ISSN 0917-7388

COMMUNICATIONS IN

CMO Since 1986

MARS

No.421

25 April 2014

OBSERVATIONS

No.47

Published by the International Society of the Mars Observers

CMO/ISMO 2013/14 Mars Report #07

2013/2014 Mars Observations in March 2014

♂・・・・・This is the 7th CMO/ISMO Report of the present apparition of Mars, and deals with the observations made in March 2014. The planet was stationary on 1 March at the Vir constellation, and then it began to move back: Then the planet again passed near Spica. The apparent declination somewhat improved back from 8°S to 6°S, while the height of the planet seen from the northern hemisphere is lower. On the contrary the superb observers in Australia were enjoying the nice views of the planet and produced several important results. The angular diameter went up from δ=11.6" to δ=14.7" during March. Now the opposition is just around the corner, and a total number of observations has been increasing.

The Martian season proceeded from λ=096°Ls to 110°Ls in March, and thus we were to watch the surface just a little after the northern summer solstice. The phase angle rapidly decreased from ι=26° to 07°, and thus the season has just come for us to be able to check the opposition effect, though the mist's obstacle activity is not avoidable. The tilt moved northward from ϕ=19°N to 21°N again.

♂・・・・・・The observations in March received by us amounted to a total of 189 observations worked by 33 observers. Domestically five observers obtained 29 observations, while 9 observers in the American continents sent us 37 observations, 12 European observers contributed 63 observations, five Australian observers sent us 54 observations, and one observer in Iran submitted 4 observations. We also further received the observations earlier made from Europeans. These images are posted in our Gallery Corner:

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/f_image.html

We would like here to express our sincere thanks to all contributors. We will review every work in the final column.

♂・・・・・A list of the contributed observers with apparatus used is given as follows:

AERTS, Leo *(LAt)* BELGIUM

10 *Colour* + 1 *IR* Images (2, 4, 7, 13, 25, 26, 29/30 March 2014) 36cm SCT with a DMK21AU618

AKUTSU, Tomio (*Ak*) Karasuyama, Tochigi, JAPAN

6 Sets of *RGB* + 6 *IR* Images (24, 27, 28 March 2014) 32cm Spec with a DMK21AU618AS

ARDITTI, David (*DAr*) Stag Lane, Edgware, Middx, the UK

1 *Colour* Image (23 March 2014) 36cm SCT with a Flea 3

BATES, Donald R *(DBt)* Houston, TX, the USA

9 Sets of *RGB* + 2 *IR* Images (8, 13, 14, 18, 19, 21, 29, 30 March 2014) 25cm Spec with an ASI 120MM

BOUDREAU, John *(JBd)* Saugus, MA, the USA

1 Set of *RGB* Images (19 March 2014) 37cm Dall-Kirkham with an ASI 120MM

BUDA, Stefan *(SBd)* Melbourne, AUSTRALIA

7 Sets of *RGB* Images (3, 8, 12, 19, 24, 28 March 2014) 40cm Dall-Kirkham with a DMK21AU04

CURCIC, Bratislav *(BCr)* Melbourne, AUSTRALIA

3 Sets of *RGB* Images (19, 25 March 2014) 28cm SCT with a QHY5L-II

DUPONT, Xavier (*XDp*) Saint-Roch, France

4 Sets of *RGB* + 7 *Colour* + 7 *R* + 7 *B* Images (7, 14, 16, 18, 20 March 2014) 18cm Spec with an i-NOVA PLA C+

GHOMIZADEH, Sadegh (*SGh*) Roudehen, IRAN

4 *Colour* Images (7, ~9, 20 March 2014) 28cm SCT with a DMK618.AS

GORCZYNSKI, Peter (*PGc*) Oxford, CT, the USA

2 Sets of *RGB* + 2 *IR* Images (1, 27 March 2014) 36cm SCT with an ASI 120MM

HERNANDEZ, Carlos E *(CHr)* Miami, FL, the USA

1 *Colour* Drawing (5 March 2014) 258×23cm Maksutov-Cassegrain

ISHIBASHI, Tsutom *(Is)* Sagamihara, Kanagawa, JAPAN

1 *Colour* Image (15 March 2014) 31cm Spec with a SONY HC9 VideoCam

JUSTICE, Mark *(MJs)* Melbourne, AUSTRALIA

9 Sets of *RGB* Images (3, 7,~ 9, 12, 13, 19, 23*, 28*, 30* March 2014) 25cm Dall-Kirkham and 30cm spec* equipped with a DMK21AU618

KARDASIS, Manos *(MKd)* Glyfada-Athens, GREECE

3 Sets of *RGB* + 5 *Colour* + 1 *R* + 1 *IR* Images (14, 18, 21, 23, 28, 31 March 2014) 28cm SCT with a DMK21AU618

KAZANAS, John *(JKz)* Melbourne, AUSTRALIA

2 Sets of *RGB* + 3 *Colour* Images (13, 18, 19, 25, 27 March 2014) 32cm Spec with an ASI 120MM

KONNAÏ, Reiichi *(Kn)* Ishikawa, Fukushima, JAPAN

4 *Colour* Drawings (3, 23, 27 March 2014) 600×30cm SCT

KUMAMORI, Teruaki *(Km)* Sakai, Osaka, JAPAN

6 *LRGB* + 6 *B* Images (10, 17, 22, 23, 27, 31 March 2014) 28cm SCT @ *f*/45 with an ASI 120MC & Basler Ace acA1300-30gm

LAWRENCE, Pete *(PLw)* Selsey, WS, the UK

1 *Colour* Image (7 March 2014) 36cm SCT with a Flea 3

MELILLO, Frank J (*FMl*) Holtsville, NY, the USA

5 *Colour* Images (1, 16, 23, 25 March 2014) 25cm SCT with a ToUcam Pro II

MINAMI, Masatsugu (*Mn*) Fukui, Fukui, JAPAN

3 Drawings (31 March 2014) 480×20cm ED refractor* Fukui City Observatory*

MORALES RIVERA, Efrain (*EMr*) Aguadilla, PUERTO RICO

12 Sets of *RGB* Images (2, 5, 7, 8, 10, 13, 17, 20, 25, 29 March 2014) 31cm SCT with a Flea 3

MORITA, Yukio (*Mo*) Hatsuka-ichi, Hiroshima, JAPAN

15 Sets of *RGB* + 15 *LRGB Colour* + 15 *L* Images (10, 11, 15, 16, 22, 23, 27 March 2014) 36cm SCT with a Flea 3

PARKER, Donald C (*DPk*) Miami, FL, the USA

4 Sets of *RGB* Images (4, 11, 17 March 2014) 36cm SCT @*f*/24 with an ASI 120MM

PEACH, Damian A (*DPc*) Selsey, West Sussex, the UK

1 Set of Images (19 March 2014) (36cm SCT with a SKYnyx 2-0M)

PELLIER, Christophe *(CPl)* Nantes, FRANCE

3 Sets of *RGB* + 6 *Colour* + 2 *R* + 6 *B* + 3 *IR* Images (2, 6, 9*, 10, 13, 20 March 2014)
25cm Spec, 106cm Cassegrain* (T1M/Pic du Midi Obs) with a PLA-Mx

POUPEAU, Jean-Jacques *(JPp)* Essonne, FRANCE

5 Sets of *RGB* + 2 *Colour* + 1 *B* + 6 *IR* Images (5,~7, 10, 13, 17, 18 March 2014)
35cm Cassegrain @*f*/23 with a Basler acA640-100gm

QUARESIMA, Stefano *(SQr)* ITALY

1 Set of *RGB* Images (21 March 2014)

SMET, Kris *(KSm)* Bornem, BELGIUM

2 Drawings (6, 26 March 2014) 250×, 300×30cm spec,

SUSSENBACH, John S *(JSb)* Houten, the NETHERLANDS

1 Set of *RGB* + 1 *Colour* Images (6, 13 March 2014) 28cm SCT @*f*/20 with a QHY5L-II

TRIANA, Charles *(CTr)* Bogota, COLOMBIA

2 *Colour* Images (30 March 2014) 25cm SCT @*f*/28 with an ASI 120MM

VALIMBERTI, Maurice *(MVl)* Melbourne, AUSTRALIA

25 Sets of *RGB* + 20 *IR* Images (3, 8, 12, 19, 23, 25, 28 March 2014)
36cm SCT @*f*/24 with an ASI 120MM

VANONI, Andrea *(AVn)* Mozzecane, ITALY

7 *IR* Images (9, ~ 12, 15, 17, 21 March 2014) 31cm SCT with an ASI 120MM

WESLEY, Anthony *(AWs)* Murrumbateman, NSW, AUSTRALIA

5 *Colour* Images (2, 6, 9 March 2014) (37cm spec) with a Point Gray Grasshopper3

WILLEMS, Freddy *(FWl)* Saint Johns, FL, the USA

1 Set of *RGB* + 2 *IR* Images (23 March 2014) 36cm SCT with a DMK21AU618.AS

♂·····This time we shall try to give a simple review to each observation chronologically. The observer's name will be abbreviated to the code symbol whose family name will be found however when he first appears in this column. The code name is familiar to us, but otherwise the observer's list above should be helpful.

01 March (λ=096°Ls~097°Ls, δ=11.6"): We received the observations made on 1 March from F MELILLO (*FMl*) and P GORCZYNSKI (*PGc*) with images at ω=161°W and ω=162°W respectively. They are only different by 8 minutes.

On *PGc*'s images, the Tharsis three mountains are near the evening terminator covered by the orographic clouds, and more inside, Olympus Mons appears to be covered by the cloud at the western mountainside while the evening side looks to show the surface ground. In the G image the evening valley preceding Olympus Mons looks shadowy. The summits of Ascræus and Olympus Montes may be darkish.

The image by *FMl* also clearly shows the evening clouds and the cloud at Olympus Mons is identified. The *FMl* image also shows the presence of Phlegra, and indicates the whitish area of the north polar cap (npc), but not well clarified yet. The npc is well described on *PGc*'s images, and Rima Borealis looks

cut partially by a white cloud which is related with Olympia. The description of the dark markings from Propontis I to Phlegra, and especially the doubled structure of Phlegra is fixed. The northern end of the Ætheria dark patch is well seen. Elysium is a bit light in G. *PGc*'s images show well M Cimmerium and its preceding dark markings.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140301/FMl01Mar14.jpg

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140301/PGc01Mar14.jpg

02 March (λ=097°Ls): On this day, Leo AERTS (*LAt*), Ch PELLIER (*CPl*), E MORALES (*EMr*), and A WESLEY (*AWs*) submitted the images at ω=082°W, ω=093°W, ω=140°W and at ω=287°W respectively.

LAt's file consists of one colour image: At the evening side, the marking like scissors of Nilokeras is clearly shown. At the southern evening side, Solis L appears to be made of several dots. Tithonius L is roughly described and Juventæ F seems to be shown. This area is largely covered by the evening thin mist from Xanthe and looks to be connected with the morning white mist.

CPl's images show a bit more rotated aspect than *LAt*'s, and describe well the white mist from the evening terminator, strong up until the north of Agathodæmon. The clouds at Tharsis Montes and Olympus Mons are already vivid at the western flanks. If there is found a difference from *LAt*'s (just different by 10°W), it will be interesting.

EMr's images show the surface where Olympus Mons just passed the CM, and of course the strong white cloud at the western mountainside of Olympus Mons as well as the preceding Tharsis clouds. The description of Propontis I *et al* is not sharp yet. The npc looks smaller with the upcoming Olympia.

AWs is from Australia: The single image shows Syrtis Mj located near the CM, and Hellas is whitish brilliant with some inner structure. The Huygens crater is visible. Elysium is slightly seen at the evening terminator. At the morning side, one of Aryn's nails is just inside of the disk: The image of S Sabæus, Edom and S Meridiani should be said a bit detailed. The npc is also detailed and looks interesting with a rift and polar dust disturbances. A vivid tail of Olympia is visible at the polar evening side.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140302/LAt02Mar14.jpg

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140302/CPl02Mar14.jpg

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140302/EMr02Mar14.jpg

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140302/AWs02Mar14.jpg

03 March (λ=097°Ls): On the day, M VALIMBERTI (*MVl*) made a series of ccd images at Melbourne successively at ω=266°W, 270°W, 273°W, 281°W, 284°W, 286°W, 289°W, and 292°W (totally 26°W width). Next R KONNAÏ (*Kn*) at Fukushima accomplished a skilful colour drawing at ω=300°W, and finally at Melbourne S BUDA (*SBd*) and M JUSTICE (*MJs*) issued the images at ω=305°W and at ω=308°W respectively.

From our counting rule (the next shot should be separated from the former by 5°W (20 minutes) or more, *MVI* made five images: On the first image the Elysium cloud is clearly visible separated from the evening terminator, while on the last one it already went to the night sphere leaving a thin mist remnant. At the morning limb side, S Meridiani was not seen yet, while on the last it is completely inside the disk. Otherwise it is also interesting to see the variation of Olympia. Also we can trace how the Huygens crater varies as the time lapses. It will be also important to check how a bit shadowy area inside Hellas moved. The northern part of Syrtis Mj is well described as well as the area of Boreosyrtis.

Kn's drawing was made at a nice moment when Hellas was located near the evening terminator and S Meridiani was near the morning limb. He paid much attention to the spread of the white mists. It was

good to detect a dim white tail of Olympia at the eastern part of the npc area.

On the *SBd* images, Hellas looks more declined to the east. S Meridiani is more inside to the effect that Aryn's nails are already apparent. Hellas looks to have a less bright area inside, and sends a mist belt to Noachis. The evening mist from the gone-out Elysium area reaches Syrtis Mj. The curved tail of Olympia is still seen. The aspect of the npc, which is like a narrow ice bar declined to the SW direction, is interesting together with the polar dusts. It should be discussed in a later Note. This is also apparent on the B image.

MJs's images similarly show Hellas with a shadowy area inside, as well as the mist band leaking out from Hellas to the following Noachis, and the evening mist which covers Syrtis Mj. The ice-bar-like npc with a dusty circumstance is also checked on *MJs* images. It should be said that this phenomenon became definitely apparent around from the last stage of *MVl*'s observations (in this sense *MVl*'s series of images on the day are valuable) at least from ω=289°W to ω=308°W (note we have an image at ω=287°W for comparison made by *AWs* on the preceding day, and unfortunately no further work at the angles at Australia for a while).

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140303/MVl03Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140303/Kn03Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140303/SBd03Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140303/MJs03Mar14.jpg

04 March (λ=098°Ls): We received an image from *LAt* made at ω=086°W and two images from Don PARKER (*DPk*) produced at ω=131°W and ω=138°W.

On *LAt*'s image, Hyperboreus L is definite, adjacent to the npc. On the southern hemisphere, Solis L is dark at the evening side, and the white mist from Xanthe once covers the area of Ophir-Candor, and further flows to the morning limb side. The summits of the Tharsis trio appear as brownish dots, and to the morning side of Ascræus Mons there seems to lie the "Ascræus cloud" (the white patch located between Ascræus Mons and Olympus Mons only in the early morning. See http://www.kwasan.kyoto-u.ac.jp/~cmo/cmomn0/97Note16.htm based on the observations in 1997 at the season λ=098°Ls).

DPk's two images must have been aimed to produce the orography of Olympus Mons near the CM. The cloud at Olympus Mons looks to locate only at the morning western lee flank, and the summit looks to be ground exposed in a brownish tint. The preceding Ascræus Mons (as well as Pavonis Mons) must have behaved similarly a bit earlier. On the B images, the area between Ascræus Mons and Olympus Mons is shadowy. No Ascræus cloud exists after noon. Olympia is coming at the morning side of the npc. Elysium is not yet, but Propontis I is visible.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140304/LAt04Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140304/DPk04Mar14.jpg

05 March (λ=098°Ls): Jean-Jacques POUPEAU (*JPp*) observed at ω=070°W. C HERNANDEZ (*CHr*) made a drawing set at ω=108°W. And *EMr* shot at ω=146°W.

J²Pp's RGB image looks orthodox (in the sense he does not employ the method of excessive enhancement): there is surely seen a mist band along the equator from the evening Xanthe to the morning limb (much more apparent in the B image) and the faint mist at the southern limb is noticed. Tempe looks not misted. (We may also see the dot of Ascræus Mons). As to the details of the markings, one should refer to

the IR image where some details of the area of Solis L plus Tithonius L as well as of Nilokeras are shown. Hyperboreus L is quite dark. From this point, we may say the density of M Acidalium this year has turned to be quite low (that is, fainter).

CHr's drawing lays a stress on the broad long mist along the equator starting from Xanthe. The conspicuous roundish morning mist must be the one we called the Ascræus cloud.

EMr's images show the white clouds at the western mountainside of Olympus Mons and at the Tharsis ridge. Elysium must be at the morning side though uncertain. Phlegra is visible and Propontis I is dark. The aspect of the npc is not sharp, while Olympia is coming.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140305/JPp05Mar14.jpg

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140305/CHr05Mar14.jpg

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140305/EMr05Mar14.jpg

06 March (λ=098°Ls~099°Ls): J SUSSENBACH (*JSb*) shot at ω=019°W. K SMET (*KSm*) made a drawing at ω=040°W. *CPl* produced images at ω=042°W (LRGB), 047°W (RGB), and at 057°W (RGB). *JPp* issued an RGB at ω=045°W with an IR image at ω=046°W. Finally *AWs* produced excellent images at ω=254°W, 261°W, and at 270°W.

JSb's is a single colour image. Its colour is not vivid, and the dark markings do not show a high definition, while the markings prove some detailed implications concerning, for example, Aryn's nails, the minor elements of the ria-type coast from Margaritifer S to Auroræ S, the Nilokeras scissors and so on. Agathodæmon is also seen near the morning limb. It will be important to check a difference of colour at the EN neighbourhood of M Acidalium maybe caused by a foregoing dust disturbance. Hyperboreus L is quite darker than M Acidalium.

KSm's drawing shows M Acidalium near the CM and the following Nilokeras which is seen as if it embraces the whitish Tempe.

CPl's three successive images show the moments where S Meridian starts to sink until its exit. The mist band along the equator is most vivid at ω=047°W (RGB). The procedure at the morning limb is not necessarily successful but the contents shown by the three images are plenty, and for example every image shows Ascræus Mons having a dark brownish summit near the morning limb, and especially at ω=057°W there is shown the "Ascræus cloud" as a white roundish patch near the morning limb. This is conspicuous in the B image (ω=059°W). Solis L and Tithonius L are well described, and the projection of Juventæ F and two antlers from Auroræ S are visible. The ground around them looks a bit light. The darkest marking is Hyperboreus L which is in good contrast with the faded M Acidalium which appears to be governed by a vast distribution of dusty fallout. However the general constitution around M Acidalium is not so different than the case observed in the last apparition, including the area of Nilokeras. The npc looks to show a rift inside the npc.

