

MARS

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OBSERVATIONS

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CMO/ISMO 2016 Mars Report #016

**2016 CMO/ISMO Mars Observations Made During the One-Month Period
In October 2016 ($\lambda=233^\circ\text{Ls}$ to $\lambda=253^\circ\text{Ls}$ 2016)**

♂..... The present article is to report the Mars observations made during the one-month period of October 2016, and nominated as the 16th CMO/ISMO Mars report in the 2016 apparition. During the period, the planet Mars steadily continued the anterograde and still stays at the south-western evening sky. Mars passed by to the north of the southern dipper asterism in Sagittarius, and the apparent declination D recovered 23°S , but Mars rapidly set in the west in the early evening, and hence the possible observable time has been shortened. The Martian season proceeded from $\lambda=233^\circ\text{Ls}$ to $\lambda=253^\circ\text{Ls}$, and therefore the southern summer equinox is approaching. In other words, it implies that the season of the dust disturbances is coming. Unfortunately however the apparent diameter δ of Mars is decreasing: In October, angular diameter went down from $\delta=8.8''$ to $\delta=7.5''$. The tilt increased southwards from $\varphi=02^\circ\text{S}$ to $\varphi=12^\circ\text{S}$ which implies fortunate to watch the south polar cap (spc). The phase angle ι moved from 46° to 44° .

The following article may be useful to the observations of dusts after $\lambda=250^\circ\text{Ls}$.

"The Seasons of Dusts"

CMO #331 (25 May 2007): Forthcoming 2007/2008 Mars (7)

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmomn2/2007Coming_7.htm

The weather condition was domestically quite poor in October. The reports from the foreign countries are also decreasing. So any interesting meteorological phenomenon was recorded. Just some irregularities of the spc as well as a fate of Novus Mons were checked in South Africa by Clyde FOSTER (CFs) though inadequately. The widening of the tail of Mare Serpentis remains still vivid.

Finally we should like to note, if we refer to the MRO-MARCI data, the orographic cloud of Arsia Mons continued to be active.

The following articles in the CMO will be also useful concerning the deviation of the centre of the spc from the south pole, and the trend of Novus Mons.

"Deviation of the centre of the spc from the pole" CMO #240 (25 February 2001)

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmomn0/01Coming07.htm>

"Remnant" Novus Montis: CMO #327 (25 January 2007)

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmomn3/CMO327.pdf>

♂..... As the CMO/ISMO Mars observations made in October 2016, we received with

thanks a total of 54 observations from all over the world. The following are the contributed members and their instruments.

FOSTER, Clyde (CFs) Centurion, SOUTH AFRICA

17 Colour + 19 IR Images (2,~ 7, 9, 11, 14, 16, 17, 19,~ 23, 25, 27, 30 October 2016)
36cm SCT @f/33 with an ASI290MC

KONNAI, Reiichi (Kn) Ishikawa-cho, Fukushima, JAPAN

5 Colour Image (7, 14, 15, 18, 24 October 2016) 41m SCT @f/62 with an ASI290MC

MAXSON, Paul (PMx) Surprise, AZ, the USA

1 Set of RGB + 2 IR Images (1, 2 October 2016) 25cm Dall-Kirkham with an ASI290MM

MELILLO, Frank J (FMI) Holtsville, NY, the USA

4 IR Images (5, 7, 11, 16 October 2016) 25cm SCT with a DMK21AU618.AS

MORALES RIVERA, Efrain (EMr) Aguadilla, PUERTO RICO

9 Sets of RGB Images (6, 10, 16, 17, 22, ~ 24, 26, 29 October 2016) 31cm SCT with a Flea 3

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

1 Set of LRGB Images (10 October 2016) 36cm SCT with a Flea 3

OHSUGI, Tadao (Og) Komatsu, Ishikawa, JAPAN

1 Colour Image (2 October 2016) 25cm Dall-Karkham with an ASI290MC

♂..... We Further received :

MAXSON, Paul (PMx) Surprise, AZ, the USA

12 Sets of RGB + 12 IR Images (10,~13, 15,~19, 26, 28, 30 September 2016)
25cm Dall-Kirkham with an ASI290MM

PEACH, Damian (DPc) Selsey, WS, the UK (*Expedition to Barbados Islands*)

1 set of RGB Colour Images (26 March 2016)

♂..... Finally, we shall give below a brief comment chronologically to each observation which was made in October 2016 and those just reached us by the deadline. Unfortunately we did not receive any observations made on 8 Oct, 12 Oct, 13 Oct, 28 October. As to each image, refer please to Our Mars Gallery

http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/f_image.html

1 October 2016 ($\lambda=233^\circ\text{Ls}-234^\circ\text{Ls}$, $\delta=8.8''-8.7''$, $\varphi=2^\circ\text{S}$)

Paul MAXSON (PMx) made an IR685 image at $\omega=062^\circ\text{W}$ by the use of a Mewlon 250 equipped with a 290MM. The preceding limb is annoyingly disturbed by the ghost arc, but the area of Solis L is mapped darkly, and the southern half of M Acidalium looks to show up with Nilokeras.

2 October 2016 ($\lambda=234^\circ\text{Ls}$, $\delta=8.7''$, $\varphi=2^\circ\text{S}-3^\circ\text{S}$)

PMx composed an RGB image from 290MM images at $\omega=053^\circ\text{W}$. The spc is whitish bright but appears to have nicely shrunk. The dark band on this side looks blue-greenish and hence it is covered by a misty matter. Argyre is a bit light. Margaritifer S is identifiable.

Tadao OHSUGI (Og) obtained a 290MC colour image at $\omega=150^\circ\text{W}$ by using a Mewlon 250. The south polar cap (spc) does not show well the perimeter, but the depth of the white part has been thickened. M Sirenum is dark in general. Arsia Mons is definite but other Montes in vicinity are obscure.

Olympus Mons is visible but its structure is not definite. The cloud in the arctic area does not look described.

Clyde FOSTER (CFs) gave a 290MC L-colour image at $\omega=239^\circ\text{W}$ together with an IR685 image. The L-colour image's tone is too biased and appears too yellowish: The spc's tint is far from the expected whiteness. Hellas must have been near the morning terminator, but no particular sign about is given. Mare Cimmerium is visible, but Hesperia is now well described. Elysium's position is just evident because of the Aetheria dark patch and others. The arctic cloud is not distinct.

