, Dec 11*
Received: Sat 12 Dec 2009 09:16 JST

A small mars image from this morning, the seeing was so bad that no colour image was possible. This image was taken using an Astronomik 807nm IR filter. cheers,
<http://www.acquerra.com.au/astro/gallery/mars/20091211-163858/large.jpg>

Anthony WESLEY (アンソニー・ウェズリー NSW 澳)

●.....*Subject: Mars 7.12.2009*
Received: Tue 08 Dec 2009 18:31:50 JST

Dear Masatsugu, after the sky was clearing up for

some hours in the morning on 7th december, seeing and wind where ok at all for imaging mars. Because it was to late this morning, i only could take a daylight-IR-image.
<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091207/RGh07Dec09.jpg>

Ralf GERSTHEIMER (ラルフ・ゲルシュトハイマー Habichtswald Germany 徳)

●.....*Subject: mars sketches 07/12/09*
Received: Tue 08 Dec 2009 23:12:37 JST

Hi, here are two sketches from 7 december.
<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091207/KSm07Dec09.jpg>

○.....*Subject: mars sketch 14/12/09*
Received: Wed 16 Dec 2009 07:47:09 JST

Hi, here is my sketch from 14 december.
instrument: 12" f/5 dobson, ... greetings,
<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091214/KSm14Dec09.jpg>

Kris SMET (クリス・スメト Belgium 比利时)

●.....*Subject: Season's Greetings from the BAA Mars Section*
Received: Fri 11 Dec 2009 23:56:13 JST

Dear friends: I would like to wish all my astronomical friends and correspondents a pleasant Festive Season and to send the attached E-card, and at the same time to write that I shall be changing my email address on 2010 January 1: New email richardmckim_at_btinternet.com

Richard McKIM (リチャード・マッキムPeterborough 英)

●.....*Subject: Jupiter Mission 2009 - Final Report*
Received: Sun 13 Dec 2009 07:35:32 JST

Hi all, Here is the complete body of work from my 2009 mission in high resolution imaging of Jupiter conducted between Aug 29th - Sep 19th this year.

<http://www.damianpeach.com/barbados09.htm>
High resolution movies, strip maps, and time lapse movies are available, along with many sets of high resolution images. I hope you'll take the time to have a look through the extensive gallery. On a side note using Winjupos and an especially good image of the GRS i obtained i measured its size at 15.9? in length or 18,862km (11,700 miles). Best Wishes

Damian PEACH (デミアン・ピーチ Bucks 英)

●.....*Subject: Mars 2009 December 14*
Received: Mon 14 Dec 2009 13:50:19 JST

Apologies, the images sent out under the title Mars 2009 December 12 were actually Mars 2009 December 14. Now corrected here, with corrected CM longitude. Please delete the earlier version (except for R McKim who never recieved it). I don't know why I thought the date was the 12th. --- I thought the appearance of Mars tonight to be sufficiently interesting to justify processing and sending these out as quickly as possible, despite the alternative attraction of the Geminid meteor maximum. The white clouds over the Tharsis volcanoes are very clear, and even seem to cast shadows - or are the shadows due to the volcanoes themselves? The cloud over the middle volcano, Pavonis, is weaker in the B but strong in the G. Additionally in the B image clouds are visible over Olympus and within Alba Patera, a huge crater to the N. near the terminator. This last was apparent to me visually (through binoviewers) as well and

attracted my attention immediately.

<http://www.davidarditti.co.uk/astro/images/mars/09/mars2009-12-14-DLA.jpg>

David ARDITTI (デヴィッド・アーデイチ Edgware ME 英)

●.....**Subject: Mars 8 and 10 December**

Received: Wed 16 Dec 2009 07:08:21 JST

Hi All, I have attached some Mars images from December 8th and December 10th. The latter images show a nice orographic cloud over the Elysium Shield. Best,

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091208/DPk08Dec09.jpg>

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091210/DPk10Dec09.jpg>

○.....**Subject: Mars 14 December**

Received: Sun 20 Dec 2009 12:35:50 JST

Hi All, I have attached some RGB, UV, and NIR Mars images from 14 December. Best,

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091214/DPk14Dec09.jpg>

○.....**Subject: Mars 16 December**

Received: Tue 22 Dec 2009 08:08:34 JST

Hi All, I have attached some RGB and UV Mars images from 16 December. Olympus Mons orographic cloud is seen near terminator. Best,

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091216/DPk16Dec09.jpg>

Don PARKER (ドナルド・パーカー Miami FL 美)

●.....**Subject: Mars 16 Dec**

Received: Fri 18 Dec 2009 16:50:30 JST

Hi Everyone, Please find attached a recent image of Mars I acquired mid-week despite demands of work and -5°C chill! Seeing was beginning to deteriorate after a promising view by eye prior to attaching the camera etc.

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091216/PGb16Dec09.jpg>

○.....**Subject: Re: Mars 16 Dec**

Received: Fri 18 Dec 2009 19:54:25 JST

Thank-you very much for your comments. Of course I would be delighted if you uploaded any of my images to

your site - I am honoured.

Please find attached another 2009 image of Mars (on 29 October) showing what I believe to be a faint equatorial cloud band and plenty of other detail. Best Wishes,

<http://www.hida.kyoto-u.ac.jp/~cmo/cmoms/2009/091029/PGb29Oct09.jpg>

Peter GARBETT (ピーター・ガーベット Sharnbrook 英)

●.....**Subject: RE: Mars images please**

Received: Sat 19 Dec 2009 09:35:50 JST

Dear Masatsugu, The weather here in Houston has been cloudy for most of the past month. The one or two nights it was clear I was out of town. In fact it actually snowed here back on December 4th!! I have attached a couple of pictures to show that I'm not making this up! I know snow is not a big deal to a lot of people, but at 30 degrees north latitude and so close to the Gulf of Mexico it's pretty rare here. ...Best wishes!!

Bill FLANAGAN (ビル・フラナガン Houston TX 美)

●.....**Subject: AR11035 update**

Received: Sun 20 Dec 2009 09:01:38 JST

Hi all, An update image of AR11035 as it closes on the western limb. The new AR is clear to see in the full disk shot as well. It appears to contain a couple of dark pores. The weak region in the south-western quadrant also seems to contain a couple of pore-spots when viewed using a CaK scope. Full disk:

http://www.digitalsky.org.uk/solar/2009/2009-12-19_11-17-56_SF70ss.jpg

Best regards,

Pete LAWRENCE (ピート・ローレンス Selsey 英)

☆☆☆

シー・エム・オー・フクイ

中島 孝 Nj

★前回報告以降、成田 広様(427)よりカンパを頂戴しました。有難うございました。不一

★前号は11月25日にupload、印刷・丁合は28日となり、国内は翌日発送しました。藤沢(Mk氏)、横浜(Tsさん)、広島(Mo氏)には12月1日、宗像(As氏)には2日に配達された模様です。不一

★We wish you the Season's Greetings, and hope our CMO spreads on and on. 皆さま、佳いお年を。(Nj)

☆ **Kasei-Tsushin CMO** (http://www.hida.kyoto-u.ac.jp/~cmo/cmooaa_mars.html)

『火星通信』#365 (25 December 2009)

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