JPp's RGB image looks a bit blurred, while the IR-685 image shows some details around at Nilokeras and Tithonius L.

AWs issued a reasonable and important set of three successive images which show the angles from where S Sabæus is invisible to where it appears halfway near the morning limb. Remarkable to notice is the phenomenon concerning the brightness inside Elysium. Namely the bright cloud which is concerned with Elysium Mons is different in colour than the ground-lit or dusty-lit brightness part seen along the Ætheria dark patch. This is proven on all three images. The images also show well the northern part of Syrtis Mj, as well the inside of the Huygens crater. To the SE of the npc, Olympia is considerably whit-

ish. Hellas is also remarkable and at ω=270°W the central shadowy part came in deeply. The npc shows a rift at the centre.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140306/JSb06Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140306/KSm06Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140306/CPl06Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140306/JPp06Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140306/AWs06Mar14.jpg

07 March (λ=099°Ls): S GHOMIZADEH (*SGh*) took at ω=015°W, *JPp* did at ω=024°W, *LAt* took two images at ω=027°W and ω=044°W, Pete LAWRENCE (*PLw*) at ω=033°W, Xa DUPONT (*XDp*) took three images at ω=041°W, 049°W, (051°W), and at ω=056°W. Then *EMr* took at ω=101°W, and finally *MJs* at ω=263°W.

On *SGh*'s image, the dark markings are uniformly dark, and the colour nuance is also lacking. Any observer should pay attention to the whiteness, its scale and the shape of the npc. Note the difference of colour at the area to the EN of M Acidalium.

JPp's images are mild and almost free from the artefact ghosts. R & IR are rich in details: they show Aryn's nails, the presence of Brangæna, the shape of Oxia P, antlers from Auroræ S, a detail of Nilokeras et al. The B image is good because the surface is almost darkish as it should, while the broad mist along the equator including the white mist at Chryse is apparent. A white patch exists at the southern limb.

LAt's images are excellent. Aryn's nails are still visible quite near the evening terminator together with Brangæna. The inside of M Acidalium is well reproduced. The former image shows the colour difference of the EN neighbourhood of M Acidalium from the colour of the deserts. The images of the npc should insist further.

PLw's IR(G)B image lacks a sharpness and colour nuance while it contains almost all necessary markings. Some further details around Auroræ S might have been possible. It looks the npc shows a rift inside. *XDp* issues four image sets within 15°W (that is, we count them as three), each of which catches the mist band along the equator in B. The set at ω=051°W may be the best: Hyperboreus L is definitely dark while M Acidalium looks plainer. It is difficult to trace the variation of the EN neighbourhood of M Acidalium. The images at ω=051°W and at ω=053°W may show the "Ascræus cloud" following the summit dot of Ascræus Mons quite near the morning limb. Tithonius L is shown thickly in R and G.

EMr's images well reproduce the white cloud of the western lee side of Olympus Mons (not thick yet), the similar orography at the Tharsis ridge and also unevenly distributed beautiful white cloud at Xanthe. The upper southern part around Solis L is thickly cloudy so that it is difficult to determine the positions (we need in this case an IR image). The sinking M Acidalium is also obscure.

MJs's images at ω=263°W is interesting since it corresponds to *AWs*'s image at ω=261°W on the preceding day. Standing of the Elysium white cloud is apparent here though the contrast with the following ground is not somewhat well done here. The *MJs* image of Syrtis Mj in R is good, but it is followed by an artefact limb zone. Hellas looks rather bluish than the npc. Olympia is going away.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140307/SGh07Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140307/JPp07Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140307/LAt07Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140307/PLw07Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140307/XDp07Mar14.jpg

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140307/EMr07Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140307/MJs07Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140307/EMr07Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140307/MJs07Mar14.jpg

08 March (λ=099°Ls~100°Ls): *SGh* got an image at ω=359°W, *EMr* obtained a set at ω=088°W, Don BATES (*DBt*) did at ω=116°W, *MVl* did at ω=217°W, 224°W, 227°W, 236°W, 239°W, 243°W, 245°W, and 250°W, *SBd* did at ω=248°W, and finally *MJs* did at ω=256°W.

SGh's image does not fully satisfy us yet, but maybe better than before. The NE neighbourhood of M Acidalium should be differently processed. We expect him because he is located in an important place (connecting Asia with Europe) so that we sincerely expect his further improvement.

EMr's set of images should be worth fully checking (later in a Note). The wider distribution of mist is remarkable at the higher latitude southernmost part down to the more conspicuous mist band at the equatorial zone. Notable is however the darkish area near Solis L in G and B. It is interesting to see that the mountainside white clouds at Ascræus and Olympus Montes are visible each in an isolated form in the early morning just after the "Ascræus cloud" in the early morning has dissipated. Ophir-Candor is more ground-lit.

DBt's set just shows the clouds at Montes as well as the evening cloud near the terminator. The npc is not so clear but may indicate the rising Olympia.

MVl's observation is made of lots of images, but unfortunately they seem to have missed the process which may show how the cloud at Elysium Mons has been developed. The movement of Olympia may be also caught by a series shot every 5°W (or 20 minutes). The inner structure of Elysium is seen on the images at ω=239°W, 243°W. (*MVl* however succeeded nicely in chasing again Elysium on 13 and 14 April 2014, to be reported in the next issue).

On *SBd*'s images, shown is more clearly the distinction of the colour of the white cloud at Elysium Mons from the following ground-lit-like segment adjacent to the Ætheria dark patch. *SBd* shows further some details from the northern part of Syrtis Mj up through Hesperia to M Cimmerium. The npc suggests a polar dust distribution ejected from the rift. Olympia is also complex. Hellas, still at the morning limb, is already whitish well bright.

MJs's images here are better than those by *MJs* himself made on 7 March. The distinction inside Elysium is more effectively shown. From the upper end, a thin mist flows out toward SW direction. Colour is richer: Note the somewhat reddish tint of the area following Olympia as well as the southern Ausonia. This is also pointed out on *SBd*'s RGB, while more evident here since *MJs*'s colour on the composite image looks originally somewhat dirty. Olympia is visible and the npc suggests a fine structure inside. Note the shadow and light distribution in Utopia.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140308/SGh08Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140308/EMr08Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140308/DBt08Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140308/MVl08Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140308/SBd08Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140308/MJs08Mar14.jpg

09 March (λ=100°Ls): *SGh* gave an image at ω=356°W, *CPl* (+M DELCROIX) obtained an RGB atop Pic du Midi at ω=011°W (RGB), A VANONI (*AVn*) got an IR image at ω=043°W, *AWs* worked at

ω=234°W and finally *MJs* shot at ω=244°W.

SGh's image shows a mist after Syrtis Mj went away, and thickly the morning mist at Chryse. S Meridiani is near the CM. The npc is visible.

CPl's images were obtained at the Pic du Midi Observatory by the use of a 106cm Cass. The diameter was 12.5 arcsecs. According to *Kn*'s impression (private communication), the seeing condition must have been unfavourable, while almost all details look to have been caught. The scene where the northern end of Margaritifer S is forked into two is nostalgic to us (that is, literally *déjà-vu*). The area around Oxia P is detailed showing a connection with Niliacus L. The ria coast near Eos is dynamically shown: See the area on the IR image (ω=005°W). Here we can also check a fork of the rhs of Aryn's nails. The description of the west of Margaritifer S thus described is perfect. In RGB the remnant of the mist where Syrtis Mj went away is conspicuous and also the whitish limb matter around at Argyre is impressive. Further on the B image a complex mist band proves along the equatorial zone. Note furthermore on IR image as usual we can find the light belt pinched by Oxus and the east coast of M Acidalium, but newly the ground-lit belt shows a special perpendicular fine *bridge* across the light belt on the IR image (which possibly an extension of Gehon or something like that). Finally we stress again that Hyperboreus L is the darkest marking, and the inside of M Acidalium looks quite plain if compared on the RGB image. The northern neighbourhood of M Acidalium shows a particular colour. We finally note that the npc shows a special shape (to be discussed in a later Note).

VANONI (*AVn*)'s IR image also conveys some details. S Meridiani is near the evening terminator, while it shows two nails of Aryn near the terminator together with Brangæna and the ria coast to the south of Chryse. The reproduction of S Auroræ complex is OK. Possible artefact near the morning limb is missing. The shape of the darkest Hyperboreus L is cool.

AWs's image is excellent: The distinction of the bright matters inside Elysium is beautiful. The southern part of the *Ætheria* dark patch is clearly divided to two. Olympia is reproduced in a complex way: The part here seen seems to consist of several snowy segments with a breaking rift. The npc also shows a fine structure with some polar dusty disturbances. Syrtis Mj is still near the morning limb, and shows a bluish tinge. We should say we need the B image. M Cimmerium shows well the ant-like feet with an eye (details). Hellas is quite near the limb, though it is already whitish bright.

MJs's image was made after *AWs* by 10°W (40 minutes). The seeing condition looks poorer, and the inside cloud of Elysium is blurred, though it's described well whitish in B. Syrtis Mj is bluish near the limb. Hellas appears similarly irrespective of 10°W difference.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140309/SGh09Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140309/CPl09Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140309/AVn09Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140309/AWs09Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140309/MJs09Mar14.jpg

10 March (λ=100°Ls~101°Ls): *J²Pp* and *AVn* shot at ω=001°W, *CPl* returned to Nantes and shot at ω=012°W, *EMr* shot at ω=068°W, Y MORITA (*Mo*) shot at ω=212°W, (214°W) and at ω=224°W and finally T KUMAMORI (*Km*) shot at ω=234°W.

JPp's RGB image looks mild and shows a beauty, and the morning strong mist near the limb looks beautiful. The image also shows a remnant of the white mist after Syrtis Mj was concealed. It also shows a polar mist near Argyre, and the mist band along the equator in B. S Meridiani is not clear cut, but the R

image shows Brangæna, and hence this is visible in RGB. The west of Margaritifer S is well reproduced. M Acidalium is fainter than S Sabæus. The npc looks to be a narrower bright core. As to the IR image, we shall allude to it with the following *AVn*'s IR.

AVn's image is an IR one, and taken at the same angle as *JPp*'s (both by the use of IR685), and so they are comparable. *JPp*'s image provides a better image around at Brangæna and the northern part of S Margaritifer, while the image of the neighbourhood of the NW part of M Acidalium looks better on *AVn*'s.

CPl's images are excellent: There are two lumps of white mist near the terminator wherefrom Syrtis Mj went away. The northern ingredient is quite thick in B and sharp in G. Around from this part the equatorial band of mist starts clearly in B. The delicate markings to the west of S Meridiani are all shown well. One would say that such structures as the doubled aspect of the northern part of S Margaritifer, the ria structure of the southern end of Chryse et al all are watchable from the terrestrial bases. The inside distribution of M Acidalium is also apparent. We may however say that a detail of the npc is less rich.

On *EMr*'s set of images, M Acidalium and Solis L are at the evening side. The main part of Solis L and Nilokeras are vaguely caught. At the morning side, the Tharsis summits poke out like brownish dots. The Ascræus cloud is whitish bright. Can we identify the brownish summit of Olympus Mons? From the east of Chryse there lies a broad mist-band near the equator zone up until the morning side. From the npc there arises something like a steam vapour weakly toward the SW direction.

Yukio MORITA (*Mo*)'s images here are the first ones in this month and look the best among his images hitherto in this apparition. Inside Elysium, the Mons cloud is clearly distinguished from the ground-lit matter. The cloud part is also seen in B. The structure of the Ætheria dark patch is well shown as in the foregoing season. Olympia stays just at the outside of Rima Borealis. Olympus Mons except for the white remnant went away, and Syrtis Mj is going to come in. At ω=212°W, Syrtis Mj is on the morning limb showing a faint blue tint. It is good to see Nodus Alcyonius already in a full shape and density preceding the faint Syrtis Mj. At the southern hemisphere, M Cimmerium's ant-like feet are grasped.

T KUMAMORI (*Km*)'s first file this apparition: His consists of a composite image of L plus a colour one, and then he supplements by an independent blue image. Here Syrtis Mj pops out at the morning side, maybe slightly dark bluish. Hellas, well white, is on the morning limb. The Elysium-Mons cloud is not well detached. Olympia is light.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140310/JPp10Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140310/AVn10Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140310/CPl10Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140310/EMr10Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140310/Mo10Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140310/Km10Mar14.jpg

11 March (λ=101°Ls): On the day, D PARKER (*DPk*) produced a superb set at ω=054°W, *Mo* observed at ω=186°W and *AVn* did at ω=301°W: Thus the observations were made from three corners on the Earth.

DPk's big Mars image shows up the planet which is literally misty and detailed. His description around at Agathodæmon and Tithonius L shows some details which are not always familiar to our eyes. Details around the nippers of Nilokeras are also beyond recognition of our usual observations. On the other hand, the region of M Erythræum and Solis L appears very blurred perhaps because of the presence of higher mist or fog. M Acidalium which is originally faded is also blurred. The morning limb side

shows a gradation of the usual bright mist, and it's the end of the misty band along the equator which starts from the evening Chryse. This also gives a beauty to the images by Green 520nm and Blue 480nm. Hyperboreus L is dark, but as dark as the southern dark markings.

Mo's images are a bit inferior to the ones he obtained on the preceding day, but the fact that the cloud related with Olympus Mons is more clearly shown is new. The npc looks duller, but the lighter part is seen to be more leftward.

AVn's is an IR single image with the location of Syrtis Mj at the afternoon side, and S Meridiani is near the morning limb. It suggests that Rima Borealis is cut by a dust. Note that on IR, Hellas is less bright than the npc.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140311/DPk11Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140311/Mo11Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140311/AVn11Mar14.jpg

12 March (λ=101°Ls~102°Ls): *MJs* observed at ω=200°W, *SBd* at ω=202°W, *MVl* at ω=210°W, 213°W, 217°W, and *AVn* at ω=304°W.

MJs's images show that the cloud inside Elysium is smaller than expected, but still thickly connected with the strong morning mist. The reddish segment between the cloud and the Ætheria dark patch is quite evident in RGB. The smallness of the cloud is ensured also in G and B. The white cloud at Olympus Mons is three-dimensional (also in G) and just about to disappear with quite whitish brightness. M Cimmerium is well mapped. The npc is flat, and Olympia is quite evident near the CM.

SBd's image is taken 2°W later. The umbrella cloud at Elysium Mons is surely small and rather weaker, though clear in G and B. The ground-lit segment is distinguished (also in R). The cloud over Olympus Mons is near the evening terminator. Good in G. M Cimmerium is detailed (in an ant-like shape). The doubled structure of Phlegra is evident. Olympia and the npc suggest further details around there, but it is not well grasped.

On *MVl*'s images, any of the Elysium Mons clouds looks blurred on three RGB images. The contrast is rather found on the R images. It is suggested there is checked a doubled structure of the Ætheria dark patch but none about Phlegra. The limb arc is not well processed (proved by the presence of an artefact arc) and hence the time when Syrtis Mj comes in the disk is not determined (if our memory is correct, Syrtis Mj touched in at around ω=213°W).

AVn's IR image shows us well from the northern end of Syrtis Mj to the Huygens crater. And S Meridiani is clear near the morning limb. However IR does not tell us about the activity of the white clouds.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140312/MJs12Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140312/SBd12Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140312/MVl12Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140312/AVn12Mar14.jpg

13 March (λ=102°Ls): *JPp* observed at ω=326°W, *LAt* at ω=332°W+ω=342°W, *JSb* at ω=345°W, *CPl* at ω=338°W+ω=352°W, *EMr* at ω=031°W, *DBt* at ω=041°W, *MJs* at ω=189°W, and finally J KAZANAS （*JKz*) at ω=194°W.

JPp's RGB is not sharp, while shows the blue whitish aspect on the sinking Hellas. The evening mist to the east of Syrtis Mj explicitly covers the northern part of Syrtis Mj and extends further to the desert

district. The morning limb must be thickly covered by the morning mist. The npc looks to project to the SW direction together with a thin long tail (seen in B).

LAt's two images separated by 10°W interestingly prove how the meteorology of the terminator and limb sides changes during the rotation of 10°W. Note that both images show well Brangæna. The IR image at ω=344°W also shows necessary details. However we wonder about the reasons why any of three images does not show the details of the npc and why there is no trace of Hellas at ω=332°W whereas *CPl*'s image at ω=338°W (see below) shows clearly the bright Hellas near the terminator.

JSb's set of images is also good, and shows better the area around Oxia P more exposed because of rotation. The possible perimeter of the npc on the RGB image looks interesting, and we feel the npc on G and R may suggest something more.

On *CPl*'s RGB image at ω=338°W, the bright Hellas remains inside the disk. It is interesting to see a bluish mist belt staying on the northern part of Syrtis Mj obliquely and further extending to the desert. Æria is thus slightly different in colour from the usual desert. At ω=352°W, Hellas already went away. In B, the broad mist band along the equator is conspicuous. The RGB npc looks convex toward the south: the npc on IR (at ω=345°W) and B shows an elliptical standing shape.

EMr's image set looks first blunt, but it's because the image is too large. However the details it produces are richer than the first impression. The image of Mare Acidalium which is near the CM shows the generally faded aspect, a hole near the eastern part of Niliacus L, the rather darker triangular NW corner and so on. Brangæna is seen and the southern limb shows a misty patch. The misty band along the equatorial zone is apparent in B, and a roundish expansion of something at the evening corner in G is interesting. Above all, the SW part of the npc in RGB shows a dusty area together with Chasma Boreale. This is also suggested in G and B. The apparent diameter of Mars increased to δ=13.0″.

DBt's image set suggests a complex aspect of the coast at the southern ceiling of Chryse. The pinkish colour of the desert looks nice, but some dark markings may be too bluish.

On *MJs*'s RGB image, the cotton ball-like (slightly different because of a bluish white colour) Olympus Mons draws our attention near the evening terminator. The cloud at Elysium Mons is tiny perhaps because its position is on the morning side. Anyway it is interesting to know that the summit shows a cloudy aspect from the early morning (see B). The area of Phlegra, a bit detailed, is largely brownish. Olympia is evident in all colours.

JKz worked about 20 minutes (5 degrees) later than *MJs*. Olympus Mons moved nearer to the terminator, but the cotton ball-like aspect of the cloud is still persistent. The point-like cloud of Elysium Mons is a bit explicit. M Cimmerium shows the ant-like feet. Olympia is evident.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140313/JPp13Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140313/LAt13Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140313/JSb13Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140313/CPl13Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140313/EMr13Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140313/DBt13Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140313/MJs13Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140313/JKz13Mar14.jpg

14 March (λ=102°Ls): *CPl* observed at ω=319°W, *XDp* at ω=002°W, *DBt* at ω=017°W, *Mo* at ω=169°W, and finally M KADRASIS (*MKd*) at ω=278°W (otherwise at ω=262°W on R, & ω=288°W on IR).