3 October 2016 ($\lambda=234^\circ\text{Ls}\sim 235^\circ\text{Ls}$, $\delta=8.7''\sim 8.6''$)

CFs gave an IR685 image at $\omega=229^\circ\text{W}$. M Cimmerium shows some details and Ausonia is light in a complex form. There is a stain inside Elysium. Trivium Charontis looks wider.

4 October 2016 ($\lambda=235^\circ\text{Ls}\sim 236^\circ\text{Ls}$, $\delta=8.6''$)

CFs gave an L-colour image at $\omega=246^\circ\text{W}$. Some reddish tint governs the area around Ausonia. The description of the area of the spc cannot be accepted. The dark fringe of the spc turns to a boggy ghost. As well, the true spc should be much whiter than a copy ghost. The arctic area looks slightly hazy.

5 October 2016 ($\lambda=236^\circ\text{Ls}$, $\delta=8.6''$, $\varphi=4^\circ\text{S}$)

CFs gave an L-colour image at $\omega=209^\circ\text{W}$. M Sirenum gives half its body. The spc is better, but not adequate. Elysium is unknown. A detail of M Cimmerium is shown on IR685 image. The arctic haze is obscure.

Frank J MELILLO (FMI) showed a DMK image through IR610 at $\omega=321^\circ\text{W}$ by using a 25cm SCT. The spc is roughly shown. Syrtis Mj is large explicit. The tail of Mare Serpentis is described wider. Hellas is slightly roundish light.

6 October 2016 ($\lambda=236^\circ\text{Ls}\sim 237^\circ\text{Ls}$, $\delta=8.6''\sim 8.5''$, $\varphi=4^\circ\text{S}$)

CFs obtained an L-colour image at $\omega=200^\circ\text{W}$. The spc looks settled. The southern markings look smooth, while the yellowish tint prevails (just the area to the north of the western end of M Sirenum shows a bit reddish areas).

Efrain MORALES (EMr) made an RGB composite at $\omega=323^\circ\text{W}$. The spc is whitish bright with an appropriate depth and beautiful together with the dark band on this side. Yaonis Fr is explicit and Hellas is roundish and shows a fine structure inside. Sinus Sabæus shows a nice curve. The tail of M Serpentis is definitely wide spread. The arctic cloud is dull.

7 October 2016 ($\lambda=237^\circ\text{Ls}$, $\delta=8.5''$)

Reiichi KONNAI (Kn) took an L-colour image at $\omega=087^\circ\text{W}$ under the seeing condition 1~2/10. The spc is bright but blurred, and no more detail about the area of Solis L is there than that it's dark. We are only able to grasp the area of Ophir and Tithonius L. Ganges is not known, while Nilokeras looks roughly dark. Does the area of Xanthe shine?

CFs gave an L-colour image at $\omega=190^\circ\text{W}$. The spc is bright but its perimeter is not distinct. Gordii Dorsum and its light environment are checked as well as Olympus Mons. On IR685, the eastern half of M Sirenum is well dark. Others are not explicit under a yellowish covering.

FMI showed an IR610 image by using DMK at $\omega=308^\circ\text{W}$. The dark Syrtis Mj is caught. The area of the spc looks just bright.

9 October 2016 ($\lambda=238^\circ\text{Ls}-239^\circ\text{Ls}$, $\delta=8.4''$, $\varphi=5^\circ\text{S}$)

CFs gave an IR685 image at $\omega=177^\circ\text{W}$. The spc is weak, while M Sirenum shows its rough shape. The area of Gordii Dorsum just looks intricate.

10 October 2016 ($\lambda=239^\circ\text{Ls}$, $\delta=8.4''-8.3''$)

Yukio MORITA (Mo) obtained an LRGB as well as an RGB composite at $\omega=073^\circ\text{W}$. The RGB looks better. In R, the spc is comparatively clear, and the area of Argyre is light. Ophir looks light. Unfortunately the R (as well as the L) image is associated with a curious unnatural shadowy band along the morning terminator.

CFs took an L-colour at $\omega=157^\circ\text{W}$. The spc looks narrower. M Sirenum is visible. Gordii Dorsum and its light surrounding are visible as well as the brownish Olympus Mons. The Tharsis triplicate is visible. At the evening limb of the arctic area there is seen a small white spot.

EMr obtained an excellent RGB composite at $\omega=273^\circ\text{W}$. The spc is thick and whitish bright. The dark fringe on this side is well shown. Hesperia is clearly cut, and the area of Ausonia to Eridania is nicely reddish. Hellas is of a beige tinge. The western coast is still lingering on the morning dusk near the terminator. The arctic cloud is faint bluish.

11 October 2016 ($\lambda=239^\circ\text{Ls}-240^\circ\text{Ls}$, $\delta=8.3''$)

FMI gave an IR610 image at $\omega=269^\circ\text{W}$ by using DMK. The dark band along the equatorial line, but Hesperia is not identified.

14 October 2016 ($\lambda=241^\circ\text{Ls}-242^\circ\text{Ls}$, $\delta=8.2''$, $\varphi=6^\circ\text{S}$)

Kn took an L-colour image at $\omega=014^\circ\text{W}$ (still under the seeing 1~2/10). The spc has become to show a good shape. The area of Argyre does not show its distinct perimeter, but the inside seems to be a bit reddish. The area of S Sabæus/S Meridiani is identified together with the area of Margaritifer S. The southern district is a bit reddish. Hellas also shows a reddish light area near the evening limb. The arctic cloud is not checked.

CFs caught the spc nicely on an L-colour image at $\omega=123^\circ\text{W}$: The spc shows a curved perimeter on our side. Solis L is dark but without detail, and Tithonius L is also not detailed, but its north and Ophir look very bright. Claritas is bright. The series of Tharsis Montes are clearly visible and Olympus Mons appears as a large brownish spot near the terminator.

15 October 2016 ($\lambda=242^\circ\text{Ls}$ - 243°Ls , $\delta=8.2''$ - $8.1''$, $\varphi=7^\circ\text{S}$)

Kn obtained an L-colour image at $\omega=005^\circ\text{W}$. The seeing condition is recorded 0~1/10. The bright spc looks roundish. The tail of M Serpentis is widened. Hellas is pinkish near the evening limb. The area of Margaritifer S is blurred.