CPl's images consist of RGB, B, and IR685 ingredients. Hellas, very near the terminator, shows a shadowy inside part, sends out a whitish misty stream toward the following area (visible also in B). Such a stream, related with the evening mist, is also seen on Syrtis Mj (this may be identical with the oblique mist on Syrtis Mj observed on 13 March by *CPl* himself at ω=338°W). The misty band along the equatorial zone is weak, if any. The npc looks as if it picks itself up at the rhs. This is visible also in B. A few of dark markings: Aryn's nails are evident at the morning side. On Syrtis Mj the Huygens crater is checked. The IR ingredient shows the surface at ω=326°W where Hellas is about to go away.

XDp's images consist of R, B and a colour image. On B, the broad misty band along the equator and its evening side is also visible in the colour. The morning limb has an artefact ghost arc. The npc looks smaller in R and B perhaps because it stands up. Marvellously *XPp* produces nice results above average by the use of an 18cm speculum.

DBt's images are blunt in R, G, B.

Mo's images show the white clouds at the following flanks of Olympus Mons and Tharsis Montes. Elysium is too dull.

MKd's images are good though the colour nuance in RGB is not satisfactory. The main characteristics of Syrtis Mj are shown here. Hellas is beautiful in G. The npc suggests something new, but the description is in short. Rima Borealis is definite with some disturbances by the polar dusts. Olympia is at the evening side.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140314/CPl14Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140314/XDp14Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140314/DBt14Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140314/Mo14Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140314/MKd14Mar14.jpg

15 March (λ=102°Ls~103°Ls): *AVn*'s IR was shot at ω=303°W, *EMr* made a set at ω=013°W, T ISHIBASHI (*Is*) made an image at ω=141°W, and finally *Mo* put forward a set at ω=149°W.

AVn's IR685 image shows Syrtis Mj and S Sabæus: the two nails of S Meridiani are evident near the following limb. Hellas with an inner structure looks more shadowy than the desert. The npc is flat and its western side is adjacent to the rising dark Hyperboreus L. M Acidalium is not yet: Just no more than the NE corner is seen.

EMr's set is good: The eastern half of M Acidalium is faded though some necessary details are shown in R. Hyperboreus L is quite darker than M Acidalium, but conveys a dust disturbance at the NW perimeter of the npc. The npc looks to show a rift related with the dust. Syrtis Mj was gone away, but remains a bright mist patches near the terminator. In B, a nice series of mist patches are seen along the equator. Near the southern limb there is seen a mist (associated with Argyre?)

Is tried to make an image by the use of the stacking method from 900 Video images, but here it is not successful.

Mo's images are made under poor seeing below average. Olympus Mons, cotton ball-like, is still isolated from the preceding cloud sea over the Tharsis ridges. RGB is better than LRGB. There is seen a spread of mist to the SW of the npc. The morning Elysium does not tell anything.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140315/AVn15Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140315/EMr15Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140315/Is15Mar14.jpg

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140315/Mo15Mar14.jpg

16 March (λ=103°Ls): *XDp* made a series of sets at ω=295°W, 304°W, 322°W, *FMl* also did at ω=007°W+ω=019°W, and finally *Mo* made a set at ω=139°W.

XDp's work is excellent by the use of an 18cm *F7* spec. On the first image (at ω=295°W), Hellas shows an interesting fine structure: the whitish bright parts consist of two components: one in this side, the other in the back. The dark markings are processed nicely: The slim Syrtis Mj with Huygens is nearly perfectly reproduced. At the evening side Elysium must be on the terminator with misty tail. In B, from here a faint misty band starts along the equatorial zone. It will be interesting to check a series of minor local dust disturbances along the perimeter of the npc. The npc shows a rift inside. The second set at ω=304°W shows that inside Hellas the core in this side has become wider. The npc looks to remain similar. Olympia is clearer at the evening side of the polar region. S Meridiani is further inside of the disk, but the nails are not divided. The third set at ω=322°W, S Meridiani is quite inside and Aryn's nails are evident. Hellas is near the terminator and about to go away. The evening mist strides over Syrtis Mj obliquely and expands to the desert. The rhs head of the npc is being picked up. These are evident also in B. Everything of *XDp* looks good for an 18 cm apparatus, but it is not good to omit the G image.

FMl's two colour images are made by the use of traditional (from ancient times?) ToUcam camera: The shapes of S Meridiani and the N part of S Margaritifer are well reproduced. The movement of the mist (related with the morning mist) over the south of S Meridiani, the morning side of M Acidalium and the southern part of Margaritifer S is checked. The sunk Syrtis Mj left a strong doubled patch of the evening mist near the terminator at ω=007°W. Hyperboreus L was well caught, and the aspect of the northern part of M Acidalium looks to show some implications.

Mo's longitude is different by 10°W from that on the preceding day. This time also RGB is better than LRGB. The valley which separates between Olympus Mons and the Tharsis ridges shows rather dark brownish tint. The configuration of the clouds is beautiful in G and B. The evening mist is also good in RGB. Elysium is beyond our scope. The npc gives an impression that it's split and the eastern side is lighter. This is because of the presence of Olympia?

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140316/XDp16Mar14.jpg

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140316/FMl16Mar14.jpg

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140316/Mo16Mar14.jpg

17 March (λ=103°Ls~104°Ls): *JPp* observed at ω=290°W, *EMr* at ω=342°W, *DPk* at ω=345°W, *Km* at ω=146°W, and finally *AVn* at ω=263°W.

JPp's image set proves the internal aspect of Hellas revealed by *XDp* on the preceding day at ω=295°W is visible again. There flow out the misty air from Hellas towards the preceding direction. Elysium is no more caught, but the remaining cloud (partly thick)'s tail follows upward and then it curves down obliquely on Syrtis Mj and then passes over to Æria as shown well by G and B. The npc shows a fine structure: In R the rhs part of the bright stick-like npc looks to be sitting up as if it picks itself up by rotation force. See also IR at ω=294°W. There seems to flow out a misty stream from the rhs core. This is an interesting phenomenon. We should point out that Huygens is fully visible. However we do not meet with the dark M Serpentis this apparition.

EMr worked 3.5 hrs after the work in France. Syrtis Mj is about to go away with holding an evening mist patch. The Huygens crater is still seen. It is apparent that the evening mist is already over Æria. The central misty broad band is clear in B. Hellas is almost sunk by sending out a broad stream of mist to the

upper Noachis. At the morning side a large mist governs covering the northern side of Margaritifer S and the southern part of M Acidalium. Several details beneath the morning mist are unearthed. The eastern part of M Acidalium may suggest that it once had experienced dusty fallout. Hyperboreus L is dark adjacent to the npc. The stick-like npc core looks much declined.

DPk observed about ten minutes later than the *EMr*'s time. Outcome about the npc is astonishing! Chasma Boreale is appearing! And so we may ask where on earth the head of the stick-like npc has gone out. This thus implies that we may need another consideration by the use of the simulation of the area of the npc. Another surprising data *DPk*'s present image brings is about the bridge-like connection which appeared on the image obtained by *CPl* at Pic on 9 March at ω=011°W. As we know there exists a ground-lit streak between Oxus and the eastern coast of M Acidalium. *CPl*'s IR image made on 9 March at ω=011°W shows, as we pointed out there, a dark fine bridge across the ground-lit streak (as an extension of Gehon or something like that), while *DPk*'s image seems to give an interpretation that the "bridge" may be given by a dark "spot" which is located inside the streak. There are lots of other things revealed on *DPk*'s image here. The main part of Hellas has gone out, but the remaining segment is richly shows a convex cloud near the terminator and looks to send out the misty component to the following area. It is also interesting to see the remnant of mist over Syrtis Mj and Æria. S Sabæus is quite detailed. The area around S Meridiani is beneath a high-pressure atmosphere and must have a clear sky. However Margaritifer S and the southern part of M Acidalium are covered by the morning white mist which shows a beautiful gradation from the morning limb.

Km's images show Olympus Mons with cloud and the preceding cloud area which contains the Tharsis ridges as well as the evening cloud at Xanthe. The colour of the valley looks shadowy brown. The npc is blurred.

AVn's IR image shows Syrtis Mj at the morning side. Hellas is coming, but less bright in IR. The cloud of Elysium Mons is should be said invisible, while the ground-lit segment adjacent to the Ætheria dark patch is clearly visible. The fine structures of Hesperia and M Cimmerium are interesting.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140317/JPp17Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140317/EMr17Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140317/DPk17Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140317/Km17Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140317/AVn17Mar14.jpg

18 March (λ=104°Ls): *XDp* observed at ω=271°W, 287°W, *JPp* at ω=276°W, *DBt* at ω=350°W, *JKz* at ω=130°W, and finally *MKd* at ω=214°W, 232°W, 253°W.

XDp's two sets of images show that Syrtis Mj more comes to the morning side than the case on 16 March so that S Meridiani does not turn up. At the evening side, the bright white cloud is going to reach the terminator. In the former case, the ground-lit segment is barely distinguished. *XDp* shows the nuance of the structure inside Hellas as before. There is shown an outflow in this side from Hellas. Olympia is about to sink, but still bright. The Huygens crater is clearly detected. Casius is shown to be made of irregular dark or shadowy patches. Broad but dimmer is the misty band along the equator in B.

JPp's set of images also shows the cloud at Elysium Mons to be considerably bright near the evening terminator. The G and B images show that a broad misty band starts upward from the Elysium cloud and then bends down to the NE part of Syrtis Mj (well shown in G). The place of Syrtis Mj is halfway occupied by the mist thickly, and the rest is of dark bluish tint. Huygens is clearly shown. Hellas has a

blurred misty perimeter. Olympia is evident on G and B.

DBt's LRGB image is excellent. The morning mist is thickly shown with a good gradation. The morning mist is mainly originated from L. The southern part of M Acidalium is influenced by the morning mist. Hyperboreus L is definitely darker than M Acidalium in R. The evening mist left by the concealed Syrtis Mj is thick near the terminator in LRGB. The B filter used looks to admit a longer wavelength light.

JKz's set of R, G, B images catch Olympus Mons near the CM. Its cloud is at the western flank and looks compact. The summit is a dark spot on the R image. The Tharsis ridges are also clouded but not so strong. The summits of Ascræus Mons and Pavonis Mons look exposed in a brownish colour. The area of Arsia Mons looks shadowy, but uncertain. The evening cloud at Xanthe is quite spread and whitish. Some details of the npc are described. At the southern part of the area is shown a brighter core, and the area is associated with an interesting white spot at the place where Olympia will come.

MKd's three colour images chase Elysium from the centre to the evening side. The nearer Elysium approaches the evening terminator, the brighter it becomes, but its detail is obscure in general. The image at ω=214°W still shows the bright cloud of Olympus Mons at the terminator. On the other hand, the image at ω=253°W proves a spread of the misty broad tail from the Elysium cloud. Once its tail-band goes upward (southward) and then bends down to Syrtis Mj (here we can say without the B images). Syrtis Mj is dark bluish. This image (at ω=253°W) is above average, and the mapping of M Cimmerium is good. The bright Hellas comes in. The evening Olympia is OK. Utopia may suggest an old sand storm. We add that the bright Elysium cloud is distinguished from the ground-lit area.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140318/XDp18Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140318/JPp18Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140318/DBt18Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140318/JKz18Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140318/MKd18Mar14.jpg

19 March (λ=104°Ls~105°Ls): D PEACH (*DPc*) observed at ω=272°W, *DBt* at ω=344°W, J BOUDREAU (*JBd*, Ma, the US) at ω=347°W, *MVl* at ω=092°W, 098°W, 109°W, 112°W, 115°W, 124°W, 130°W, *JKz* at ω=116°W, *MJs* at ω=128°W, *SBd* at ω=140°W, and finally *BCr* at ω=146°W.

DPc's npc seems to show a fine structure: There can be checked several minor dusty lines which intersect the dark fringe related with Rima Borealis. Olympia is about to sink. The Elysium cloud is bright near the evening terminator, and sends a wide mist band to the SW direction and then goes down to the northern part of Syrtis Mj. The B image shows that it goes further to the morning side. Hellas is whitish bright as it entered insider. The Huygens crater is definite. A bit seen is the northern end of M Acidalium at the morning limb.

DBt's image set is also interesting. It catches the thick morning mist at Chryse, and at the evening terminator a tail of the evening mist is over the sinking Syrtis Mj. Hellas is a bit, but no message is left about the flowing-out mist to Noachis. Aryn's nails are barely seen. The southern part of M Acidalium is misty, while the northern district is darker, though less dark than Hyperboreus L. The western side of the npc looks dusty.

JBd's images are graded as high quality. The area from S Sabæus to S Meridiani is nicely detailed. M Acidalium is misty on the morning side but looks normal. Hyperboreus L is shot from a good angle which shows a spread of dust around the npc. The npc shows a rift which differentiates the colours of the upper part and the opposite part. Notable is the fact that R and RGB show a "dot" inside the light streak

adjacent to the eastern boundary of M Acidalium. Originally this appeared in an IR image at Pic taken by *CPl* as a bridge across the streak on 13 March, while it was reinterpreted as a "dot" by *DPk* on 17 March. *JBd* used a 37cm Dall-Kirkham at MA, the US.

MVl's images are lots: they may help to chase the clouds at the Tharsis ridges as well as at Olympus Mons. The summits of Montes are visible on any images. It is certain the clouds stay at the western mountainsides, proven in B. Among the images, those at ω=115°W, 124°W well express the surroundings of the npc: The npc looks split into two, where the western patch is brighter and the eastern side looks dusty. Beyond Rima Borealis, there are seen two white points (or more) which are forerunners of Olympia.

JKz's images also show the clouds at the west flanks of Olympus Mons as well as Tharsis Montes. Xanthe's evening cloud is also depicted nicely. The npc and its surroundings are well caught. The two white dots which precede Olympia are well described in B. Alba presents. The western core of the npc is smaller and the opposite element looks dirty.

On *MJs*'s images, the white clouds at the mountain sides are well expressed: The summits of Ascræus, Pavonis and Arsia Montes look to poke out as well as the summit of Olympus Mons. The cloud associated with Arsia Mons is weak. Note the difference of G from B concerning the evening mist. The npc and its neighbourhood are similarly well mapped.

SBd issued nicer images where Olympus Mons and Ascræus Mons look three dimensional with the clouds at the western mountainsides. Three or four snowflakes are visible preceding Olympia. The ice stick of the npc is visible whose western head is pulling itself up. Near the morning limb, Phlegra is visible with a doubled body following Propontis I. At the southern hemisphere, M Sirenum shows up with a poor structure which is familiar since 1986.

BCr's images are shown in sharpness. The orographic clouds look more vivid. (Any high-contrast image however may suffer from the artefact arc line along the limb so that in case the limb side is important one should be careful.) The stick-like npc looks to pick itself up. The aspect of the southern limb side is interesting.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140319/DPc19Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140319/DBt19Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140319/JBd19Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140319/MVl19Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140319/JKz19Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140319/MJs19Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140319/BCr19Mar14.jpg

20 March (λ=105°Ls): *XDp* imaged at ω=256°W, *CPl* at ω=278°W (IR: ω=272°W), *EMr* at ω=312°W+ω=328°W, *SGh* at ω=213°W.

XDp's set of images is excellent: The RVB image well shows the nuance of the dark blue tint of Syrtis Mj and the sandy colour governing Utopia. The white Elysium cloud is well detached from the ground-lit narrow lane along the Ætheria dark patch. It's a good work. Hellas is at the morning side, while some misty elements seep out from the inside. The npc show its rift.

CPl's B image shows well the winding flow of mist from Elysium thickly down to the eastern half of the northern part of Syrtis Mj. The reproduction of Hellas is good to describe the inner shadowy concave and the seeping out of something. The npc shows a complex structure: Something misty looks to rise

from the npc towards NW direction. Olympia is still caught. The dark markings looks made of an aggregate of dark patches from Syrtis Mj to M Tyrrhenum, including Huygens. The Elysium cloud, near the terminator, is whitish rich and upright standing.

EMr's two sets of images are of high quality: It is very exciting to explicitly see how the evening thick mist draws arc to warp down to the N part of Syrtis Mj: It's like a misty cyclone. It's also true that the northern-east half of Syrtis Mj is thickly misted. Note the difference of the thickness of the mist at ω=312°W from at ω=328°W. It is also interesting to see on G how far the leakage of something from the npc has been developed. Hellas is near the terminator, but still a shadowy area is visible inside at ω=312°W.

On *SGh*'s image: Hemming is no use. The colours look too vivid. Yellow margin without the white npc is strange.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140320/XDp20Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140320/CPl20Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140320/EMr20Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140320/SGh20Mar14.jpg

21 March (λ=105°Ls~106°Ls): *AVn* took an IR image first at ω=251°W. Then Stefano QUARESIMA (*SQr*) observed at ω=258°W (this set was kindly communicated by our friend Gianni QUARRA (*GQr*), now at Rome). Thirdly *DBt* shot at ω=328°W and ω=334°W. Finally *MKd* observed at ω=204°W.

On *AVn*'s IR image, the dark fringe of the permanent npc is the darkest. Hellas is never light. The Elysium cloud is not bright on IR, but we can discriminate its trace from the ground-lit lane adjacent to the Ætheria dark patch which shows a fine structure. The npc gives a rift and Olympia is associated (looks doubled). The ant-head like part of M Cimmerium is clearly visible and the fork at the northern end are nicely shown. Also detailed is Boreosyrtis.

SQr's set is the first-quality image set. Hellas is already blue-whitish bright in RGB. The cloud at Elysium Mons is whitish bright, but is clearly separated from the ground-lit lane. The southern part of the Ætheria dark patch is forked. The southern Ausonia near the S limb shows a red-wine-colour. The description of M Cimmerium and Hesperia is interesting. The evening broad mist draws a large arc, passes over Syrtis Mj and reaches the morning mist. The rift inside the npc is rather explicit.

On *DBt*'s two sets of images, the description of S Meridiani and the N part of S Margaritifer S is quite nice. Due to the thick morning mist, the southern part of M Acidalium is beneath the thick mist. We should say the RGB image at ω=334°W is more realistic because of the treatment of the mist. Notable is that at the npc area the ice stick-like body looks like raising its head up. The evening mist band stays on Syrtis Mj and goes across the desert and expands further to the west.

MKd's is a single colour. Elysium is near the CM, while the lighter part inside is duller. At the eastern terminator, seen is the remnant of the cloud related with Olympus Mons. On the southern hemisphere M Cimmerium occupies but the resolution is not high.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140321/AVn21Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140321/SQr21Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140321/DBt21Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140321/MKd21Mar14.jpg

22 March (λ=106°Ls): No more than two sets by *Mo* and *Km*. *Mo* observed at ω=094°W, and *Km* at ω=106°W.

In the case of *Mo*, the RGB is a bit more modulated than LRGB. Even then it is only shows the dark patch of Solis L and the light Ophir-Candor. M Acidalium lies at the evening side. The broad band of mist along the equator is seen on B. The npc is flat and looks to send out a misty smoke upward from the centre.

Km's B image shows the white clouds at the western flanks of Olympus Mons as well as Ascræus Mons. Ophir et al also receive some influence of the mist, while Juventæ Fons is visible. Solis L is near the evening terminator, while Tithonius L shows a lucid structure. The npc is flat.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140322/Mo22Mar14.jpg

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140322/Km22Mar14.jpg

23 March (λ=106°Ls): D ARDITTI (*DAr*) produced image at ω=233°W, maybe the second work this apparition. Next F WILLEMS (*FWl*)'s first work this apparition at ω=283°W. Third, *FMl* took at ω=313°W. Fourth, *Mo* put forward three consecutive sets at ω=064°W, 074°W, 084°W. Fifth, *MVl* observed at ω=074°W, (092°W), 094°W. Sixth, *Km* shot at ω=078°W. Seventh, *Kn* made a colour drawing at ω=080°W. Eighth, *MJs* observed at ω=093°W. Ninth and finally, *MKd* worked at ω=177°W.

DAr's is a single LRGB image: It shows a dark blue Syrtis Mj near the morning limb. Hellas is not yet, just the corresponding limb is bluish. Elysium Mons is considerably inside, but the possible cloud is not bright. Just we can discriminate the colour difference of the streaks. M Cimmerium and Utopia show some details. Olympia is visible, while it is not bright.

Freddy *FWl*'s RGB image shows the bright Elysium cloud at the evening terminator, from which a broad thin mist is sent to Syrtis Mj. Hellas is covered by something whitish bright (overflowing) that is dull in IR 742 while well bright in IR 685. No details on the dark markings to be reviewed.

Frank *FMl*'s image shows clearly the white brightness of Hellas, the terminator bright mist and the morning limb mist. The evening mist goes through Syrtis Mj and then to Æria. S Sabæus and S Meridiani are clearly seen with a light Edom.

At *Mo*'s place, the seeing condition a bit improved so that he observed three times every 40 minutes. The images look rough at first glance while we can chase from Margaritifer S through M Erythræum until the area of Solis L. Agathodæmon is conspicuous, and Ophir-Candor is bright. M Acidalium is visible near the evening terminator. We can see how the evening mist goes through the southern part of M Acidalium to join the morning mist. It is interesting to see Hyperboreus L from this angle. There seems to exist the Ascræus cloud.

MVl's RGB images are similar to *Mo*'s. However some ingredients of *MVl*'s pin down the cloud at the western flank of Olympus Mons. For example, Olympus Mons shows up its three dimensional shape in R. The cloud at the western mountainside of Ascræus Mons at ω=094°W stands out. There is an influence of the rift of the npc. Olympia is coming.

Teruaki *Km*'s colour image looks to have been enhanced, while the markings made by a lot of dark dots look realistic. The inside of Solis L is notable. The shape and contents of the npc is also interesting. The B image shows a detail of the misty band along the equator. The cloud at the west flank of Ascræus Mons still appears in the morning. Tharsis Montes seem to be separated each other in this image. Olympus Mons looks three dimensional.

Reiichi *Kn*'s colour drawing nicely shows the broad mist band from Chryse to the morning side. His beautiful skill to trace the limb side is not something we can imitate.

MJs's RGB image surprises us by showing a long upward cloud tail at the western flank of Ascræus

Mons: It is located along the Tharsis ridge, but it reminds us of the upright standing of the bright cloud at Elysium Mons. At present we cannot say that the summits of Tharsis Montes are independently poked out on this image. This is the moment when the Ascræus cloud has just dispersed. The three dimensional view of the area of Olympus Mons is superb, but at present ι = 13° so that this is not the opposition effect. The npc is described complex, and there is something sent out from the core. Solis L and Nilokeras are detailed (enhanced ?) and look attractive. The G and B images are also superb (see the npc in G).

MKd's RGB is preferable taken from a good angle. Impressive are the white clouds at Olympus Mons together with the preceding Tharsis clouds near the evening terminator. The Elysium cloud is seen in G as a tiny spot, but otherwise it is not yet clear. Around Elysium is governed by the morning mist. The area around Phlegra is brownish. Notable is area of the npc. On this day the angular diameter went up to δ=14.0".

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140323/DAr23Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140323/FWl23Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140323/FMl23Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140323/Mo23Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140323/MVl23Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140323/Km23Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140323/Kn23Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140323/MJs23Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140323/MKd23Mar14.jpg

24 March (λ=106°Ls~107°Ls): Tomio AKUTSU (*Ak*) who returned home produced a set of images at ω=059°W (and IR at ω=061°W) in Japan. Next *SBd*'s work follows in Australia at ω=098°W.

Ak produced Mars images by the use of the 32cm Newtonian in Japan. On B, there is shot a mist band from Thymiamata. The band is connected with the "Ascræus cloud" at the morning side. The dark markings include M Erythræum, Solis L, as well as Margaritifer S and Auroræ S but without details. Ophir is light and it is a notable fact that the morning mist flows in the inside of Tithonius L. To the north of the Ascræus cloud, there is a large clear roundish area having a red-wine-colour, but it is followed by a thick morning mist. Hyperboreus L is dark (darkest?) but the area has no detail.

SBd's B image shows an interesting row of sporadic whitish cloud patches. Already the Ascræus cloud dispersed. However several Montes show cloud patches at the west flanks. Ophir and Candor look to have received the morning mist. Alba also shows a misty tail to the SW direction. Solis L is near the terminator. Tithonius L is well visible. Nilokeras is invaded by the evening mist. The npc is well mapped: Its left-hand-side looks dusty. Olympia is about to come in.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140324/Ak24Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140324/SBd24Mar14.jpg

25 March (λ=107°Ls): *LAt* observed at ω=208°W, *FMl* at ω=280°W, *EMr* at ω=292°W, *JKz* at ω=060°W, *MVl* at ω=069°W, and finally *BCr* at ω=080°W+087°W.

LAt's is a single colour image: A remnant mist is seen after Olympus Mons went out. The morning mist is thicker and whiter. Near the CM, there is the light Elysium, but the white core is not visible. Olympia is dim. M Cimmerium lacks details, but it is miraculous that N Alcyonius is clearly spotted though Syrtis Mj is not yet apparent.

On *FMl*'s image, Hellas is whitish brilliant and Syrtis Mj is near the CM. The npc is whitish bright, and

Olympia is checked at eastern side of the npc.

EMr's is a nice set of images: Syrtis Mj passed the CM, and Aryn's nails are visible near the limb. The rhs of Syrtis Mj consists of several patches including Huygens's centre. The light and shadow distribution inside Utopia is another interesting point. Hellas is white but at the same time the inside shows up some gradation. We would like to know the bottom ice floor by IR. There are seen some misty overflows from the perimeter of Hellas. The Elysium cloud is very white at the terminator and sends southward a curved mist band which goes down next to Syrtis Mj. The aftermath is provided by the B image. It is particular that the morning mist is not thick. A light remnant of Olympia is about to sink. The npc shows a detail together with hints to be studied later.

JKz's is a single colour image: The processing at the following limb is not perfect, but interestingly, in addition to the revealing of the Ascræus Cloud, the image shows the poking out of the Tharsis Montes in brownish tint. We wonder *JKz* is the first observer in this Gallery who showed the isolated summit dots (seasonally this is not so early: In 1997, the spotty summit of Ascræus Mons was caught from λ=096°Ls, and the famous observation by Paulo TANGA was done at λ=104°Ls. See

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmomn0/97Note03.htm

JKz further shows the evening mist band clearly which expands westward from Thymiamata through the southern part of M Acidalium to the Ascræus Cloud. Note also a branch of mist flows into around the area of Solis L. S Meridiani is going away from the terminator. Hyperboreus L is as if it holds the npc which is disturbed by dusts at the rift.

MVl's RGB image shows that the Ascræus cloud is rich. However the Tharsis Montes are not clearly shown. S Meridiani still remains. The misty broad band from the evening Thymiamata to the morning Ascræus cloud is clearly seen. The disk is quite misty, but the area around Tithonius L is well described. The npc may be more suggestive than *JKz*'s. It may be thanks to the R image.

BCr's images refresh us: The cloud distribution changes as soon as the Ascræus cloud is extinguished. A clear cloud condensation occurs at the western flank of the Tharsis ridge, and also made is another cloud streak to the east side of Olympus Mons. Because of these phenomena the poking-out of the summits is not seen. The image at ω=087°W shows the area of Olympus Mons to be like a golden ring. It is interesting if it is compared with *MJs*'s image on 23 March at ω=093°W. We additionally state that *BCr*'s npc is lucid: The description of the complex southern perimeter of the npc is of use. Something that is seen to the western direction of the npc may be a detachment related with Olympia. See the images where some HST images of the minimal npc is shown:

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmomn0/97Note04.htm

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140325/LAt25Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140325/FMl25Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140325/EMr25Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140325/JKz25Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140325/MVl25Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140325/BCr25Mar14.jpg

26 March (λ=107°Ls~108°Ls): *KSm* drew at ω=200°W, *SGh* imaged at ω=160°W, and finally *LAt* at ω=177°W.

KSm draws (at 00:30 GMT) Elysium to be whitish near the CM, and also show the evening mist as a remnant of Olympus Mons. One of the dark markings must be M Cimmerium.

SGh's image shows a cotton-ball of Olympus Mons in the evening, following the precedent beautiful white cloud near the terminator concerned with the Tharsis Montes. At the morning side, *SGh* shows the thick morning mist at the southern part of Elysium. The npc is described dull, as well as the rising Olympia.

LAt shows Elysium at the morning side with its inside of a bit whitish tint, partly influenced by the morning mist near the limb. On the evening side, Olympus white ball separated by a dark valley from the Tharsis cloud which is very near the terminator. The Ætheria dark patch is dark as Propontis I on the morning side. On the southern hemisphere, M Cimmerium is shown in a nice form. The SW of the npc is largely misty.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140326/KSm26Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140326/SGh26Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140326/LAt26Mar14.jpg

27 March (λ=108°Ls): *PGc* observed at ω=280°W (IR at ω=283°W), *Mo* at ω=029°W, 034°W, 039°W, 044°W (consecutive shooting every 5°W), *Ak* at ω=030°W, 060°W, *JKz* at ω=030°W, *Kn* made colour drawings at ω=040°W, 050°W, and finally *Km* shot at ω=049°W.

PGc's RGB image looks a bit coarse, but the outflows from the bright Hellas as well as the broad misty from the Elysium bright cloud at the terminator are well traced. The npc looks just conventional. In IR, Hellas is slightly shadowy than the npc.

Mo's R image shows Brangæna. Especially LRGB shows it at ω=029°W. The description of M Acidalium is above average. The seeing condition then seems to have deteriorated, while after ω=039°W, the summit of Ascræus Mons is visible (see R). Iaxartes looks doubled. The npc shows a rift at the centre.

Ak's RGB image at ω=030°W shows that M Acidalium, now near the CM, appears to be quite fainter than usual. In B, the misty band from Thymiamata is shown zigzagged and very broad. The morning mist is thick. On IR, Iaxartes is doubled. At ω=060°W when seeing was deteriorated, Tharsis Montes are poked, but description is poor.

JKz issues a single RGB image taken under a better seeing condition. The southern limb shows a white cloud but it is followed by a greenish artificial arc. Almost all details are shown. Especially it is amazing for the image to show up Aurea Cherso which is familiar to the observers when the planet approached perihelically. M Acidalium is faded in general except for the NW corner. The npc, embraced by Hyperboreus L, is largely disturbed by the polar dust except for the eastern brighter part. Olympia is faintly rising up. The morning mist around Tharsis is strong, while Ascræus Mons appears as a dark dot, but it is a matter of regret for *JKz* to have missed further observations 40 minutes, 80 minutes later.

Reiichi *Kn*'s two drawings well grasp the aspect of S Meridiani as well as the Thymiamata mist at the evening terminator. Chryse partly shows a bit yellowish tint affected by the misty band. Both drawings catch Hyperboreus L. The southern limb shows a rather whitish small cloud.

Teruaki *Km*'s L-colour image shows nice colour, but the dark markings are fatter. The misty band along the equator is vivid in B. No mist at Ophir.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140327/PGc27Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140327/Mo27Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140327/Ak27Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140327/JKz27Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140327/Kn27Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140327/Km27Mar14.jpg

28 March (λ=108°Ls~109°Ls): *MVl* gave a long version at ω=010°W, 030°W, 047°W, 052°W, *Ak* repeated at ω=014°W, 022°W, and at 054°W (unfortunately *Ak* avoided an overlap with the data obtained on the preceding day), *SBd* observed at ω=027°W, 036°W, *MJs* at ω=053°W, and finally *MKd* at ω=132°W.

MVl's images do not look to appeal first, but they suggest the misty surface itself and show minor details. We should say this series is one of the best ones. At ω=010°W Syrtis Mj remains near the terminator (ι=9°) with a thick mist at the northern part and the mist further extends to the desert. The morning Chryse is also quite misty, but we can detect Brangæna and further detailed minor marking along the ria coast up to Auroræ S. The northern end of Hyperboreus L shows a dust distribution on the npc which shows Chasma Boreale. At ω=030°W, Ascræus Mons's summit appears near the limb as a dark brownish dot. Even then, such fine markings are apparent as Brangæna, Nilokeras, Juventæ F, Chasma Boreale, Aurea Cherso et al. At ω=047°W, in addition to Ascræus Mons, the dot of Pavonis Mons has appeared. On this image, the area of Chasma Boreale is outstandingly described. Olympia has become longer. A misty expansion is visible around the southern limb. At ω=052°W, the seeing must be stable because Brangæna is visible near the terminator. Arsia Mons and Olympus Mons are possible to be supposed to show up, though an artefact along the limb is an obstacle. The lineup appearance of Montes is also vivid in B. The Ascræus cloud is also evident. The interaction between Hyperboreus L and the npc with Chasma Boreale is best described here.

Ak's image set at ω=014°W may be a good set, while the image of the npc suggests that the seeing condition was not so preferable. The image set at ω=054°W may show the Tharsis ridges, but blunt. Really the B image does not say anything about the poking phenomenon. The density of dark markings is quite higher compared with the case of *MVl*.

SBd's two sets are admirable: The fine structure around Margaritifer S is splendidly shown. However it is regrettable to see an artefact arc along the limb at ω=036°W in spite of the revealing a poked dot at Ascræus Mons (apparent also in G and B: The G image suggests another streak of cloud downward). We wonder why he missed the further chances to shoot the area in succession. Note that the fine detail is also visible at the area of Aurea Cherso. The description of the area of the npc belongs to the first class.

MJs's set of images also shows the poking of Tharsis Montes, but still a mal process allows the ghost arc line to appear. Aurea Cherso is similarly checkable, and it is good to be able to see the two nails quite near the terminator, and the description of the npc area is astonishing compared with *VMl*'s image at ω=052°W (*MJs*'s is at ω=053°W). The southern limb is well described in G and B.

MKd's single image shows the surface where the white Olympus Mons is near the CM. The Tharsis cloud looks rather thick as well as the evening cloud at Xanthe. Alba is a bit whitish. No particular details are seen on the markings. M Sirenum is visible near the southern limb.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140328/MVl28Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140328/Ak28Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140328/SBd28Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140328/MJs28Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140328/MKd28Mar14.jpg

29 March (λ=109°Ls): *DBt* observed at ω=247°W, *EMr* at ω=255°W, *LAt* at ω=142°W+163°W.

On *DBt*'s set of images, Hellas is at the morning limb. The morning mist is strong following Syrtis Mj which is bluish in RGB. The light Elysium cloud lies upright along a longitudinal line. The evening mist at the terminator is light. Olympia is nicely mapped to the NE of the npc.

EMr's RGB is good: The cloud of Elysium Mons is upright and independent of the ground-lit segment adjacent to the Ætheria dark patch. This cloud and the Hellas at the morning limb are bright on B. A faint misty band from Elysium runs toward the west to make the northern part of Syrtis Mj slightly bluish. The evening terminator preceding Cerberus shows a decreasing mist expansion. M Cimmerium shows a bit details. The centre of Utopia looks much more bared than usual. Olympia is quite declined.

LAt's two images are separated by 21°W. On the first image, Olympus Mons is near the CM, already showing a white cloud at the west flank. Alba is visible to the north. The cloud patches associated with the Tharsis ridges are also white: One may see summits of Montes to be shadowy. The preceding white cloud near the terminator shows a bit blue tint. On the second image, the Tharsis clouds are mixed with the terminator cloud. On the morning side, the white Elysium cloud is visible, while it was uncertain on the first image because Elysium was too near the brightened limb. On the first image, Propontis I is dark, while on the second, the northern end of the Ætheria dark patch is newly dark-dotted. On the first at 142°W, M Sirenum mainly occupies, while on the second at ω=163°W, a nice curve of M Cimmerium is added. The npc and Olympia look like a pair.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140329/DBt29Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140329/EMr29Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140329/LAt29Mar14.jpg

30 March (λ=109°Ls~110°Ls): Charles TRIANA (*CTr*), Colombia, joined with two images at ω=222°W and at ω=269°W (separated by more than 3 hrs). *DBt* worked at ω=238°W, and then *MJs* at ω=020°W.

CTr's images show first the surface where Syrtis Mj is coming in with a blue tint, and the second does where Syrtis Mj is approaching the CM. These well show that the white point-like cloud of Elysium Mons is distinguished from the following a ground-lit streak. Olympia is located to the south of the npc on the first image, and at the evening side on the second. Olympia looks followed by an isolated faint icy point. On the first image, Olympus Mons was just gone away leaving an evening cloud, from which a broad mist rises up toward SW, and from Elysium cloud another broad misty band goes to the NW direction and then it swirls down to the morning Syrtis Mj. The second image will show also such a tendency if the B image is provided. On the first image, M Cimmerium and Hesperia are well produced, and on the second, Hellas is bright whitish.

DBt's set is similar to the one obtained on the day before, just different by about ten degrees. Any component of R, G, B is good. Hence similar comments to the previous case will be applied. Just in B, the dark markings look too apparent.