16 October 2016 ($\lambda=243^\circ\text{Ls}$, $\delta=8.1''$)

CFs gave an L-colour image at $\omega=136^\circ\text{W}$. The spc is nicely distinct bounded by the roundish dark fringe. The centre of the spc must have been deviated from the pole: From the side of CFs the snowline must be around 75°S , while from the angle $\omega=210^\circ\text{W}$ it must have shrunk to 80°S . This image shows a white protrusion beyond the fringe. Solis L and M Sirenum are shown but look blurred. On the desert region, Phoenicis L and Tharsis Montes are rather clear. Olympus Mons is definite.

FMI shows an IR610 image by DMK at $\omega=206^\circ\text{W}$. The spc is not clear. The dark band must mostly M Cimmerium with a bit of M Sirenum. Phlegra also shows a bit darkness.

EMr composed a well colourful RGB image at $\omega=223^\circ\text{W}$. The description of the spc must be not enough because from the direction $\omega=220^\circ\text{W}$ the perimeter on this side is recessed slightly away. The ruddy colour of Ausonia is well described. The sites of interest in M Cimmerium, that is, the legs associated with the Gale and Knobel craters are shown. Elysium is checked and Propontis I is well dark. The arctic white haze is thinly seen.

17 October 6 ($\lambda=243^\circ\text{Ls}$ - 244°Ls , $\delta=8.1''$ - $8.0''$)

CFs gave an L-colour image at $\omega=089^\circ\text{W}$. The spc suggest a good shape. An area around Argyre is light. Solis L governs an large area near the CM, but no details are given. Thaumasia is a bit seen. Tithonius L is rather well described, and Ganges is traced. Nilokeras is bluish dark and M Acidalium lies near the preceding limb. The arctic haze is not described.

EMr gave an RGB composite at $\omega=216^\circ\text{W}$. The spc is whitish but the perimeter is fuzzy. M Cimmerium is just dark and blurred. Elysium is not well depicted. The arctic haze is nicely described.

18 October 2016 ($\lambda=244^\circ\text{Ls}$, $\delta=8.0''$)

Kn obtained an L-colour image at $\omega=335^\circ\text{W}$. Syrtis Mj is on the disk and the tail of M Serpentis is dark widened. The western end of Hellas looks pinkish. S Meridiani is near the morning terminator. The spc is quite blurred. The arctic haze is not visible.

19 October 2016 ($\lambda=244^\circ\text{Ls}$ - 245°Ls , $\delta=8.0''$ - $7.9''$, $\varphi=8^\circ\text{S}$)

CFs obtained an L-colour image at $\omega=090^\circ\text{W}$. The spc shows a suggestive shape, but looks to send a burst northwards into the area around Dia. The spc on the IR685 image seems to have a smaller core, there might have been some fissions. The description of the main dark markings is not so different than those on the 17 October image. Just there is shown a weak misty haze over the evening M Acidalium.

20 October 2016 ($\lambda=245^\circ\text{Ls}$ - 246°Ls , $\delta=7.9''$)

CFs gave an L-colour image at $\omega=077^\circ\text{W}$. The spc seems to suggest a fine structure inside and

outside. Outside the dark fringe there lies a light zone as explicit on the IR685 image. Argyre looks slightly reddish. The area of Solis L/Thaumasia is exposed fully, but preceding M Erythraeum is faint. Ophir is a bit reddish bright. The shape of Aurorae S is dark but looks blurred. The evening limb is misty over M Acidalium.

21 October 2016 ($\lambda=246^\circ\text{Ls}$, $\delta=7.9''$, $\varphi=9^\circ\text{S}$)

CFs obtained an L-colour image at $\omega=069^\circ\text{W}$. The description of the spc is good. The outburst from the spc is explicit and area around Dia is light. Argyre is a bit reddish. At the evening limb, Meridiani S is seen (going out). Margaritifer S and Aurorae S look normal. Ganges is weak, but Nilokeras and M Acidalium are dark: A part of Acidalium M is evening misty.

22 October 2016 ($\lambda=246^\circ\text{Ls}-247^\circ\text{Ls}$, $\delta=7.9''-7.8''$)

CFs gave an L-colour image at $\omega=055^\circ\text{W}$. The perimeter of the spc also shows a fine structure, and the outburst projection across the dark fringe is realistic. Argyre does not show its contour clearly but the inside looks a bit reddish. Mare Erythraeum does not stand out. The arctic haze can be said to exist as a distribution. The light streak in Noachis running from S to N near the evening limb, if not any ghost, looks like the streak which was observed after the 18 October 2005 dust storm (e.g. refer to Bill FLANAGAN (WFI) images on 22 October 2005 at $\omega=026^\circ\text{W}$, 031°W , 039°W).

EMr obtained an RGB composite at $\omega=162^\circ\text{W}$. The spc here does not show a clear perimeter, but the cap looks quite localised. M Sirenum is dark. The arctic haze shows a large expansion.

23 October 2016 ($\lambda=247^\circ\text{Ls}-248^\circ\text{Ls}$, $\delta=7.8''$)

CFs gave an L-colour image at $\omega=044^\circ\text{W}$. The spc looks complex. The overflowing across the dark fringe is very realistic and since on the IR685 image the dark fringe wins the overflowing projection, the outburst must have been mainly composed of the water vapour. The dark markings on the L-colour image look fainter in general, but Aryn's nails are explicit, Margaritifer S is normal and the humanoid shape of Aurorae S looks definite. Because we are facing to the southern φ , M Acidalium went down to the north, but if we ignore the arctic haze, it must be dark quite enough. This time M Erythraeum is passing the CM, and its intensity may be normal than expected. Argyre looks to take a beige tinge.

EMr obtained an RGB composite at $\omega=138^\circ\text{W}$. The spc appears smaller, but very whitish bright. A part of the dark fringe stands out. M Sirenum is dark, but its south looks covered by a white thin mist. On R, Olympus Mons and Tharsis Montes are all definitely seen, while on the composite they turned to be weaker. As far as we see the B image, the arctic haze is not thick.

24 October 2016 ($\lambda=248^\circ\text{Ls}$, $\delta=7.8''$, $\varphi=9^\circ\text{S}-10^\circ\text{S}$)

Kn obtained an L-colour image at $\omega=300^\circ\text{W}$. The seeing condition is not preferable and recorded 1/10. The markings look therefore blurred, but Syrtis Mj is darkly presented and Hellas looks roundish. The spc is spotted but does not make a real appearance.

EMr gave an RGB composite at $\omega=144^\circ\text{W}$. The tilt has been moved to $\varphi=10^\circ\text{S}$, and hence the depth of the cap has become thicker and less wide. The dark fringe on this side is darker, and between M

Sirenum and the dark fringe there is another dark band which may lie at the latitude of Mare Chronium. This time on the RGB we can point out Tharsis tres Montes et Olympus Mons. Ascræus Mons is dark at the borderline of the arctic haze gradation.

25 October 2016 ($\lambda=248^\circ\text{Ls}$ - 249°Ls , $\delta=7.8''$ - $7.7''$)

CFs obtained an L-colour image at $\omega=027^\circ\text{W}$. Sinus Meridiani is now considerably inside the disk, while the tail of M Serpentis is still near the evening limb. The Neudrus canals and Brangaena are recorded. The spc shows an interestingly a rough zigzagged perimeter with an overflowing projection. At the evening side of the spc, Novus Mons is identifiable as detached from the spc. The arctic cloud is thick on the evening side.

26 October 2016 ($\lambda=249^\circ\text{Ls}$ - 250°Ls , $\delta=7.7''$)

EMr has got an RGB composite at $\omega=115^\circ\text{W}$. The white spc shows a cosy shape, but not detailed. Solis L is large near the evening limb and its west (including claritas) shows a reddish tinge. Ophir is usually light. Tithonius L does not show a detailed structure. M Acidalium does not show up, but looks to be covered by an evening white mist.

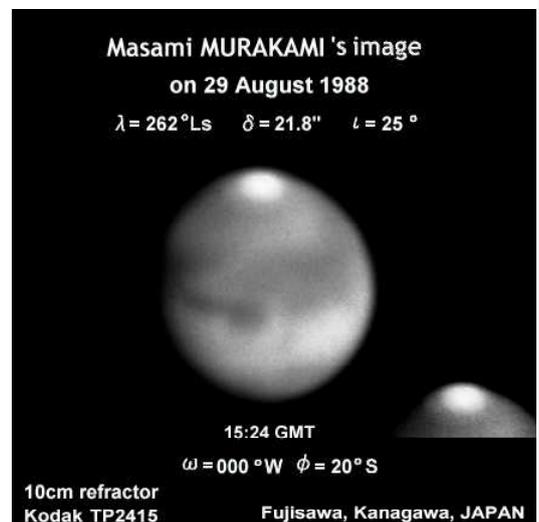
27 October 2016 ($\lambda=250^\circ\text{Ls}$, $\delta=7.7''$)

CFs gave an L-colour at $\omega=343^\circ\text{W}$. Sinus Meridiani just came out from the lingering sunlight in the morning sky, S Sabaeus and Mare Serpentis are near the CM, and the widened tail of M Serpentis has been definite. Yaonis Fr is also distinct and the western area of Hellas is light evident. The Martian season corresponds to the period when the 1956 dust disturbance at Noachis was entrained on the morning side. However this time such a drastic change does not show any sign of indication. The resolution of the spc is not enough, the white Novus Mons is shown up (the separation of Novus Mons from the main spc occurs from around $\lambda=230^\circ\text{Ls}$, and hence this season it was possible from 25 September, but no appropriate observations were performed before CFs' observation on 25 October 2016 ($\lambda=248^\circ\text{Ls}$ - 249°Ls): Anyhow it was fortunate for CFs to be able to shoot it on 27 October ($\lambda=250^\circ\text{Ls}$).

N.B. As to the fate of Novus Mons, the CMO editor has been interested from the early period. Already in CMO #007 (25 April 1986) we introduced the phenomenon based on the article in *JGR* 84 (1979) written by P. JAMES and G. BRIGGS et al:

1) Novus Mons is bright inside the spc when spc is still large. 2) Novus Mons begins to separate from the spc from around $\lambda=242^\circ\text{Ls}$, and 3) completely separates from the spc at around $\lambda=263^\circ\text{Ls}$, and then 4) vanishes at around $\lambda=270^\circ\text{Ls}$. Likely however in CMO #111 (1991) where the separation occurred during the period from $\lambda=239^\circ\text{Ls}$ - $\lambda=243^\circ\text{Ls}$ based on the observations in Taipei by one of us in 1986 and 1988 (and the elimination was chased up until $\lambda=286^\circ\text{Ls}$. As to the vanishing

period an article in CMO #327 (25 Jan 2007) is detailed, and hence we hope you will refer to it. In this article, especially continuous chasing of Novus Mons are shown every taken on the swaths chronologically.



<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmomn3/CMO327.pdf>

For the time being, it is a good season to chase Novus Mons, we here re-record a TP2415 photo made by the other of us (M MURAKAMI) in 1988 by the use of a Nikon 10 cm Refractor to be referred (this was once cited in CMO #116 (25 April 1992). The season was $\lambda=262^\circ\text{Ls}$.

29 October 2016 ($\lambda=251^\circ\text{Ls}$, $\delta=7.6''$, $\phi=11^\circ\text{S}$)

EMr secured an RGB composite at $\omega=087^\circ\text{W}$. The spc suggest a fine structure but not expressed. There is no word about Solis L that it is large fat. Ophir is light and Ganges is visible. The evening M Acidalium is covered by the evening whitish mist.

30 October 2016 ($\lambda=251^\circ\text{Ls}\sim 252^\circ\text{Ls}$, $\delta=7.6''\sim 7.5''$)

CFs obtained an L-colour image at $\omega=353^\circ\text{W}$. Novus Mons is clearly depicted, and to its destination a white area is seen. M Serpentis is nicely mapped with the widened tail. Hellas is light near the evening limb. There is no detail shown up about S Meridiani.

31 October 2016 ($\lambda=252^\circ\text{Ls}\sim 253^\circ\text{Ls}$, $\delta=7.5''$, $\phi=12^\circ\text{S}$)

CFs only gave an IR685 at $\omega=358^\circ\text{W}$. The tail of Mare Serpentis is well shown. Margaritifer S is coming.

(Masatsugu MINAMI and Masami MURAKAMI)

Letters to the Editor

●.....*Subject: Mars 18 October 2016*
Received: 18 October 2016 at 23:59 JST

Dear Dr. Minami, I am attaching here my latest image of Mars just at the culmination, daylight capture through a rift in the clouds with terrible seeing as usual. Seems to be uneventful on this side of the hemisphere.