MJs's set implies the days of the three or four poked dots have passed away in Australia. This set shows good description of minor patterns of the area of S Sabæus westward to S Auroræ. The depiction of the npc area including Chasma Boreale is excellent. M Acidalium is fainter. The evening cloud near the terminator suggests a delicate structure. The processing of the following limb side looks poor.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140330/CTr30Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140330/DBt30Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140330/MJs30Mar14.jpg

31 March (λ=110°Ls): Now the angular diameter increased to δ=14.7". *Km* observed at ω=353°W, and finally *MKd* at ω=100°W. On the day, one of the present writers (M MINAMI, *Mn*) tried to observe Mars from the Observatory of the Fukui City Museum of Natural History which is the place where he have chased the planet Mars since 1954, helped by Akinori NISHITA (*Ns*) first after these two years. In

consideration of the situation when he fell down (because of the Parkinsonism) at the end of March 2012, *Mn* avoided the winter coldness with snowfall, and waited another season when the days of comfortable temperature visit during this apparition.

Km's images look to be lowered a bit the quality because of unfavourable seeing condition. Even then a rough description of the situation is possible. The evening mist covers the sinking Syrtis Mj, and a mist from the gone-away Hellas is a bit visible in B. The morning mist is thick. No detail around S Sabæus.

MKd's images are interesting: The west flank of Ascræus Mons shows a thick cloud, and Olympus Mons looks surrounded by a ring. The phase angle ι was 7° so that it's a time when the *opposition effect* appears, but some cloud is seen at the following side, and hence this ring must be mainly meteorological one. We should note that the RGB or R image shows a structural detail of Solis L. To the south of Solis L, there is a mist or fog. Tithonius L is detailed. The evening broad mist from Xanthe is considerably extended westward. The npc area attracts our attention: In addition to the blurred Chasma Boreale, Olympia is rising and sending a faint tail.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140331/Km31Mar14.jpg

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140331/MKd31Mar14.jpg

Mn's visual observations were made at ω=004°W, 014°W, 026°W. *Mn* used an Iena 6mm ocular. The planet Mars inside the eye-field looked larger than expected. It is still hard to gaze continuously the same image long, and *Mn* feels he is not just but quite rusty. *Mn* noticed S Sabæus, Hyperboreus L et al as well as the bright npc, but since he has not been used to handling the pencils for these two years, it is difficult now to draw the images. So just he converts to collect some partial sketches and notes.

The first impression he conceived was that the planet was covered by a misty matter more thickly than the surface aspect the usual ccd images suggest. The morning mist is well thick, but *Mn* wonders how the usual ccd images have been quite enhanced to squeeze the details. In this sense *Mn* is favourably disposed to like the mild work by Don PARKER (*DPk*) on 11 & 17 March as well as by Maurice VALIMBERTI (*MVl*, if he is conscientious in processing) in this apparition.

By the way, we report that *Ns* tried to shoot from the Observatory at Fukui in April. At the beginning of May 2014, *Ns* plans under the auspice of Dr Tadashi ASADA (*As*) to go to the Hida Observatory of Kyoto University to observe Mars by the use of a big Zeiss 65cm refractor.

♂····· As to the minimal aspect of the npc and its surroundings, we once wrote in CMO #183 (25 Jan 1997): The following web-site may be helpful:

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmo/183/cmo183.html

This time we have not mentioned of *Ierne*, while it is already apparent and will be analysed about its life in a Note after the season. The following is our old report:

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmo/note/9908/08.html

♂····· **We Further Received** some earlier work from the following observers.

AERTS, Leo *(LAt)* BELGIUM

1 *Colour* + 1 *R* Images (31 January 2014) 36cm SCT, with a DMK21AU618

ARDITTI, David (*DAr*) Stag Lane, Edgware, Middx, the UK

1 *Colour* Image (21 February 2014) 36cm SCT with a Flea 3

Masatsugu MINAMI (Mn) & Masami MURAKAMI (Mk)

Forthcoming 13/14 Mars (9)

Ephemeris for the Observations of the 2013/14 Mars. V

May & June 2014

Akinori NISHITA

As a sequel to the Ephemeris for the physical observations of Mars in CMO/ISMO #419, we here list up the necessary elements of the Ephemeris for period from 1 May 2014 till 30 June 2014: The data are listed for every day at 00:00 GMT (not TDT). The symbols ω and ϕ denote the longitude and latitude of the sub-Earth point respectively. The symbols λ, δ and ι stand for the areocentric longitude of the Sun, the apparent diameter and the phase angle respectively. We also add the column of the Position Angle Π of the axis rotation, measured eastwards from the north point: This is useful to determine the north pole direction from the $p\leftarrow$. The apparent declination of the planet is also given at the final column (denoted D).

The data here are basically based on *The Astronomical Almanac for the Year 2014*.

Date (00:00GMT)			ω	ϕ	λ	δ	ι	Π	D
01	May	2014	237.85°W	23.93°N	124.03°Ls	14.55"	17.9°	31.9°	−03°02'
02	May	2014	228.99°W	24.01°N	124.50°Ls	14.48"	18.6°	31.8°	−02°59'
03	May	2014	220.12°W	24.09°N	124.97°Ls	14.41"	19.3°	31.7°	−02°56'
04	May	2014	211.23°W	24.16°N	125.45°Ls	14.33"	20.0°	31.6°	−02°53'
05	May	2014	202.33°W	24.24°N	125.92°Ls	14.25"	20.7°	31.5°	−02°51'
06	May	2014	193.42°W	24.31°N	126.40°Ls	14.17"	21.3°	31.5°	−02°49'
07	May	2014	184.49°W	24.38°N	126.87°Ls	14.09"	22.0°	31.4°	−02°47'
08	May	2014	175.55°W	24.45°N	127.35°Ls	14.01"	22.6°	31.3°	−02°46'
09	May	2014	166.59°W	24.51°N	127.83°Ls	13.92"	23.3°	31.3°	−02°44'
10	May	2014	157.62°W	24.58°N	128.31°Ls	13.84"	23.9°	31.2°	−02°44'
11	May	2014	148.63°W	24.64°N	128.79°Ls	13.75"	24.5°	31.2°	−02°43'
12	May	2014	139.63°W	24.70°N	129.27°Ls	13.66"	25.1°	31.1°	−02°43'
13	May	2014	130.61°W	24.75°N	129.75°Ls	13.57"	25.7°	31.1°	−02°43'
14	May	2014	121.58°W	24.81°N	130.23°Ls	13.47"	26.2°	31.1°	−02°43'
15	May	2014	112.54°W	24.86°N	130.71°Ls	13.38"	26.8°	31.0°	−02°44'
16	May	2014	103.48°W	24.91°N	131.19°Ls	13.29"	27.3°	31.0°	−02°45'
17	May	2014	094.40°W	24.96°N	131.68°Ls	13.20"	27.8°	31.0°	−02°46'
18	May	2014	085.32°W	25.00°N	132.16°Ls	13.10"	28.3°	31.0°	−02°47'
19	May	2014	076.21°W	25.05°N	132.64°Ls	13.01"	28.8°	31.0°	−02°49'
20	May	2014	067.10°W	25.09°N	133.13°Ls	12.92"	29.3°	31.0°	−02°51'
21	May	2014	057.97°W	25.13°N	133.62°Ls	12.82"	29.8°	31.0°	−02°53'
22	May	2014	048.82°W	25.16°N	134.10°Ls	12.73"	30.2°	31.0°	−02°56'
23	May	2014	039.66°W	25.20°N	134.59°Ls	12.63"	30.7°	31.0°	−02°59'
24	May	2014	030.49°W	25.23°N	135.08°Ls	12.54"	31.1°	31.0°	−03°02'
25	May	2014	021.30°W	25.26°N	135.57°Ls	12.44"	31.6°	31.1°	−03°05'
26	May	2014	012.10°W	25.29°N	136.05°Ls	12.35"	32.0°	31.1°	−03°09'
27	May	2014	002.89°W	25.32°N	136.54°Ls	12.25"	32.4°	31.1°	−03°13'
28	May	2014	353.67°W	25.34°N	137.03°Ls	12.16"	32.8°	31.2°	−03°17'
29	May	2014	344.43°W	25.36°N	137.53°Ls	12.07"	33.2°	31.2°	−03°21'
30	May	2014	335.18°W	25.38°N	138.02°Ls	11.98"	33.6°	31.3°	−03°26'

Date (00:00GMT)			ω	ϕ	λ	δ	ι	Π	D	
31	May	2014	325.91°W	25.40°N	138.51°Ls	11.89"	34.0°	31.3°	−03°31'	
01	June	2014	316.64°W	25.41°N	139.01°Ls	11.80"	34.3°	31.4°	−03°36'	
02	June	2014	307.35°W	25.42°N	139.50°Ls	11.71"	34.7°	31.5°	−03°42'	
03	June	2014	298.05°W	25.43°N	140.00°Ls	11.62"	35.0°	31.5°	−03°47'	
04	June	2014	288.73°W	25.44°N	140.49°Ls	11.53"	35.3°	31.6°	−03°53'	
05	June	2014	279.41°W	25.44°N	140.99°Ls	11.44"	35.6°	31.7°	−03°59'	
06	June	2014	270.08°W	25.45°N	141.49°Ls	11.36"	35.9°	31.8°	−04°05'	
07	June	2014	260.73°W	25.45°N	141.98°Ls	11.27"	36.2°	31.8°	−04°12'	
08	June	2014	251.37°W	25.45°N	142.48°Ls	11.18"	36.5°	31.9°	−04°19'	
09	June	2014	242.01°W	25.44°N	142.98°Ls	11.10"	36.8°	32.0°	−04°25'	
10	June	2014	232.63°W	25.44°N	143.49°Ls	11.02"	37.1°	32.1°	−04°32'	
11	June	2014	223.24°W	25.43°N	143.99°Ls	10.93"	37.3°	32.2°	−04°40'	
12	June	2014	213.84°W	25.42°N	144.49°Ls	10.85"	37.6°	32.3°	−04°47'	
13	June	2014	204.43°W	25.40°N	145.00°Ls	10.77"	37.8°	32.4°	−04°55'	
14	June	2014	195.02°W	25.39°N	145.50°Ls	10.69"	38.1°	32.5°	−05°03'	
15	June	2014	185.59°W	25.37°N	146.01°Ls	10.61"	38.3°	32.6°	−05°11'	
16	June	2014	176.16°W	25.35°N	146.51°Ls	10.53"	38.5°	32.7°	−05°19'	
17	June	2014	166.71°W	25.32°N	147.02°Ls	10.46"	38.7°	32.8°	−05°27'	
18	June	2014	157.26°W	25.30°N	147.53°Ls	10.38"	39.0°	32.9°	−05°36'	
19	June	2014	147.80°W	25.27°N	148.03°Ls	10.31"	39.2°	33.1°	−05°44'	
20	June	2014	138.33°W	25.24°N	148.54°Ls	10.23"	39.4°	33.2°	−05°53'	
21	June	2014	128.85°W	25.20°N	149.05°Ls	10.16"	39.6°	33.3°	−06°02'	
22	June	2014	119.37°W	25.17°N	149.57°Ls	10.09"	39.8°	33.4°	−06°11'	
23	June	2014	109.88°W	25.13°N	150.08°Ls	10.01"	39.9°	33.5°	−06°20'	
24	June	2014	100.38°W	25.09°N	150.59°Ls	9.94"	40.1°	33.7°	−06°30'	
25	June	2014	090.87°W	25.04°N	151.10°Ls	9.87"	40.3°	33.8°	−06°39'	
26	June	2014	081.35°W	24.99°N	151.62°Ls	9.81"	40.4°	33.9°	−06°49'	
27	June	2014	071.83°W	24.94°N	152.13°Ls	9.74"	40.6°	34.0°	−06°58'	
28	June	2014	062.30°W	24.89°N	152.64°Ls	9.67"	40.7°	34.2°	−07°08'	
29	June	2014	052.76°W	24.83°N	153.16°Ls	9.61"	40.8°	34.3°	−07°18'	
30	June	2014	043.22°W	24.77°N	153.68°Ls	9.54"	41.0°	34.4°	−07°28'	
01	July	2014	033.67°W	24.71°N	154.20°Ls	9.48"	41.1°	34.6°	−07°39'	---

Letters to the Editor

●·····***Subject: Mars 28 Feb***
Received: 1 March at 07:58 JST

Hello everyone, Captured the exact same CM as yesterday but in better seeing. Regards

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140228/SBd28Feb14.jpg

○·····***Subject: Mars in better seeing, 03 Mar 2014***
Received: 4 March at 16:58 JST

Hello everyone, There were moments of good seeing this morning. I was able to use 690x magnification for a bit of a visual observation when I finished the imaging run. The view through the LRGB filters was amazingly similar to what the processed images look like - no surprises there, but it was the high magnification that really did the trick. Regards

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140303/SBd03Mar14.jpg

○·····***Subject: Mars 08 March with high level limb cloud?***
Received: 9 March at 10:26 JST

Hello everyone, I nearly gave up on the imaging this morning, as the seeing was so unsteady, but

eventually it settled down enough to produce this image. The bump on the north-western limb (high level cloud?) appears less blue than the evening limb haze further south. Location seems to be over Diacria, just northwest of Propontis I. Also Hellas is incredibly bright. Regards.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140308/SBd08Mar14.jpg

○····***Subject: Mars, 12th of March***
Received: 13 March at 14:11 JST

Hello everyone, The attached images were captured in wildly varying seeing. Regards

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140312/SBd12Mar14.jpg

○·····***Subject: Mars, 19th of March***
Received: 20 March at 14:09 JST

Hello everyone, The seeing was quite good this morning. For the first time ever all colour channels were equally sharp. I three colours were captured for 105 seconds, each. Regards.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140319/SBd19Mar14.jpg

○·····***Subject: Mars, 24 Mar 2014***
Received: 25 March 2014 at 18:23 JST

Hello everyone, Here's an image set from this morning in poor seeing. Regards.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140324/SBd24Mar14.jpg

○·····***Subject: Mars in good seeing, 28th March***
Received: 30 March 2014 at 14:57 JST

Hello everyone, It was the best seeing, so far, this apparition. Regards.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140328/SBd28Mar14.jpg

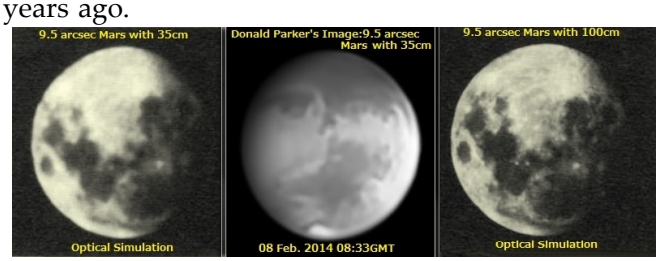
Stefan BUDA (Melbourne, AUSTRALIA)

●·····***Subject: On Mellish Again***
Received: 1 March at 15:31 JST

Dear Bill, I have just completed the translation of your leadoff article for the CMO/ISMO #419 for the CMO Japanese version. Your yours truly picture is great! He still is, I feel, in a lot of sense, every terrestrial Martian's hero. Your cutbacking style essay reminded me of an American film "*All Quiet on the Western Front*". It's always pleasing to me to read your writings with special tune, sonorous quotations and artful puns... your puns were often very hard to translate into Japanese: one of my "chefs-d'œuvre" was for your "eeyrie" in your Great Opposition of 2003 essay: my translation was 魔窟....reads "muck-tzu", means "a haunt of devils" or "a den of vice".

As for your Mellish Again part, I have a different opinion: Yes! images by Damian PEACH and Leo AERTS are really superb, clearly showing the features of Martian major markings despite the red planet's apparent diameter as small as 4~6 arcseconds, "Such imaging would have been unheard of only a decade ago" as Don PARKER phewed in his opening essay in the CMO/ISMO #418. The images show the triumph of recent digital imaging/processing technology as well as the imagers' outstanding skills, as they display details getting close to (maybe surpassing?) the classical optical resolution limit.

However, in other words, from the viewpoint of optical resolution, they just show the diffraction limited details for 14inch aperture (with excellent natural gradations and high reproducibilities, thanks to the recent digital imaging/processing technology). I guess it might have been possible that 40-inch aperture/7.7"across Mars/superb seeing combination cast a far sharper image some hundred years ago.



Attached here is a montage comparing Don PARKER's excellent R image of 9.5" Mars of this apparition with optical simulations using Moon (silver-salt photos taken with 1.8mm and 5.0mm apertures respectively). Please note the good match of the left-side pair in resolution, and the right-hand side simulation (40-inch/9.5" Mars) almost showing some larger craters along the terminator.

A Martian's threshold of emotional movement for Mars images must be significantly lower than that of a non-Marian. We are easily moved even by a common-sensely blurred Martian image, chiefly because we know the difficulty of achieving good total performances of planetary imaging, and may

be partly because we are performing some image processing with our eye-brain system at gazing at a planetary image on the screen or on the print. Even on a diffraction limited image of far and small Mars, the shapes of the major classical features: great claws, a big eye, a gigantic grasshopper, or a grand inverted triangle...together with a polar cap, clouds and dusts-appeal themselves to a Martian's emotion "Yes, it's a nice distant view of the little world I know well!". But I imagine what a diffraction limited 40-incher image would be like!?

Best Regards,

○·····***Subject: Drawings of Mars***
Received: 11 March at 02:23 JST

Dear Dr. Minami, Sorry to be late in submitting my observations. I have attached my latest drawings of Mars. Under average seeing it's no problem for me to make a color drawing of the planet, but I wonder if I shouldn't keep on taking color drawings, mainly because monochromatic drawings with plenty of careful notes seems better to record Martian atmospheric findings, and partly because my scanner doesn't reproduce the touch of my color drawings. Best wishes.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140223/Kn23Feb14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140303/Kn03Mar14.jpg

○·····***Subject: Drawing of Mars***
Received: 25 March 2014 at 22:36 JST

Dear Dr. Minami, I am attaching here my latest drawing of Mars. Seeing was still poor, extra-focal Martian image showed multi-layered/multi-directional streams above. Good Seeing! Good Health!!