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161018/Kn18Oct16.jpg>

ESA's Mars Express VMC everyday these days releases images looking down Martian southern hemisphere including the defrosting SPC, they are also expecting to catch the outbreak of a global dust storm, I guess: Good Seeing!

https://www.flickr.com/photos/esa_marswebcam/

○.....*Subject: An image reprocessed*
Received: 22 October 2016 at 13:51 JST

Dear Dr. Minami, All, A few days ago, I had a rather severe problem with the driving system of my 16 inch

Schmidt-Cassegrain telescope. With the telephone instruction of the telescope dealer, I could have managed to fix the disorder. These two days, however, seeing was hopeless, to be rated 0/10, no marking squeezed out through image processings. To relieve my stress, I re-processed my raw images taken on 01 August 2016 to find some improvements.

Please find an attached montage to compare with the



image by MRO MARCI/NASA on the same day. The canyon haze/dust in the Valles Marineris System seems to show a good match in both images.

○...**Subject: Mars 24 October 2016**
Received: 24 October 2016 at 21:43 JST

Dear Dr. Minami, I have attached my latest Mars image. Seeing was still quite poor as lately. Seems to be uneventful, maybe. Surprisingly, ESA has already uploaded VMC's images taken just some twenty minutes after my one! Good Seeing!

https://www.flickr.com/photos/esa_marswebcam/

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmoms/2016/161024/Kn24Oct16.jpg>

○...**Subject: RE: Mars 2016/10/21 1618UT CM69**
Received: 26 October 2016 at 20:07 JST

Hi Clyde, You look very good on TV!

The brighter area immediately below the SPC in your 21 Oct. image, of which you are wary, I think, is an artifact because no brighter area between SPC and Argyre Planitia was shown in Mars Express VMC's image on the same day :

https://www.flickr.com/photos/esa_marswebcam/30472646395/

...though SPC itself on your image may reflect the irregular outline of the recent defrosting SPC. I don't have any experience by which I can advise you, but I myself is now trying longer effective focal length (CF/62 or greater) for the smaller Mars, though waiting for the better seeing to know whether it works well. Best Regards,

○...**Subject: Re:Mars 2016/10/27 1424UT CM343**
Received: 30 October 2016 at 20:29 JST

Dear Clyde, I also think your 27 October 2016 image almost resolved the Novus Mons (Mountains of Mitchel) on just 7.7" across Martian disk which is clearly shown in the recent Mars Express VMC images

https://www.flickr.com/photos/esa_marswebcam/30012263834/

You can find comprehensive descriptions of the shrinking/separating Novus Mons in this Martian season elsewhere in the previous CMO issues such as CMO 2005 Mars Note (10) "Remnant" Novus Montis :

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmomn3/CMO327.pdf>

Good Seeing,

○...**Subject: Dust Storm Season**
Received: 2 November 2016 at 20:03 JST

Dear Clyde, Thanks a lot for your concern the other day. I am well, busy in performing daily dental treatment. As for Mars, I still have plenty of fighting spilit,

but the weather hasn't been cooperative at all these days. We Terrestrial Martians are now in the height of the dust storm season. You may not be happy with the quality of your Mars images taken under poor seeing condition. But they are no bad for the present far and tiny Mars. Maybe they look like "just for the record" ones, but they are valued records...a seemingly mediocre uneventful image can be a positive negative data to verify there have been no occurrence of the large dust storm then there. Capturing very initial stage of a global class dust storm activity would be most important. We owe you big time for your outstanding persistence, and the recent running on upload of the images by the ESA's little lovely VMC webcam on board Mars Express Orbiter as well! Best Wishes,

○...**Subject: Still alive, Mars 04 November 2016**
Received: 5 November 2016 at 13:29 JST

Dear Dr. Minami, Here I have attached my latest Mars image. Recent strong winter pressure system over Japan brings us despairing seeing; jet stream-delivered ceaseless high frequency image peristalsing, with occasional passage of closer devastating upsetting air masses smashing up the Martian disk... to be rated 0~1/10. Steady Seeing!

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmoms/2016/161104/Kn04Nov16.jpg>

○...**Subject: Mars 07 November 2016**
Received: 8 November 2016 at 20:52 JST

Dear Dr. Minami, Attaching here my latest image of Mars. Slightly better seeing than the last session on 04 November. Major dark markings just discernible, as well as SPC. GOOD Seeing!

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmoms/2016/161107/Kn07Nov16.jpg>

○...**Subject: Mars 13 November 2016**
Received: 15 November 2016 at 20:42 JST

Dear Dr. Minami, Attached here is my latest image of Mars captured under poor seeing condition as lately. Now is the same season $\lambda=260^\circ$ Ls as the great global Dust Storm outbreak on 21/22 September 1971. GOOD Seeing!

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmoms/2016/161113/Kn13Nov16.jpg>

Reiichi KONNAI (Fukushima, JAPAN)

●.....*Subject: Re: Mars 2016/10/17 1457UT CM89*
Received: 19 October 2016 at 12:00 JST

Hi Clyde, The declination of the Earth (De) in the Martian skies has gone from 1 degrees North on Sep. 18 to the current 10 degrees South. The SPC goes from an edge-on object to a more broadside view for observers on the Earth. So it will appear brighter and bigger. By the end of November De will be about 20 degrees South. But the real treat will be that the Mountains of Mitchel (Novus Mons) will be visible during the first two weeks of November at Ls centered near 256 degrees. Novus Mons is a 400 or 500-mile long plateau feature that is mostly tilted to the South. CO₂ frost remains on it longer than other surfaces at the same latitude. The sublimation of ice slows since the Sun's rays strike it at a lower angle. The Longitude is about 300°W. I recorded an image Novus Mons on Sept 07, 2003. Please see Novus Mons on Mars. Try to keep imaging to record this trophy feature. Thanks.



Novus Mons in 2005

<https://sites.google.com/site/trailltopmarsastronomy/home/2005-2006-mars>

○.....*Subject: Re: Mars 2016/10/25*
Received: 27 October 2016 at 04:43 JST

Hi Clyde, Mons Argenteus is the outlier. The extension to the left of the SPC is Novus Mons (Mountains of Mitchel) the famous outlier that I wrote you about last week. In about a week it will be front and center for you. Good going!