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140323/Kn23Mar14.jpg

Reiichi KONNAÏ (Fukushima, JAPAN)

●·····***Subject: Mars images 27th Feb UT***
Received: 1 March at 16:36 JST

Attached are some Mars images taken yeasterday, 27th February in poor seeing conditions. Regards

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140227/MVl27Feb14.jpg

○·····***Subject: Mars 28th Feb 2014 UT***
Received: 2 March at 16:04 JST

Attached are some images of Mars taken on the 28th Feb UT in poor seeing. Best wishes.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140228/MVl28Feb14.jpg

○·····***Subject: Another 3rd March Mars***
Received: 4 March at 20:43 JST

The seeing this morning was very variable: from average to good. Attached is an image taken with quite good seeing. Others to follow when I have time. Best wishes.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140303/MVl03Mar14.jpg

○·····***Subject: Collection of images from the 3rd March UT***
Received: 7 March at 18:34 JST

Apologies for the file size, but this is a collection of all images that I was able to capture on the 3rd March UT. Seeing seemed to get better as the morning progressed, but was overall very changeable over the course of the session. Best wishes.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140303/MVl03Mar14.jpg

○·····***Subject: Mars images 8th March UT***
Received: 9 March at 21:36 JST

Attached is a compilation of images from the 8th March. Seeing varied from poor to fair. Regards.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140308/MVl08Mar14.jpg

○·····***Subject: Mars 12th March UT***
Received: 18 March at 20:16 JST

Sorry for the delay with these. I have only just now had time to process the data. Unfortunately, my capture software only delivered 1/3 of the normal Green channel data, so the images are a little more noisy than usual. All were taken on the 12 March in variable seeing conditions. Regards

○·····***Subject: RE: Mars 12th March UT***
Received: 18 March at 20:28 JST

Apologies, but I did not label the coloured filter data correctly. Please find attached an ammended version of the image. Regards

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140312/MVl12Mar14.jpg

○·····***Subject: Mars 19th March UT***
Received: 22 March at 18:45 JST

Here are some images from the 19th March UT taken in fair to good seeing. Best wishes.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140319/MVl19Mar14.jpg

○·····***Subject: Mars images 23rd March UT***
Received: 24 March 2014 at 22:37 JST

Attached are some Mars images taken on the 23rd March in poor to average seeing. Best wishes.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140323/MVl23Mar14.jpg

○·····***Subject: Mars 25th March UT***
Received: 26 March 2014 at 22:06 JST

Attached is an image of Mars taken this morning 25th March UT in fair/good seeing. Best wishes.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140325/MVl25Mar14.jpg

○····***Subject: Mars 28th March UT***
Received: 29 March 2014 at 0:18 JST

Attached is an image of Mars taken this morning in quite good seeing. Interesting to see what appears to be the Tharsis volcanoes and OM poking through the clouds.. Nice rift in the NPC too. Regards.

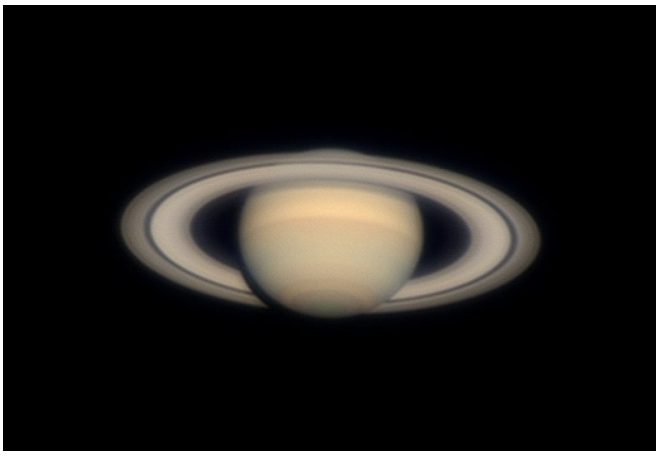
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140328/MVl28Mar14.jpg

○·····***Subject: Another Mars 28th March UT***
Received: 30 March 2014 at 23:00 JST

Here is another image of Mars from the 28th March UT. The seeing was very good also for this earlier image.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140328/MVl28Mar14.jpg

Just for interest I have also included an image of Saturn taken on the same night.



Best wishes

○·····***Subject: Mars image set from the 28th March***
Received: 31 March 2014 at 21:47 JST

Sorry for the delay with these, but I have not had the time to process earlier. These are a couple more images taken on our night of good seeing on the 28th March. The earlier image was taken while the planet was still quite low in the sky. Best wishes.

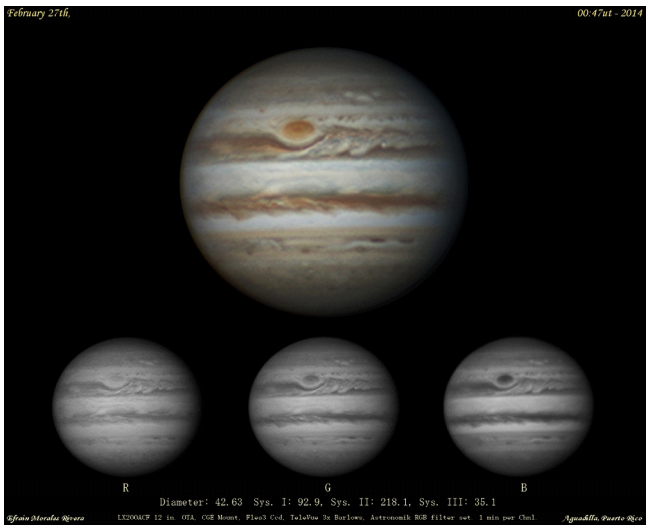
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140328/MVl28Mar14.jpg

Maurice VALIMBERTI
(Melbourne, AUSTRALIA)

●·····***Subject: Mars - February 27th***
Received: 1 March at 15:04 JST

Hi Mr. Minami and All!, Here is my latest session from 27th of february of Mars under above average conditions and my latest on Jupiter 27th february.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140227/EMr27Feb14.jpg



Clear Skies to All!.

○·····***Subject: Mars - February 27th***
Received: 2 March at 01:30 JST

Hi Mr. Minami, On my posted image last night forgot to mention some high altitude clouds at the north-east side of the limb (lump) visible on the blue, green channels. Clear Skies.

○·····***Subject: Mars - March 2nd***
Received: 3 March at 23:41 JST

Hi Mr. Minami and All!, Here is my latest from march 2nd, but unfortunately under below average conditions (1 set), Hopefully the weather improves soon, Clear Skies.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140302/EMr02Mar14.jpg

○·····***Subject: Mars - March 5th***
Received: 6 March at 24:54 JST

Hi Mr. Minami!, Wish you all is well. Here is my latest session under below average conditions of Mars on march 5th, 08:38ut. Clear Skies!.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140305/EMr05Mar14.jpg

○·····***Subject: Mars - March 7th, 8th***
Received: 10 March at 03:36 JST

Hi Mr. Minami and All!, Here I submit two sessions from march 7th (below average conditions) and the 8th (slightly better) hight turbulance and saharra dust influence.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140308/EMr08Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140307/EMr07Mar14.jpg

○····***Subject: Mars - March 10th***
Received: 13 March at 02:29 JST

Hi Mr. Minami, Here is my latest session from mar 10th. At above average conditions. Clear Skies!

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140310/EMr10Mar14.jpg

○····***Subject: Mars - March 13th***
Received: 15 March at 05:54 JST

Hi Mr. Minami and All!, Here is my latest session of Mars from march 13th, 05:39ut. At above average conditions.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140313/EMr13Mar14.jpg

A five frame animation from 05:23ut - 06:01ut

http://www.jaicoa-observatory.com/Mars-031314-0523-0601ut-S-EMr.gif

○····***Subject: March 15th, 05:38ut***
Received: 17 March at 04:17 JST

Hi Mr. Minami and All!, Here is my latest session from march 15th. Clear Skies.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140315/EMr15Mar14.jpg

○·····***Subject: Mars - March 17th, 04:46ut***
Received: 19 March at 15:17 JST

Hi Mr. Minami and All!, Here is my latest session from Mar 17 at above average conditions,
Clear Skies,

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140317/EMr17Mar14.jpg

○·····***Subject: Mars - March 20th***
Received: 22 March at 00:13 JST

Hi Mr. Minami and All!, Here is my latest session under above average conditions from march 20th, 04:33ut, 05:37ut.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140320/EMr20Mar14.jpg

○·····***Subject: Mars - March 29th, 06:01ut***
Received: 31 March 2014 at 22:40 JST

Hi Mr. Minami and All!, Here I submit my latest session of Mars from march 29th under average conditions.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140329/EMr29Mar14.jpg

Efrain MORALES RIVERA
(Aguadilla, PUERTO RICO)

●·····***Subject: Mars images - Feb. 23, Feb. 27 & Mar. 1***
Received: 2 March at 06:07 JST

Gentlemen, Here are some recent Mars images. The seeing was poor in February 23 with a pretty strong jet stream overhead. Seeing on February 27 was about average, but the temperature was a very cold -18°C. Seeing on March 1 was a little better than average, but the temperature was again -18°C. Regards,

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140223/PGc23Feb14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140227/PGc27Feb14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140301/PGc01Mar14.jpg

○·····***Subject: Mars image - March 27, 2014***
Received: 28 March 2014 at 19:15 JST

Gentlemen, Attached is a set of Mars images from March 27. Seeing was less than average, transparency was good. Hellas is extremely bright in blue. Bright clouds over Elysium. The north polar cap appears to have a "dirty" look to it. Regards

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140327/PGc27Mar14.jpg

Peter GORCZYNSKI (Oxford, CT, the USA)

●·····***Subject: First Mars images - 2nd March 2014***
Received: 3 March at 01:05 JST

Hi guys, Here my first images of the season, seeing was average but it's nice to see the red planet again !

http://www.astrosurf.com/pellier/M2014_03_02-CPE

The Tharsis orographics are growing. I have added the local Martian hour for Olympus and Ascraeus. Also some nice evening hazes in Chryse!

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140302/CPl02Mar14.jpg

BTW here is my second blog article for the 2014 Mars (to be followed at the end of the month by a more detailed ISMO note):

Observing Mars: some technical advices

Best wishes,

○·····***Subject: Re: Mars images - 6th March 2014 -***
Received: 9 March at 09:28 JST

All, The first set has been made with ephemeris from 8th March :(. Sorry! Here is the corrected one.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140306/CPl06Mar14.jpg

Le 08/03/2014 23:26, Christophe Pellier a écrit :

> Hi all,
> Some images taken under fair seeing.
> http://www.astrosurf.com/pellier/M2014_03_06-CPE
> The same very bright morning Tharsis radiation fog
> visible again, but more near the limb due to the geometry.
>Best wishes,

○·····***Subject: Mars at the Pic du Midi - 9 th March 2014***
Received: 12 March at 21:35 JST

Hi all, Here are some images taken at the Pic du Midi, where I shared a mission with Marc Delcroix last week-end. Seeing was not good but it's very impressive to discover the observatory, and the telescope, for the first time!

http://www.astrosurf.com/pellier/M2014_03_09-PDM

The images shows the usual aphelion clouds (this is 1st July on Mars): aphelion cloud belt, bright Tharsis clouds seen by the edge at west limb...

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140309/CPl09Mar14.jpg

Best wishes,

○····***Subject: Mars images,***
Received: 13 March at 20:25 JST

Hi all, Some images taken on the 10th, under correct conditions. Had a much better seeing last night.

http://www.astrosurf.com/pellier/M2014_03_10-CPE
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140310/CPl10Mar14.jpg

Best wishes,

○····***Subject: Mars images, 13th March 2014***
Received: 16 March at 01:05 JST

Hi all, We have enjoyed two superb nights here thanks to a thermal inversion. Here are the results on Mars on the first night. Heavy fog but excellent seeing. The Syrtis blue cloud is well visible.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140313/CPl13Mar14.jpg
http://www.astrosurf.com/pellier/M2014_03_13-CPE

Best wishes,

○·····***Subject: Mars images, 14th March 2014***
Received: 20 March at 09:41 JST

Hi guys, here are some Mars images. Syrtis blue cloud easily seen at the eyepiece. Best wishes.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140314/CPl14Mar14.jpg
http://www.astrosurf.com/pellier/M2014_03_14-CPE

○·····***Subject: Mars images, 20 March with SM and Hellas***
Received: 24 March 2014 at 02:21 JST

Hi all, Good conditions for these images (less for B, for once). Hellas is extremely bright. Best wishes.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140320/CPl20Mar14.jpg
http://www.astrosurf.com/pellier/M2014_03_20-CPE

Christophe PELLIER (Nantes, FRANCE)

●·····***Subject: Mars this morning March 2***
Received: 3 March at 12:23 JST

Slightly better seeing this morning on Mars, cloud in the Hellas basin at the bottom of the image is quite prominent. Syrtis Major near the centre of the disk and also a band of blue equatorial cloud.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140302/AWs02Mar14.jpg

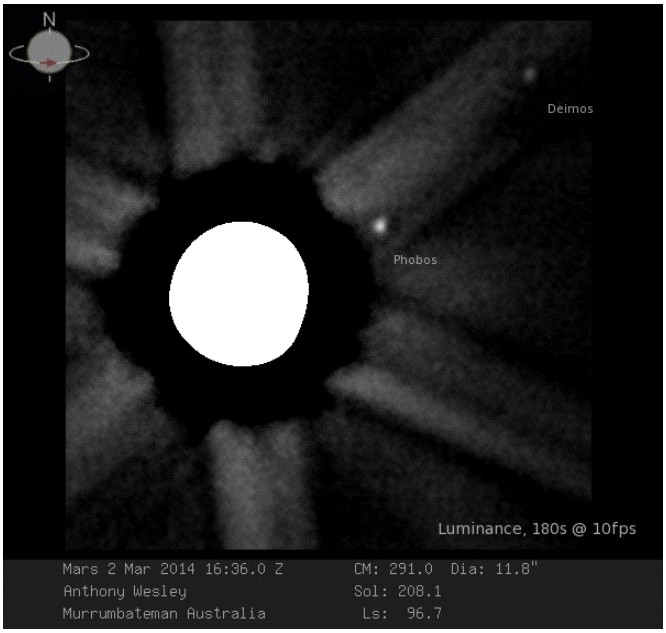
cheers,

http://www.acquerra.com.au/astro/gallery/mars/20140302-162509/m20140302-162509utc.png

○·····***Subject: Phobos & Deimos, March 2***
Received: 5 March at 17:02 JST

Third time lucky... got both Phobos and Deimos this time. Operating the GS3 camera in 12 bit mode gives me a little more headroom. Once again the diffraction from my 3 vane spider is prominent. 3 minutes @10fps, no filter (L channel). 16" *f*/4 newtonian @6000mm focal length. regards.

http://www.acquerra.com.au/astro/gallery/mars/20140302-163603/m20140302-163603utc.png



○·····***Subject: Mars in good seeing, March 6***
Received: 7 March at 12:18 JST

Some good seeing this morning for the first time in many weeks.... I nearly missed it as the forecast was for cloud and rain, but at 3am it was clear although I could see lightning off in the distance...
North polar cap at top left, Syrtis Major to the lower left, cloud over the Elysium volcanoes at upper right, still bright blue cloud in Hellas at bottom. A faint band of equatorial cloud is also visible. cheers.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140306/AWs06Mar14.jpg
http://www.acquerra.com.au/astro/gallery/mars/20140306-163545/m20140306-163545utc.png

○·····***Subject: Mars, March 6: Take 2***
Received: 7 March at 17:16 JST

Well this is embarrassing... after sending out my

earlier Mars I found some later data that was significantly better, this is the image that I should have sent out... and I've changed the colour balance slightly to better match some of the reference images I can find (although I can find both orange, yellow and pink "reference" images, so who knows which one is correct?)... I think this is the highest resolution Mars image I've ever taken, thanks to some very steady seeing this morning. The detail around the north pole is somewhat better than the earlier image.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140306/AWs06Mar14.jpg
http://www.acquerra.com.au/astro/gallery/mars/20140306-170304/m20140306-170304utc.png

○·····***Subject: Yet more Mars: 6th March #3***
Received: 7 March at 14:45 JST

How can I resist posting another one of these... this is from 30 mins later than the last image I sent, and you can see changes in the blue cloud/CO_2 frost in Hellas at bottom as more of it comes into view... Once again this is slightly higher resolution than the earlier images... stacked 2500 frames in each channel this time to squash the noise a bit more...

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140306/AWs06Mar14.jpg
http://www.acquerra.com.au/astro/gallery/mars/20140306-174126/m20140306-174126utc.png

○·····***Subject: Mars this morning March 9***
Received: 10 March at 14:00 JST

Seeing this morning was not as good, but still a reasonable image showing the prominent clouds over the Elysium volcanoes (centre right) with the same pink colouration as the image from a few days ago as well as high equatorial haze (blue) that is easiest to see over the northernmost parts of Syrtis Major at lower left.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140309/AWs09Mar14.jpg
http://www.acquerra.com.au/astro/gallery/mars/20140309-170357/m20140309-170357utc.png

○·····***Subject: reference site for Mars weather***
Received: 11 March at 16:08 JST

In case you haven't seen this site, it gives a quicktime movie showing the Martian weather as recorded by the local spacecraft MRO in the preceding week...

http://www.msss.com/msss_images/latest_weather.html

It's a great reference for current weather on Mars as well as a guide to how the planet should look in our images...

Anthony WESLEY (NSW, AUSTRALIA)

●·····***Subject: Mars: March 1, 2014***
Received: 2 March at 17:24 JST

Hi - I have attached a decent shot of Mars March 1, 2014 to be posted. Thanks

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140301/FMl01Mar14.jpg

○····***Subject: Mars: March 16, 2014***
Received: 17 March at 11:28 JST

Hi - I have attached my latest image of Mars March 16, 2014 to be posted. Thanks

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140316/FMl16Mar14.jpg

○·····***Subject: Mars: March 23, 2014***
Received: 26 March 2014 at 12:01 JST

Hi - I have attached the image of Mars March 23, 2014 at 6:23 UT to be posted. Thanks

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140323/FMl23Mar14.jpg

○·····***Subject: Mars: March 25, 2014***
Received: 26 March 2014 at 12:02 JST

Hi - I have attached my latest image of Mars March 25, 2014 at 5:23 UT to be posted. Thanks

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140325/FMl25Mar14.jpg

Frank J MELILLO (Holtsvill, NY)

●·····***Subject: Re: On Mellish Again***
Received: 3 March at 06:09 JST

Dear Reiichi, Your translating efforts are very commendable, especially given the difficulty of a literary and punning style of writing of yours truly-you grasp the Anglo-American idioms very well. I remember being surprised, when I visited Japan in 2004 (hosted by Masatsugu Minami himself, an adventure never to be forgotten, when we followed Lowell's route to NOTO), that the Japanese speakers of English were very few: at that time, only Minami was an interpreter.... So I was leashed to him like a dog to his master, and would have been helpless without his assistance. I formed the most favorable impression of the Japanese people and culture, and hope one day to return to pay a visit to my many friends in your beautiful and cultured land. I remain a Japanophile ever since.