○.....*Subject: Re: Mars 2016/10/27 1424UT CM343*
Received: 29 October 2016 at 11:09 JST

Hi Clyde, In 4 or 5 days Novus Mons will be front and center. It will be similar looking to a July 17th

2005 image.

○.....*Subject: Re: Mars 2016/10/30 1707UT CM343*
Received: 31 October 2016 at 11:52 JST

Hi Clyde, Novus Mons is clearly visible to the left of the SPC. Also, notice a dark streak just North of the SPC. I think it is caused by sublimation of ice. In previous apparitions the SPC would be surrounded by a mysterious dark collar. It is now understood that it was caused by winds due to sublimation sweeping dust off dark mare. Just North of the dark streak is a bright streak that is bright in your red filter image and not visible in blue. The bright streak probably is a band of dust swept off the mare. Good work! Continue imaging even if the seeing is poor.

Jim MELKA (Chesterfield, MO)

●.....*Subject: Re: Mars 2016/10/17 1457UT CM89*
Received: 19 October 2016 at 15:35 JST

Thanks, Jim. Interesting! Despite the very poor conditions I deliberately tried not to over process the SPC. It almost looked like there was an indent in the cap, although with conditions this bad, I would not like to make any absolute statements. We have cloud and rain (which we desperately needed!) here now, so I may not be able to capture for the next few days.

Best regards,

○.....*Subject: Mars 2016/10/19 1622UT CM90*
Received: 20 October 2016 at 19:55 JST

Hi all, With the current weather conditions and forecast in my region, I was not expecting to get anything out. There were, however, a few intermittent gaps, and although conditions were very poor, this was the best I could get out and I submit "for the record". I note that this capture was less than 2 hours after the scheduled touchdown of the Schiaparelli lander although the planned landing site has already rotated out of view. Best regards,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmoms/2016/161019/CFs19Oct16.jpg>

○.....*Subject: Mars 2016/10/20 1622UT CM90*
Received: 21 October 2016 at 04:23 JST

Hi all, Poor conditions are continuing although somewhat improved from yesterday. Solis Lacus is visible in the upper right quadrant. Best regards,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmoms/2016/161020/CFs20Oct16.jpg>

○...**Subject: Mars 2016/10/22 1558UT CM55**
Received: 23 October 2016 at 05:00 JST

Hi all, My observing conditions seem to be improving. Attached my image set from this afternoon with Mars at 7,8". Martian conditions still appear to remain relatively clear. Sinus Meridiani is coming into view and I have marked the approximate location of the planned landing site of Schiaparelli. It appears that the MRO has identified the impact site, although I am not sure how close this is to the planned landing site. Best regards,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161022/CFs22Oct16.jpg>

○...**Subject: Mars 2016/10/22 1558UT CM55-unannotated**
Received: 23 October 2016 at 19:22 JST

Hi all, The same submission as yesterday, but unannotated for those that did not want the Schiaparelli landing site included. Best regards,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161022/CFs22Oct16.jpg>

○...**Subject: Mars 2016/10/21 1618UT CM69**
Received: 26 October 2016 at 17:25 JST

Hi all, I am busy catching up on my images from the last few days. Seeing conditions continue to be reasonable. In the colour image, I am processing the SPC region separately in order not to burn out or overprocess due to the brightness of the SPC at present. I am wary of the bright area immediately below the SPC and am not sure if this is due to a combination of the small size of Mars, the seeing conditions, the brightness of the SPC and/or optical issues. Any comments from those with more experience that I have would be welcome. There seems to be quite extensive cloud over Mare Acidalium.

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161021/CFs21Oct16.jpg>

Due to the recent public interest in the latest ESA mission and my specific interest in Mars, I was privileged, through our local Southern African Astronomical Society (ASSA) to be invited by our national broadcasting corporation (SABC) to do a live TV news interview on Mars on Monday morning (24th). This was my first TV interview, so it was a combination of excitement and nervousness! I hope and think that it went off ok, and for your interest I attach a few images from the interview. For me it certainly was a

wonderful experience. Best regards,



○...**Subject: 2016/10/23 1554UT CM44**
Received: 26 October 2016 at 1 9:14 JST

Hi all, My image set from 23 October. Possible suspicion of some type of extension off the SPC? A bright cloud over eastern Acidalium, and possibly a hint of some dust over central/western Acidalium?

Best regards,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161023/CFs23Oct16.jpg>

○...**Subject: Mars 2016/10/25 1605UT CM27**
Received: 26 October 2016 at 21:40 JST

Hi all, Conditions were a bit poorer the last two afternoons. Attached my images from yesterday afternoon. I have been informed that the extension off the norther(lower) edge of the SPC could be the seasonal outlier Argenteus Mons. There may also be some structure on the left of the SPC. However, I emphasise that seeing was not particularly good.

Best regards,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161025/CFs25Oct16.jpg>

○...**Subject: RE: RE: Mars 2016/10/21 1618UT CM69**
Received: 26 October 2016 at 22:04 JST

Dear Reiichi, Thank you for the compliment! May I in turn compliment you on some of your recent results using your "electronic eyes"! I don't think that I would get improved results with longer focal length at this stage purely because of seeing conditions. However, if you don't try, you will never know! I wish you well, and excellent seeing. Best regards,

○...**Subject: Mars 2016/10/27 1424UT CM343**
Received: 28 October 2016 at 16:29 JST

Hi all, An early, daylight capture of Mars as a result of the fact that a late afternoon thunderstorm was forecast. This gave me my first glimpse of the Hellas basin on this rotation. There is a hint of some detail in

Hellas in the IR image. Due to the fact that Mars, at least for the time being, appears calm from a dust storm perspective, I am trying to concentrate on the developments at the SPC. In these images and in the others that I captured, there appears to be 3 sections to the SPC:

- a) To the right, there is a less brilliant section, which, based on various comments I have received, may be the Mons Argenteus.
- b) the main central section is bright and
- c) to the left there appears to be an extension which I have been lead to believe will be the famous (to use Jim's term!) Novus Mons (Mountains of Mitchel).

This is already an improvement for me from the last apparition where I did not know how to separately process sections of the planet, and would burn out the SPC in processing, losing detail such as this.