I am glad to read your reflections on the old observations of the visual era. You have a keen appre-

ciation for that work, and do not hold in contempt the efforts of predecessors seeing at the limit of human vision and telescopic resolution. I must admit that I shall always be most fond of that era, when Mars was a world of infinite fascination--I still remember with what strong emotions I beheld it, even as a ruddy "star" in the morning sky, when I first glimpsed it as a boy of nine or ten. It stood for everything that I held wonderful and mysterious. Soon after, Mariner 4 swept past the planet, and destroyed the fabric of fond illusion. But I shall and never forget how strongly the spell of the "abode of life" had been cast, how it cast on my young mind its powerful allure.***

I should update you and the "Master" of a few developments. I have been nominated to serve on the Working Group of the IAU Committee on Solar System nomenclature, which is a great honor -- I hope I am worthy of it -- and have also agreed to produce, for U of Arizona Press, a new book on Mars, to replace *The Planet Mars*, my long out of date book of 1996. Jim Bell, who is in charge of photography on the Curiosity rover, is going to collaborate, making sure the chapters on modern developments are up-to-date; while I of course will concentrate on the visual era. I hope to start in on this over the summer. Is there any chance that you would like to produce a Japanese translation of the book, or would that be merely a "muck-tzu" of work for an overworked friend?

I appreciate your efforts and friendship, my fellow Martian, with warm regards,

○·····***Subject: New Mercury crater name - Kuniyoshi***
Received: 11 March at 06:49 JST

Dear Masatsugu, Since I am now a member of the IAU Working Group for Solar System nomenclature, I now have at least a vote on the approval of new names for Solar System features, and thought you would get a particular from this one for a fresh crater on Mercury.

To: WGPSN

Rebecca Thomas, a PhD student at The Open University, United Kingdom, has requested that we name a crater on Mercury. Rebecca's justification follows:

"This is the freshest (youngest) crater that has been identified to have volcanic vents in its walls and pyroclastic deposits superposed on it. It therefore provides new evidence that explosive volcanism has occurred on Mercury into the Kuiperian. I and my co-authors are currently working on a paper discussing this new evidence and its implications."

Rebecca's PhD supervisor, David Rothery, also sent a supporting statement:

"I am writing in support of Rebecca Thomas's request. I am her main PhD supervisor, and also co-leader of ESA's Mercury Surface & Composition Working Group. I fully agree with her that allocating a name to this crater will be a service to the Mercury community, for the reasons that she states and because other authors will wish to refer to this crater by name too."

In keeping with our naming policy, craters on Mercury are named for deceased artists, musicians, painters, and authors who have made outstanding or fundamental contributions to their field and have been recognized as art historically significant figures for more than 50 years. In this case the proposed name is Kuniyoshi.

The Mercury Task Group has approved this proposal. Database information is below and an image showing the feature is attached. Please send your comments to Rita, with copies to Philippe and me, by March 13.

With best regards,

Jenny

Name: Kuniyoshi
Center latitude: 57.86°S
Center longitude: 37.35°W
Northernmost latitude: 57.54°S
Southernmost latitude: 58.15°S
Westernmost longitude: 37.92°W
Easternmost longitude: 36.75°W
Size: 26.4

CT: Asia
ET: Japan
FT: Crater
Map:
Quad: H-11
Source: 59
Description: Utagawa Kuniyoshi: Japanese painter and printmaker (1798-1861).

————————————————

Bill SHEEHAN (Willmar, MN, the USA)

●·····***Subject: Mo27, 21 Feb_2014***
Received: 5 March at 01:55 JST

Attached please find the most recent image (on 27 February) and the best shot this apparition by me on 21 February. Others shall come soon, but almost all are not favourable because of poor seeing conditions.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140221/Mo21Feb14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140227/Mo27Feb14.jpg

○·····***Subject: Mars images***

Received: 9 March at 23:00 JST

Here some other images in February (on 16, 20, 22, 24, 25 February 2014). In March, though I am keeping in with Mars under unfavourable conditions, I expect further improvement of the seeing condition…….

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140225/Mo25Feb14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140224/Mo24Feb14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140222/Mo22Feb14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140220/Mo20Feb14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140216/Mo16Feb14.jpg

○····***Subject: Mo 10 Mar 14***
Received: 15 March at 03:25 JST

Please find attached Mars images on 10 March 2014

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140310/Mo10Mar14.jpg

Thank you for your mail. The seeing on 10 March was so good that I think I got a nice set. The area around Elysium was clearly visible. I expected the following day to be better, but the contrast was poorer. However I expect the condition gradually improves. Soon we welcome the height of the observations.

○·····***Subject: Mo11～16Mar_14***
Received: 19 March at 02:16 JST

Some a bit better Mars images from 11, 14, 15, 16 March 2014. I expect the tomorrow sky.

The seing condition remained poor.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140316/Mo16Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140315/Mo15Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140314/Mo14Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140311/Mo11Mar14.jpg

○····***Subject: Mo22,23,27Mar_14***
Received: 30 March 2014 at 13:22 JST

Here are Mars images on 22, 23, 27 March 2014. On 27 Mar I met with a seeing above average.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140327/Mo27Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140323/Mo23Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140322/Mo22Mar14.jpg

Yukio MORITA (Hiroshima, JAPAN)

●·····***Subject: Mars 201/03/05***
Received: 5 March at 14:45 JST

Hello, Here is Mars on 2014/03/05. The seeing and the transparency were bad. T = +0.5°C. Regards

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140305/JPp05Mar14.jpg

○·····***Subject: Mars 2014/03/06***
Received: 6 March at 17:19 JST

Hello, Here is Mars on 2014/03/06. The seeing was average and the transparency was bad. T = +1.5°C. Regards

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140306/JPp06Mar14.jpg

○·····***Subject: Mars 2014/03/07***
Received: 7 March at 17:50 JST

Hello, Here is Mars on 2014/03/07. The seeing was average to fair and the transparency was bad. T = +1.5°C. Regards

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140307/JPp07Mar14.jpg

○·····***Subject: Mars 2014/03/10***
Received: 10 March at 17:51 JST

Hello, Here is Mars on 2014/03/10. Regards

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140310/JPp10Mar14.jpg

Regards

○····***Subject: Mars 2014/03/13***
Received: 13 March at 16:58 JST

Hello, Here is Mars on 2014/03/13. The seeing and the transparency were bad. T = +4°C. Regards

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140313/JPp13Mar14.jpg

○·····***Subject: Mars 2014/03/17***
Received: 17 March at 18:25 JST

Hello, Here is Mars on 2014/03/17. The seeing was average and the transparency was bad. T = +4°C

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140317/JPp17Mar14.jpg

○·····***Subject: Mars 2014/03/18***
Received: 18 March at 16:45 JST

Here is Mars on 2014/03/18. The seeing was fair and the transparency was poor. T = +4°C. Regards

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140318/JPp18Mar14.jpg

Jean-Jacques POUPEAU (Essonne, FRANCE)

●·····***Subject: Mars image***
Received: 5 March at 20:09 JST

Dear Sirs, Please find the attached Mars image taken in good seeing. Best regards,

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140303/MJs03Mar14.jpg

○·····***Subject: Mars image***
Received: 7 March at 12:19 JST

Dear Sirs, Please find the attached Mars image taken in fair seeing. Best regards

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140307/MJs07Mar14.jpg

○·····***Subject: Mars image***
Received: 9 March at 20:47 JST

Dear Sirs, Please find the attached Mars image taken in fair seeing. Best regards

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140308/MJs08Mar14.jpg

○……***Subject: Mars image***
Received: 11 March at 07:32 JST

Dear Sirs, Please find the attached Mars image taken in poor seeing. Best regards,

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140309/MJs09Mar14.jpg

○……***Subject: Mars image***
Received: 13 March at 20:16 JST

Dear Sirs, Please find the attached Mars image taken in a period of good seeing. Best regards

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140312/MJs12Mar14.jpg

○……***Subject: Mars image***
Received: 14 March at 21:30 JST

Dear Sirs, Please find the attached Mars image taken in good seeing. Best regards

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140313/MJs13Mar14.jpg

○……***Subject: Mars image***
Received: 21 March at 21:33 JST

Dear Sirs, Please find the attached Mars image taken in good seeing. Best regards,

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140319/MJs19Mar14.jpg

○……***Subject: Mars image***
Received: 25 March 2014 at 20:30 JST

Dear Sirs, Please find the attached Mars image taken in fair seeing. Best regards,

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140323/MJs23Mar14.jpg

○……***Subject: Mars image***
Received: 31 March 2014 at 20:30 JST

Dear Sirs, Please find the attached Mars image taken in very good seeing. Please note scope is now a 30cm *F*5 Newtonian used with ×2.5 Barlow stretched to about ×5.4. Best regards,

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140328/MJs28Mar14.jpg

Mark JUSTICE (Melbourne, AUSTRALIA)

●……***Subject: mars sketches 06/03/'14***
Received: 7 March at 03:08 JST

Hello, here is my sketch from march 6.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140306/KSm06Mar14.jpg

Date: march 6 2014. Time: 02:00 UT. location: Bornem, Belgium. instrument: 12" *f*/5 dobson. magnification: 300×. seeing: very good. filters: apodizing mask. Greetings,

○……***Subject: mars sketch 26/03/2014***
Received: 26 March 2014 at 17:12 JST

Hello, here is my sketch from march 26.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140326/KSm26Mar14.jpg

Date: march 26 2014. Time: 00:30 UT. magnification: 250x. seeing: fair - good. filters: apodizing mask, orange, green, blue. Greetings,

Kris SMET (Bornem, BELGIUM)

●……***Subject: Mars 6 March 2014 [1 Attachment]***
Received: 7 March at 03:15 JST

Dear Sir, Here my Mars image of 6 March 2014.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140306/JSb06Mar14.jpg

Regards,

○……***Subject: Mars 13 March 2014***
Received: 14 March at 16:50 JST

Dear Sir, Attached find some recent Mars images made in The Netherlands. The seeing was reasonable, but not good. With kind regards,

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140313/JSb13Mar14.jpg

John S SUSSENBACH
(Houten, The NETHERLANDS)

●……***Subject: Hello from D. Bates in Houston, TX USA***
Received: 7 March at 08:52 JST

Thank you for keeping me on the CMO Mars list. I have been busy with a new job (I am now a High School and College English teacher), but am ready to start taking new images of the planet Mars!

I just received my new ZWO ASI 120mm web camera and color filters. Tonight I plan to start making new images of Mars, and will send them as soon as they are processed.

Please extend my greeting to all Mars colleges in Japan, and I hope to have images coming to you very soon! All the best,

○……***Subject: New Mars images from: Donald R Bates***
Received: 10 March at 05:10 JST

Dear Mars Colleagues, I have finally succeeded in making my first Mars images of 2014. ‥‥ I will need some time to get used to making RGB images and combining in Photoshop.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140308/DBt08Mar14.jpg

Seeing conditions in Texas have been very poor due to cloud cover and polar cold fronts dipping down from Canada. I hope that conditions will stabilize by perihelion. In the eyepiece, the planet

seems small and details are difficult to see. This may also be due the fact that the "bland" side of Mars (Tharsis, Acidalia Planitia) was facing Texas with little in the way of large albedo markings. It will be a challenge to image the planet with its small diameter, but the improvement in imaging camera may make up for this.

I hope all is well with the CMO observers: it is nice to be on yet another "Mission to Mars." Hats off to Don Parker and Jeff Beish for recent articles that inspired me to gear up for this year's Mars encounter. Best of health and happiness,

○····***Subject: Bates Mars Images 03/13/2014***
Received: 14 March at 10:03 JST

Mars Colleagues: Kindly see the enclosed images taken from Houston, TX USA on 03/13/2014 under Very Poor Skies.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140313/DBt13Mar14.jpg

Notes: Seeing very poor due to cold front. At 450× in the eyepiece, the planet is boiling with little detail visible. Clear Skies,

○····***Subject: Bates Mars Images 03/14/2014***
Received: 15 March at 10:22 JST

Mars Colleagues: I am having trouble with my other email address, so am sending these images from my Yahoo account.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140314/DBt14Mar14.jpg

Notes: Seeing unstable, Mars only about 30 degrees in altitude. Slightly oversampled at *f*/32 to obtain image scale.

○·····***Subject: Bates Mars under fair conditions***
Received: 19 March at 06:06 JST

Kon-nichiwa: Better sky conditions and familiarity with the ASI 120mm are improving results…

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140318/DBt18Mar14.jpg

Notes: Planet we 43 deg. above horizon. Very clear conditions with brief moments of stability. Clouds visible at 450×, as well as Acidalia Planitia and other dark areas. Best,

○·····***Subject: Bates Mars 03192014***
Received: 20 March at 06:12 JST

See LRGB from 03192014. Thanks,

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140319/DBt19Mar14.jpg

Notes: Moments of steady seeing shows polar cap and albedo markings at 450×.

○·····***Subject: Bates Mars 03_21_2014***
Received: 22 March at 02:58 JST

Wonderful view of Mars last night using my 10" Newtonian and old French Clave 6mm eyepiece with the 2× Barlow (500×). Nothing compare to a well-made ortho for seeing fine planet details. Like a pink/red gemstone (Mars globe) studded with freshwater pearls (clouds). Moments of good seeing appeared with patience.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140321/DBt21Mar14.jpg

For images: Used the 5× TV Powermate to achieve larger image size (trade-off is slower frame rate). A few more inches of aperture would come in quite handy.

○·····***Subject: Bates Mars 03212014 earlier at f/15***
Received: 22 March at 13:40 JST

Second series taken slightly earlier at *F*/15 resulting in better quality during average seeing...

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140321/DBt21Mar14.jpg

Notes: Used 3× Barlow for increased shutter speed and frame rate. Image enlarges 135%.

○····***Subject: Bates Mars Image 03292014***
Received: 30 March 2014 at 01:54 JST

Kon-nichiwa: Now comes the time when observing the Red planet becomes a true pleasure. After a rainy start, the evening cleared with a humid south wind that provided fleeting seconds of good seeing. At 450×, the planet shows many areas of clouds. Secchi's famous "Blue Scorpion" cloud hovers over Syrtis Major, turning the dark areas blue. Over the volcano regions, C. F Capen's orographic cloud is very bright. Perhaps near the large Olympus Mons (133°W, 18°N)? The North Polar Cap shows a clear division into two sections, with a dark rift separating them. The frozen haze in the Hellas basin looks like a false ice cap tilted toward the edge of south pole. I am very excited to be using the tri-color CCD method at last, vastly superior results to the old color chip!

I have decided to start using the Antoniadi scale for seeing:

1.(I.) Perfect seeing, without a quiver.
2.(II.) Slight quivering of the image with moments

of calm lasting several seconds.
3.(III.) Moderate seeing with larger air tremors that blur the image.
4.(IV.) Poor seeing, constant troublesome undula tions of the image.
5.(V.) Very bad seeing, hardly stable enough to allow a rough sketch to be made.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140329/DBt29Mar14.jpg

Clear Skies! Sayonara,

○·····***Subject: Bates Mars 3/30/2014***
Received: 31 March 2014 at 06:14 JST

Local Weather: Pt. Cloudy, 65 deg. F. Seeing: 2.(II.) Slight quivering of the image with moments of calm lasting several seconds.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140330/DBt30Mar14.jpg

Equipment: - 254mm Bates figured *f*/4.9 Newtonian (1,244 mm focal length) - Televue 5× Powermate (*f*/32).....

Don R BATES (Houston, TX)

●·····***Subject: mars 7 march***
Received: 7 March at 10:43 JST

Hi, Average condition & windy I took one image PLS see it. Regards

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140307/SGh07Mar14.jpg

○·····***Subject: mars 8 march***
Received: 9 March at 08:48 JST

Hi, Normal condition nearly stable weather. I took this image in -3 degrees. I think it's Not a good color. Details is good. Best Regards

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140308/SGh08Mar14.jpg

○·····***Subject: mars.9.march***
Received: 11 March at 05:14 JST

Hi, Poor seeing & bad condition. Best Regards

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140309/SGh09Mar14.jpg

○·····***Subject: mars 20 march***
Received: 22 March at 05:52 JST

Hi, Average seeing unstable atmosphere. I took one image of the red planet. Regards

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140320/SGh20Mar14.jpg

○····***Subject: mars 26 march***
Received: 30 March 2014 at 08:01 JST

Hi, Poor seeing & windy weather. I took this mars image. This suggests that clod in Cloud on both sides. PLS see it. Regards

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140326/SGh26Mar14.jpg

Sadegh GHOMIZADEH (Roudehen, IRAN)

●·····***Subject: Mars 23 February***
Received: 7 March at 12:22 JST

Hi All, I have attached RGB Mars images from 23 February. Conditions were poor due to waves of fog. The Elysium cloud was bright: The Olympus cloud was bright on the terminator, and the AM limb haze was very bright, diffuse. Trivium-Cerberus remains very weak: Cerberus III, however, was prominent. Propontis I was dark but a large anomalous dark feature was seen in B and G in Arcadia. Olympia was bright in blue light.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140223/DPk23Feb14.jpg

○·····***Subject: Mars 4 March***
Received: 11 March at 12:10 JST

Hi All, I have attached RGB Mars images from 4 March. Bright orographics are on the western sides of Olympus and Ascræus Montes. Less conspicuous cloud is seen over Pavonis while no Arsia cloud was detected. Bright clouds appear over E. Tharsis. There are hazes across Amazonis. A cloud is seen over Olympia (Lemuria). Best

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140304/DPk04Mar14.jpg

○·····***Subject: Mars 11 March***
Received: 12 March at 12:50 JST

Hi All, I have attached RGB Mars images from 11 March. Bright AM limbs clouds appear over Tharsis and Claritas. There are hazes over Chryse. The eastern half of the NPC is partially obscured in red light. Best

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140311/DPk11Mar14.jpg

○·····***Subject: Mars 17 March***
Received: 19 March at 12:28 JST

Hi All, I have attached RGB Mars images from 17 March. The Blue Syrtis Cloud is prominent, and two small discrete clouds are seen over Aeria. A cloud over Hellas extends westward to Hellespontus. There is a prominent rift across the NPC. There appears to be moderate blue clearing. Best

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140317/DPk17Mar14.jpg

Donald PARKER (Coral Gables, FL)

●·····***Subject: Mars Observation (March 5, 2014)***
Received: 9 March at 00:34 JST

Dear Mr. Murakami, I hope that you, your fellow

CMO directors, and all Mars observers/imagers have been doing well. I have not been observing for some time but hope to do so on a regular basis from now on.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140305/CHr05Mar14.jpg

I made an observation of Mars on March 5, 2014 (06:00 U.T.: CM 108°W) using a 9inch (23cm) *F*/13.5 Maksutov-Cassegrain (258×/Baader Contrast Booster filter. The Tharsis region of Mars was visible at the time which contains several volcanoes (including the mighty Olympus Mons). The North Polar Cap (NPC) appeared small and brilliant (10/10) with a dark (3/10) collar surrounding it. A prominent and very to extremely bright (8-9/10) cloud band was visible extending from the preceding limb over Chryse/Xanthe then over Tharsis and finally Amazonis towards the following limb. M Acidalium and Niliacus L appeared dark to dusky (3-4) and partially obscured by a very to extremely bright (8-9/10) evening limb haze (ELH) over the preceding limb. M Erythræum and Auroræ S appeared dusky to dull (4-5/10) and were partially obscured by the ELH. Solis Lacus appeared dark (3/10) and complex with dusky to dull (4-5/10) streaks extending from it's borders. An orographic (mountain-associated) cloud (associated with the massive Martian volcano Olympus Mons) was visible over the Tharsis region following the central meridian (CM). Discrete clouds (8-9/10) were visible towards the following limb. I hope that you all like it.