I am away for the weekend for a family commitment, but hope to pick up again on Sunday afternoon when I am back home. Best regards,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161027/CFs27Oct16.jpg>

○...**Subject: Mars 2016/10/30 1707UT CM343**
Received: 31 October 2016 at 03:25 JST

Hi all, I am afraid a rather poor quality set from this evening. I was only able to capture one full 90sec L avi and one IR avi in a gap in the clouds. Seeing was very poor. Despite this I am submitting for the record. Unfortunately my weather forecast is not looking good for the next few days. Best regards,

(PS: Thanks to those that have given me comments on my last submission)

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161030/CFs30Oct16.jpg>

○...**Subject: Mars 2016/10/31 1805UT CM358**
Received: 1 November 2016 at 04:35 JST

Hi all, This IR capture was all that I could get out this evening. A small gap in the clouds and poor conditions. Best regards,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161031/CFs31Oct16.jpg>

○...**Subject: Mars 2016/11/01 1627UT CM324**
Received: 2 November 2016 at 04:57 JST

Hi all, Slightly better conditions this evening although the capture was through cloud. Some subtle markings in Hellas may be visible. Best regards,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161101/CFs01Nov16.jpg>

○...**Subject: RE: Dust Storm Season**
Received: 2 November 2016 at 23:17 JST

Dear Reiichi, Thank you for your email and kind words. I am amazed and impressed that you still have the stamina and drive to keep on working! In particular thank you for your encouragement for me to continue. I am aware that I still have a lot to learn, but I have really enjoyed what I have done and learned so far. I am doing a lot of reading on Mars and also have just started reading the Handbook of Astronomical Image Processing (Berry and Burnell), which will take me a while! I feel that it is important that I get a better understanding of the technical issues behind the capture and processing techniques I am using, in order to get the best results.

It is humbling for me to read Mars observations and reports dating back to the 80's (and before) by people that are still active in the Mars field. It makes me feel a bit like a "baby Martian" with me having started seriously only on 2014! It has also been exciting for me to build the relationships in South Africa with the UFS and Boyden Observatory/Naval Hill, with its historical Mars connections with Slipher, as well as the 13" Boyden Alvin Clark Refractor with its Mars imaging heritage. One thing I have added to my list of "Things to do" is to try and make a visit to the Lowell and Harvard Observatories in the next few years. I believe that would be an amazing experience for me.

It has also been a highlight for me over the last few years to build the relationships and friendships with fellow "Martians" in the BAA, ALPO and the CMO/ISMO. It really has been a pleasure and a privilege, and I have really appreciated being accepted as a newcomer.

I only have two weeks left before I go to the UK with my son for a 2 week visit, returning in the first week of December. Although the primary objective is to introduce my son to the family in England and Scotland (and to take him to a Manchester United game!), I am hoping to meet up with a few BAA contacts whilst I am in London. Richard McKim has kindly signed me a copy of his Mars Dust storm mono-

logue which I will collect when I am there. On my last trip I recall seeing a used copy of Bill Sheehan's book in one of the (amazing) old bookshops, and regret not buying it at the time for my growing Mars library. I will see if I can find it this time!

Finally, regarding Mars, it would be nice if there was some activity in the next two weeks before I leave. Hellas should be visible to me most of this time, so I believe that I am well positioned to monitor that region. The weather conditions here have changed significantly now with a lot of cloud, but I will continue to try and capture whatever data I can. Last apparition I followed Mars down to 4" and I see that Ls300 will be in the middle of January, with Mars still above 5", so I am hoping that I can at least continue until then. I wish you good health and steady seeing conditions. Thank you for our ongoing interaction!

Best regards,

○...*Subject: Mars 2016/11/03 1618UT CM302*
Received: 4 November 2016 at 04:28 JST

Hi all, Conditions are still challenging and this capture was through high cloud. The L image is a 3× 90s derotation. I took quite a few images, and it appears that there are subtle markings in Hellas. The lower (northern) and right (western) section of Hellas appears to be a bit brighter. Best regards,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161103/CFs03Nov16.jpg>

○...*Subject: Mars 2016/11/04 1610UT CM291*
Received: 5 November 2016 at 19:27 JST

Hi all, Mars capture from yesterday afternoon.

Best regards,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161104/CFs04Nov16.jpg>

○...*Subject: Mars 2016/11/05 1534UT CM272*
Received: 6 November 2016 at 03:44 JST

Hi all, Mars capture from this afternoon.

Best regards,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161105/CFs05Nov16.jpg>

○...*Subject: RE: Mars 2016/11/06 1456UT CM253*
Received: 7 November 2016 at 03:53 JST

Hi all, Mars capture from this afternoon. Elysium at lower left and the Gale crater extension just visible.

Best regards,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161106/CFs06Nov16.jpg>

○...*Subject: Mars 2016/11/07 1548UT CM256*

Received: 8 November 2016 at 04:16 JST

Hi all, Mars this afternoon. Poor conditions are continuing. Mare Tyrrhenum and Mare Cimmerium prominent. Best regards,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161107/CFs07Nov16.jpg>

○...*Subject: Mars 2016/11/08 1548UT CM256*
Received: 9 November 2016 at 04:22 JST

Hi all, Really poor conditions limited me to an IR capture this afternoon. Best regards,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161108/CFs08Nov16.jpg>

○...*Subject: Mars 2016/11/12 1402UT CM181*
Received: 13 November 2016 at 00:50 JST

Hi all, Our severe drought conditions have been replaced by severe afternoon thunderstorms, with some serious flooding in and around the Johannesburg and Pretoria area. Fortunately I have not experienced any damage myself, but was up at midnight on Wednesday during a particularly bad storm to check that the observatory was ok! Clearer conditions are forecast tomorrow, but then cloud and more storms are expected for a few days thereafter. I am hoping I can get at least a few more captures before I leave for the UK on Thursday. This was the only capture I could get this afternoon. A very quick colour capture as the clouds split and then closed over. There was not even time for an IR capture. We are at Ls 260. Mare Sirenum and Mare Cimmerium are still visible, indicating that conditions remain relatively clear on this side of Mars. Best regards,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161112/CFs12Nov16.jpg>

○...*Subject: Mars 2016/11/13 1513UT CM188*
Received: 14 November 2016 at 05:19 JST

Hi all, Mars capture from this afternoon with the planet now at 7". Similar orientation as yesterday. Despite the forecast better weather, seeing was below average. Best regards,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161113/CFs13Nov16.jpg>

○...*Subject: Mars 2016/11/15 1441UT CM161 IR*
Received: 16 November 2016 at 02:13 JST

Hi all, Conditions too poor for a colour image. Attached IR capture with Mare Sirenum prominent above centre. Best regards,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161115/CFs15Nov16.jpg>

○.....*Subject: Mars 2016/11/16 1639UT CM180 IR*
Received: 17 November 2016 at 03:02 JST

Hi all, A rather poor IR capture, taken through fairly thick cloud and my last capture for a while.