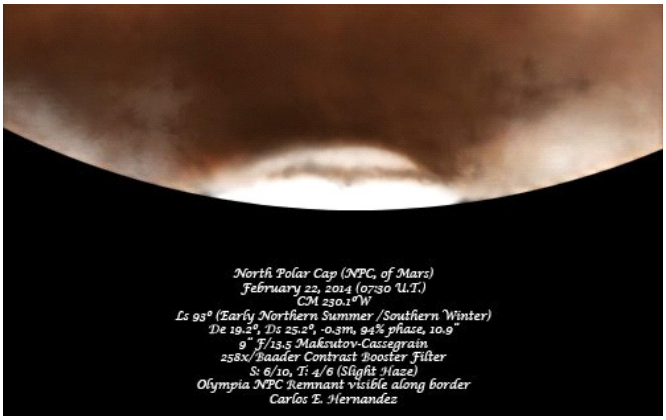
The best of luck to everyone and may you all have clear and steady skies. Regards,

○·····***Subject: Mars Observation (February 22, 2014)***
Received: 9 March at 01:04 JST

Dear Mr. Murakami, I made an observation of Mars on February 22, 2014 (07:30 U.T., CM 230°W) and was able to detect many albedo features over the red planet.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140222/CHr22Feb14.jpg

The NPC was small and brilliant (10/10) with a very to extremely bright outlier (remnant), Olympia, separated a thin, dark (3/10) strip. The NPC was



surrounded by a dark to dusky (3-4/10) collar composed of Lemuria and Cecropia. Syrtis Mj (3-4/10) was prominent towards the following limb and was partially covered by a very to extremely bright (8-9/10) cloud that extended towards the east over Libya (7-8/10). M Tyrrhenum (3-4/10) and M Cimmerium (3-4/10, and mottled) were prominent towards the South and separated by a bright (7/10) Hesperia. Elysium was prominent (7-8/10) toward the preceding (p., or eastern) limb with a small very bright (8/10) cloud over it's eastern portion. The lime (Northern, Southern, preceding (eastern), and following (western)) were very to extremely bright (8-9/10). I hope that you all like it.

My best to you, the CMO directors, and all Mars observers/imagers. Regards,

○·····***Subject: Mars Observation (February 19, 2014)***
Received: 9 March at 01:12 JST

An observation of Mars made on February 19, 2014 (07:30 U.T.) using a 23-cm *F*/13.5 Maksutov-Cassegrain (258×, S: 6/10, T: 5/6).

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140219/CHr19Feb14.jpg

I was able to detect many interesting albedo features as noted. The NPC was brilliant (10/10). It was surrounded by a dark to dusky (3-4/10) collar consisting of Lemuria and Cecropia. Syrtis Mj was prominent (3/10) following the CM and exhibited irregular borders. M Tyrrhenum and M Cimmerium were visibly dark to dusky (3-4/10) and mottled. A bright strip (7/10) Hesperia separated M Tyrrhenum and M Cimmerium. A very to extremely bright (8-9/10) cloud was visible over Hellas. Elysium was

visible towards the following limb with a faint cloud over it. Very to extremely bright hazes were noted along the limbs of the planet. I hope that you all like it. My best regards to you, the CMO Directors, and all Mars observers/imagers. Regards,

○·····***Subject: Mars Observation (February 14, 2014)***
Received: 9 March at 01:16 JST

Dear Mr. Murakami, I made an observation of Mars on February 14, 2014 (07:45 U.T, CM 308°W) while the planet was ten arc-seconds in diameter using a 23-cm *F*/13.5 Maksutov-Cassegrain (258×, S: 5-6/10, T: 5/6).

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140214/CHr14Feb14.jpg

I was able to detect a good amount of detail over the red planet. The NPC was brilliant (10/10) with an irregular, dark (3/10) border over Cecropia. Syrtis Mj was prominent preceding the central meridian (CM) and appeared dark to dusky (3-4/10) with dark (3/10) mottling noted within it. S Sabaeus (3/10) and S Meridiani (3-4/10) were prominent over the CM towards the south. A very bright to extremely bright (8-9/10) cloud was visible over Hellas basin towards the south-preceding portion of the disk (south of Syrtis Mj). The desert regions appeared shaded to bright (6-7/10). Cloud hazes were also noted along the preceding and following limbs (especially over Chryse Planitia towards the following limb. I hope that you all like it. My best to you, the CMO Directors, and all Mars observers/imagers. Regards,

○·····***Subject: Re: [marsobservers] Mars images, 20 March***
Received: 24 March 2014 at 06:37 JST

Christophe, Thank you for your excellent images of Mars. You have captured interesting detail along with a very bright Hellas. I look forward to your future images. Regards,

Carlos E HERNANDEZ (Miami, FL)

●·····***Subject: Mars - 2014-03-07 02:10 UTC***
Received: 9 March at 00:46 JST

Hi All, Here's my first Mars of this apparition. More a test of different focal lengths with my set up than anything else, this is an IR(G)B result. Regards.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140307/PLw07Mar14.jpg

http://www.digitalsky.org.uk/mars/2014-03-07_020800_g3_b3_ap18_1024.jpg

Pete LAWRENCE (WS, the UK)

●·····***Subject: Mars 2014/03/07***
Received: 9 March at 04:43 JST

Hello, Here are my latest images of Mars for this season. Best regards,

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140307/XDp07Mar14.jpg

○····***Subject: Mars 2014/03/14***
Received: 14 March at 18:39 JST

Hello, Here are my latest images of Mars. Regards

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140314/XDp14Mar14.jpg

○····***Subject: Mars 2014/03/16***
Received: 16 March at 16:55 JST

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140316/XDp16Mar14.jpg

Newton 180 *F*7, Powermate ×5 ADC, IR-Cut I-Nova PLAC+. Best regards,

○·····***Subject: Mars 2014/03/18***
Received: 19 March at 04:50 JST

Mars 2014/03/18 Newton 180 *F*7, Best regards

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140318/XDp18Mar14.jpg

○·····***Subject: Mars 2014/03/20***
Received: 21 March at 04:16 JST

Mars 2014/03/20 Newton 180 F7, Best regards,

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140320/XDp20Mar14.jpg

○·····***Subject: Mars 2014/03/07***
Received: 22 March at 18:05 JST

Mars 2014/03/07. Another image this day with Winjupos 34mn derotation... I think it's better...

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140307/XDp07Mar14.jpg

Newton 180 *F*7, Best regards,

Xavier DUPONT (Saint-Roch, FRANCE)

●·····***Subject: Mars 2014/03/10-Kumamori***
Received: 11 March at 11:33 JST

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140310/Km10Mar14.jpg

Masatsugu MINAMI-sama. I haven't written for a while. This March it's like winter. The seeing is not good, but I began to shoot the planet Mars. The temperature was just 3°C; just like in mid winter for Osaka. I expect however the seeing will soon improve.

○·····***Subject: Mars 2014/03/17-Kumamori***
Received: 18 March at 10:24 JST

Masatsugu MINAMI-sama. Since the temperature

at daytime so increased, that I expected to meet a good seeing, but in vain, just I saw some spread of mists on Mars on the monitor.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140317/Km17Mar14.jpg

○·····***Subject: Mars 2014/03/22-Kumamori***
Received: 23 March 2014 at 22:21 JST

Masatsugu MINAMI-sama, As the equinoctial week passed now, spring appears to be in the air. The seeing was thus tolerable on 22 March. Please find the attached Mars images.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140322/Km22Mar14.jpg

○·····***Subject: Mars 2014/03/23-Kumamori***
Received: 24 March 2014 at 12:10 JST

Masatsugu MINAMI-sama, The transparency is now poorer, but the seeing a little improved. The rift Chasma Boreale is apparent inside the north plar cap. Please find attached the images on 23 March. Best regards.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140323/Km23Mar14.jpg

○·····***Subject: Mars 2014/03/27-Kumamori***
Received: 28 March 2014 at 20:44 JST

Masatsugu MINAMI-sama, At Osaka-Sakai, cherry blossoms began to bloom, but the seeing condition remained poorer on 27 March.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140327/Km27Mar14.jpg

Teruaki KUMAMORI (Sakai, Osaka, JAPAN)

●·····***Subject: Mars 24 February***
Received: 11 March at 23:39 JST

Here is Mars images on 24 February taken at Cebu: Maybe the last Mars images at Cebu. Here in Japan, I am to use a 32cm Newtonian, but at present, I have no chance at present due to the poor seeig condition. But I hope I will be able to .....

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140224/Ak24Feb14.jpg

○·····***Subject: Mars images: Ak24, Ak27, Ak28Mar14***
Received: 30 March 2014 at 23:21 JST

MINAMI-sama, I have not written to you for a while. After returning home, I spent my time in arranging my affairs, but now I could put them almost in order. However my body sometimes cannot keep up with the difference of the climate.

Please find attached the recent Mars images which were taken here in Japan (on 24, 27, 28 March). However the use of the long 32cm Newtonian is not in the line of the shorter C14. Furthermore, the planet Mars is quite lower in altitude. A third inconvenient factor is concerned with the (oak) tree about which I once told to you. The tree belongs to the next door temple and stands on the southern side of my dome. It has grown much taller, with many branches and actually I cannot watch the planet when it stays near the meridian (for about two hrs). I am still keeping the C14 in Cebu, but I intend to bring it back whenever any opportunity visits.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140324/Ak24Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140327/Ak27Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140328/Ak28Mar14.jpg

Tomio AKUTSU (Tochigi, JAPAN)

●·····***Subject: Mars March 13, 2014 16:49UTC***
Received: 14 March at 14:52 JST

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140313/JKz13Mar14.jpg

○·····***Subject: Mars Mar 18, 2014, 15:24 UTC, CM129.6***
Received: 19 March at 09:56 JST

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140318/JKz18Mar14.jpg

○·····***Subject: Mars March 19, 2014, 15:07 UTC CM: 116.3***
Received: 20 March at 20:54 JST

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140319/JKz19Mar14.jpg

○····***Subject: Mars from March 25th and March 27th***
Received: 29 March 2014 at 18:08 JST

If it is recommended that separate R, G, B images are more useful as well, please let me know and will start sending through separate RBG images again.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140327/JKz27Mar14.jpg
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140325/JKz25Mar14.jpg

John KAZANAS (Melbourne, AUSTRALIA)

●·····***Subject: Mars M140315 ishibashi***
Received: 16 March at 16:39 JST

This is the first image of Mars in this apparition.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140315/Is15Mar14.jpg

Tsutomu ISHIBASHI (Kanagawa, JAPAN)

●·····***Subject: Mars 2014/03/14***
Received: 17 March at 00:05 JST

Hello here is the first image of 2014 under aver-

age conditions at 40 deg. altitude. Frost on Hellas and ice on NPC. Clouds over Elysium.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140314/MKd14Mar14.jpg
http://www.astrovox.gr/forum/album_pic.php?pic_id=17566

○·····***Subject: Mars 2014/03/18***
Received: 20 March at 19:17 JST

Hello here is a set made in variable seeing, mostly poor. Olympus mons clouds on the limb of the first low-res image. Elysium clouds & Equatorial cloud band are visible. Hellas is rising on the last image with much frost in it. The Blue Syrtis cloud is obvious. NPC is shrinking with remanents in Cecropia.

http://kardasis.weebly.com/mars-2013-14.html
http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140318/MKd18Mar14.jpg

○·····***Subject: Mars NPC area map***
Received: 21 March at 06:30 JST

Hello all, here is an uncomplete Map of NPC from my obs on 14 & 18 March, in comparison with historic draw by J. Beish. I hope I'll have the chance to complete it. It seems visually that NPC has shrunk more than the historical average suggest (more than 80deg) but of course this needs extensive measurements in many images end not just a fast visual estimation.

http://kardasis.weebly.com/mars-2013-14.html

○·····***Subject: Mars 2014/03/21***
Received: 25 March 2014 at 00:02 JST

Hello all, here is an image made under poor seeing conditions. Morning, Elysium, Olympus and ECB clouds are visible. NPC with Lemuria projection is also visible.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140321/MKd21Mar14.jpg
http://kardasis.weebly.com/mars-2013-14.html

○·····***Subject: Mars 2014/03/23***
Received: 25 March 2014 at 00:11 JST

Hello, here is a Mars image under good seeing conditions. Morning haze. Some clouds over Elysium but less than then my previous images. Clouds over Olympus and Tharsis volcanos. Some clouds over Alba patera. North Polar Cap & projections (remanents) are visible in Lemuria & Ierne.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140323/MKd23Mar14.jpg
http://kardasis.weebly.com/mars-2013-14.html

Manos KARDASIS (Glyfada-Athens, GREECE)

●·····***Subject: Mars images (March 19th.)***
Received: 20 March at 01:57 JST

Hi all, Here are some Mars images taken last night. Seeing was poor. Syrtis Major is central with Hellas bright. The ECB is evident in the B filter image. NPC outlier Olympia is also quite prominent. Best Wishes

http://www.damianpeach.com/mars1314/2014_03_19rgb.jpg

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140319/DPc19Mar14.jpg

Damian PEACH (Selsey, West Sussex, the UK)

●·····***Subject: Mars images 2014 Mar 19 17:14UT***
Received: 20 March at 19:16 JST

Hi, here is a set of RGB images I have collected on the morning of March 19th 17:14 UT (04:13AM March 20th, Australian Eastern Standard time).

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140319/BCr19Mar14.jpg

I used an 11 inch SCT (C11) and a QHY 5L II monochrome camera with Edmund dichroic RGB set. I aplogise for not sending more images but weather was rather poor lately, and I missed a few good mornings because I was ill. I hope to be of more assistance as Mars continues to grow over the next few weeks. Best regards,

○·····***Subject: BCC Mars images 2014 Mar 25 16:17UT***
Received: 26 March 2014 at 12:02 JST

Hi, here is a set of RGB images I have collected on the morning of March 25th 16:17 UT.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140325/BCr25Mar14.jpg

Seeing was below average. I have collected more data, but seeing got even worse afterwards. I will send other images later. Best regards,

○·····***Subject: BCC Mars images 2014 Mar 25 16:45UT***
Received: 26 March 2014 at 18:17 JST

Hi, here is another set of RGB images I have collected on the morning of March 25th, this one is from 16:45 UT. Best regards,

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140325/BCr25Mar14.jpg

Bratislav CURCIC (Melbourne, AUSTRALIA)

●·····***Subject: Mars image***
Received: 25 March 2014 at 23:35 JST

My first posting to CMO. Mid-point of image

capture at: 2014 March 19 @ 0616.6UT. Regards,

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140319/JBd19Mar14.jpg

John BOUDREAU (Saugus, MA)

●……***Subject: MARS Observations March 23, 2014***
Received: 27 March 2014 at 10:00 JST

This is my first Mars observation this year. Let me know how to mail it in and what format you wish to receive it. The attached images are in JPG format.

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2013/140323/FWl23Mar14.jpg

May the Force be with you @lways, till the end,

○……***Subject: MARS Observations -Freddy WILLEMS***
Received: 27 March 2014 at 10:05 JST

Hi sir, I just want to tell you that I want to rejoin the CMO team. I was absent for a year because of personal issues and moved to Florida USA.

Freddy WILLEMS (Saint Johns, FL)

●……***Subject: Re: CMO #419 uploaded***
Received: 28 March 2014 at 21:53 JST

Dear Masatsugu, I'm inclosing some Mars images I got from two italian amateur friends. I thought you could be interested to use them for your Mars reports. All you will need is to give credits to the authors, Mr Stefano Quaresima Mr Andrea Vanoni.

I hope you are well and can recover from the illness. Best regards and wishes,

Giovanni A QUARRA Sacco (Rome, ITARIA)

●……***Subject: EPSC 2014 - AM1 session:***
Received: 29 March 2014 at 07:14 JST

Dears, The European Planetary Science Congress (EPSC) will be held from September 7th to 12th this year in Cascais, Portugal. In particular, we would like to draw your attention to the AM1 session dedicated to "**Amateur contribution to planetary and exoplanet science**", in the program group "Amateur Astronomy". For more information please visit:

http://meetingorganizer.copernicus.org/EPSC2014/sessionprogramme/AM

We would like to invite you to actively participate to this session by contributing a paper and/or meeting and exchanging views and ideas with other amateur and professional astronomers studying the solar system and exoplanets. If you are interested in making an oral or poster contribution, please fill in the abstract submission form that you will find at the web page above (**abstract deadline: May 6, 2014**). Also, please feel free to circulate this message to all those who might be interested in the event.

Sincerely,

Marc DELCROIX (Tournefeuille, FRANCE)

http://astrosurf.com/delcroix
Convener of the AM1 session
SAF planetary observations commission

☆ ☆ ☆

International Society of the Mars Observers (ISMO)

Advisory Board: **Donald PARKER, Christophe PELLIER, William SHEEHAN, and Tadashi ASADA, Reiichi KONNAÏ, Masatsugu MINAMI**

Bulletin: **Kasei-Tsûshin CMO** (**http://www.mars.dti.ne.jp/~cmo/ISMO.html**)

CMO #421/ ISMO #47 (25 April 2014)

Editorial Board: **Tadashi ASADA, Masatsugu MINAMI, Masami MURAKAMI, Takashi NAKAJIMA and Akinori NISHITA**

☆ *Any e-mail to CMO/ISMO including the image files is acknowledged if addressed to*

cmo@mars.dti.ne.jp (Masami MURAKAMI in Yokohama)

vzv03210@nifty.com (Masatsugu MINAMI at Mikuni-Sakai, Fukui)

☆ *Usual mails to CMO are acknowledged if addressed to*

Dr Masatsugu MINAMI, 3-6-74 Midori-ga-Oka, Mikuni, Sakai City, Fukui, 913-0048 JAPAN