I leave for the UK tomorrow and will return home on 5 December, when I hope to continue imaging. I will be meeting with Martin Lewis and David Arditti who are on this circulation list next Tuesday and I am looking forward to the interaction and discussion.

Best regards,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161116/CFs16Nov16.jpg>

Clyde FOSTER (Centurion, SOUTH AFRICA)

●.....*Subject: Mars - October 16th*
Received: 19 October 2016 at 09:47 JST

Hi Mr. Minami and All!, Here is my most recent session from the 16th Oct. under average conditions.

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161016/EMr16Oct16.jpg>

○.....*Subject: Mars - October 17th, 22nd*
Received: 24 October 2016 at 03:51 JST

Hi Mr. Minami and All!, Here I submit two sessions under poor to below average conditions. And Uranus as condition were average at the time

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161017/EMr17Oct16.jpg>

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161022/EMr22Oct16.jpg>

○.....*Subject: Mars - October 23rd*
Received: 25 October 2016 at 03:56 JST

Hi Mr. Minami and All!, Here is my submission from Oct.23rd under average conditions.

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161023/EMr23Oct16.jpg>

○.....*Subject: Mars - October 24th*
Received: 26 October 2016 at 21:38 JST

Hi Mr. Minami and All!, Here I submit my session from Oct.24th still under the influence turbulence, rain.

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161024/EMr24Oct16.jpg>

○.....*Subject: Mars - October 26th*
Received: 29 October 2016 at 03:20 JST

Hi Mr. Minami and All!, Here is my only set before the rain showers of Mars on Oct. 26th.

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161024/EMr24Oct16.jpg>

○.....*Subject: Mars September 12*
Received: 2 November 2016 at 00:58 JST

Hi Mr. Minami and All!, Here I submit my session from Oct. 29th under average conditions.

prior to this session Venus was taken also.

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161029/EMr29Oct16.jpg>



○.....*Subject: Mars - November 2nd*
Received: 5 November 2016 at 01:53 JST

Hi Mr. Minami and All!, Here is my session from november 2nd under average conditions.

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161102/EMr02Nov16.jpg>

Efrain MORALES (Aguadilla, Puerto Rico)

●.....*Subject: Mars September 9*
Received: 24 October 2016 at 11:21 JST

Looks pretty nice.

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160909/PMx09Sept16.jpg>

○.....*Subject: Mars September 10*
Received: 29 October 2016 at 03:58 JST

Average seeing.

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160910/PMx10Sept16.jpg>

○.....*Subject: Mars September 11*
Received: 30 October 2016 at 12:47 JST

Average or better seeing.

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160911/PMx11Sept16.jpg>

○.....*Subject: Mars September 12*
Received: 1 November 2016 at 08:57 JST

Average seeing

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160912/PMx12Sept16.jpg>

○.....*Subject: Mars September 13*
Received: 4 November 2016 at 09:26 JST

Poor seeing.

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160913/PMx13Sept16.jpg>

○.....*Subject: Mars September 15*
Received: 6 November 2016 at 08:41 JST

Average seeing.

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160915/PMx15Sept16.jpg>

○.....*Subject: Mars September 16*
Received: 9 November 2016 at 08:03 JST

Unsteady seeing.

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160916/PMx16Sept16.jpg>

○.....*Subject: Mars September 17*

Received: 11 November 2016 at 04:24 JST

Average seeing, boring planet.

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160917/PMx17Sept16.jpg>

○.....*Subject: Mars September 18*

Received: 13 November 2016 at 08:21 JST

Average seeing,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160918/PMx18Sept16.jpg>

○.....*Subject: Mars September 19*

Received: 15 November 2016 at 09:04 JST

Average seeing,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160919/PMx19Sept16.jpg>

○.....*Subject: Mars September 26*

Received: 19 November 2016 at 08:38 JST

Below average seeing

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160926/PMx26Sept16.jpg>

○.....*Subject: Mars September 28*

Received: 20 November 2016 at 09:21 JST

Below average seeing.

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160928/PMx28Sept16.jpg>

○.....*Subject: Mars September 30*

Received: 22 November 2016 at 08:41 JST

Better seeing.

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160930/PMx30Sept16.jpg>

○.....*Subject: Mars October 1*

Received: 23 November 2016 at 08:42 JST

IR only, seeing didn't cooperate.

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161001/PMx01Oct16.jpg>

Paul MAXSON (Surprise, AZ)

●.....*Subject: Mars (March 26th.)*

Received: 26 October 2016 at 07:49 JST

Hi all, Another session from March. Fair to good seeing. Solis Lacus is prominent. Best Wishes

<http://www.damianpeach.com/mars1617/m2016-03-26-RGB.jpg>

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/160326/DPc26Mar16.jpg>

Damian PEACH (Selsey, West Sussex, the UK)

●.....*Subject: Mars: November 1, 2016*

Received: 3 November 2016 at 08:12 JST

Hi, I have attached my image of Mars November 1, 2016 at 0:08 UT. Thanks,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161101/FMI01Nov16.jpg>

○.....*Subject: Mars: November 2, 2016*

Received: 3 November 2016 at 11:51 JST

Hi, I have attached my latest image of Mars November 2, 2016 at 21:56 UT. Thanks,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161102/FMI02Nov16.jpg>

○.....*Subject: Mars: November 12, 2016*

Received: 13 November 2016 at 10:06 JST

Hi, I have attached my latest image of Mars November 12, 2016 at 22:07 UT. Thanks,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161112/FMI12Nov16.jpg>

○.....*Subject: Mars: November 13, 2016*

Received: 14 November 2016 at 09:55 JST

Hi, I have attached my latest image of Mars November 13, 2016 at 22:05 UT. Thanks,

<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmons/2016/161113/FMI13Nov16.jpg>

Frank J MELILLO (Holtsville, NY)

☆☆☆

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CMO n°456/ ISMO #82 (25 November 2016)

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



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