

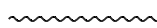
MARS

No. **300**
25 December 2004

A **polo**gy for a New Series of the CMO: The 2005 apparition of Mars is around the corner, and hence we decided to publish a new series of the CMO from #300. We have been sorry we could not afford to edit and publish the CMO since the climax of the 2003 opposition of Mars. The closed-up Mars in 2003 was quite enormous for us, and to observe it was all the Editor (*Mn*, staying at Okinawa) could do, and it was impossible to analyse in detail nor to edit the data which we received with thanks from the overseas observers; just only some short comments and the ccd data were uploaded without delay in the CMO-Web by the webmaster (*Mk*). The last paper version (published from Fukui) was #272 (25 May 2003 issue), and by now no more than #273 (25 June 2003 issue), #274 (10 July issue), #275 (25 July issue), #276 (10 August issue), #277 (25 August issue), and #278 (10 September 2003 issue) have been uploaded in the CMO-Web, and so quite delayed. We intend however to continue the work, and recover the missing issues from #279 to #299 along with the parallel publication of the new edition from #300. The 2003 apparition implied more than the usual apparition plus additional huge showing up lasting for more than two months, so that it has been difficult not only to sort out the bulk the apparition left behind, but also to transcribe the data and analyses to the paper versions. Each fortnight may need 50 pages or more of this CMO style during the highlights. Even then we shall manage to put into the prints in some form, and we hope every reader is patient with us.

Now the new season has begun: The 2005 Mars is shining in the morning sky. We thus chase it here in an old styled paper version in a monthly edition. The CMO paper version will be sent out to our overseas observers without charge as before on the condition that every reader will keep us informed concerning the planet Mars as before. Thank you.

CMO/OAA Mars Section *M MINAMI (Mn)*, *M MURAKAMI (Mk)* & *T NAKAJIMA (Nj)*



♂ お詫びと『火星通信』新シリーズについて：2005年の火星が近づいてきましたので、『火星通信』CMOを新シリーズとして復刊することになりました。今後ともよろしくお願いたします。印刷した『火星通信』は2003年五月25日号の#272(福井で印刷発行)を最後に途絶えているのですが、これは当時、emailを通じてお断りしたように、折からの火星の2003年大接近で、とくに編集者(*Mn*)の滞在した沖縄は晴天が続き、自己の観測量が予想以上に急増した他、海外から入って来る情報量が膨大になり、その整理だけで時間がなくなってしまい、遂に#273(六月25日号)から編集発行の余裕がなくなって仕舞った結果です。但し、重要な情報については洩れなくemailを通

じて発信するほか、速報性の高い画像はCMO-WebのGallery(Mk担当)を最新・完全な形で維持するなど、その他暦表などもWebに重心を移すかたちで細々とCMO活動を續けていたわけです。しかし、観測状況の詳しい整理分析など、タイムリーに速報出来なった点はお詫びしなければなりません(分析そのものも追いつかない状況でしたが)。現在、2003年火星について腰を落ち着けて観測状況の整理解析を進め、一部結果は#273(2003年六月25日号)、#274(七月10日号)、#275(七月25日号)、#276(八月10日号)、#277(八月25日号)、#278(九月10日号)としてWebに継続掲載中ですが、まだ完全に終わる時期は遠慮として見えません。また、紙面に移すにしても、各号の内容がこれまでの倍の分量になって、LtEも合わせると各号半月分で五十頁を越えそうですので、方法を思案中です。然し、何れ、2004年分(特に2003年火星の分析とローエル會議)も含めて續刊する予定にしています。ただ、新シリーズ以外はWebの方が先行する形になりますのでご了承下さい。

兎に角、2003年の大接近は予想以上に凄いいものでした。普通の接近に、それより大きな視直径の期間が二ヶ月分餘計に喰っ付くわけですから、この山を越えるのはたいへんです。というわけで、この山はゆっくり登り切ると同時に次の峠を二足草鞋で登ることに致します。以前にも増してよろしくご支援下さるようお願い申し上げます。謹白

OAA火星課『火星通信』 南 政 次(Mn)、村上 昌己(Mk)、中 島 孝(Nj)

CMO 2005 Mars Report # 01

OAA Mars Section

♂.....The planet Mars has come back. On 1 Nov 2004, the elongation was only 16°W with $\delta=3.7''$, while AKUTSU (Ak) produced an excellent first image on 9 Nov ($\lambda=113^\circ\text{Ls}$) at $\omega=003^\circ\text{W}$. The central latitude was $\varphi=21^\circ\text{N}$, and M Acidalium looked large and dark. ♂...扱て、いつから観測を開始しようかと迷っていたところAk氏の見事な像が届いて吃驚。南北線はおかしいがマレ・アキダリウムは綺麗に出ている。筆者は22Novからだが、Ak氏、DGr氏も揃った。Observations received by 15 Dec ($\lambda=129^\circ\text{Ls}$) were as follows:

AKUTSU, Tomio 阿久津 富夫 (Ak) 栃木・烏山 Tochigi, Japan

2 CCD Images (9, 22 November 2004) $f/26 \otimes 32\text{cm}$ spec with an ATK-1HS

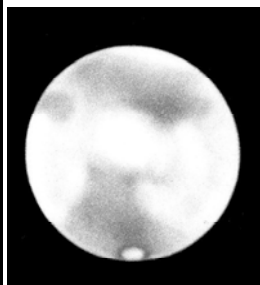
GRAY, David デイヴィッド・グレイ (DGr) ダラム Durham, England

1 Drawing (22 November 2004) 385×42cm Dall-Kirkham (Binocular), Int & Wr22

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

4 Drawings (22, 23 November, 10, 11 December 2004) 400×20cm refractor*

* Fukui City Observatory 福井市自然史博物館天文臺



GRAY (DGr) met with a good seeing after 40 minute scrutiny just before the Sunrise on 22 Nov at 7:50 GMT. He caught the spc at 118°Ls as well as M Acidalium (see DGr's Drawing at the lhs). Chryse was bright on the disk of $\delta=3.8''$. DGrさんはパン屋さんだと思うが、時間配分が難しいらしい。On the same 22 Nov, about 14 hrs separated, Mn observed at 21:30GMT ($\omega=236^\circ\text{W}$) and Ak shot at 21:41GMT ($\omega=237^\circ\text{W}$), but none the explicit results.

Mn then observed on 23 Nov ($\lambda=119^\circ\text{Ls}$) at $\omega=224^\circ\text{W}$ and caught Gyndes or Utopia. On 10 Dec ($\lambda=127^\circ\text{Ls}$) Mn saw a white light area near the terminator at $\omega=061^\circ\text{W}$. The observable time became longer than before, but the seeing was stable only for a few minutes just before the Sunrise. On 11 Dec ($\lambda=128^\circ\text{Ls}$) at $\omega=046^\circ\text{W}$, the disk stayed stable for a while in a beautiful tint of lemon yellow in the twilight sky. The δ was still only 3.9".

筆者は實はNj氏と13Novに初観測をしようと天文臺で一緒に待機したのであるが、この日は曇ったのである。然し、その後、四度ともシーイングが安定するのは日の出前数分間のみで、未だ協同観測は難しいという感じであった。♂...We should note at the end of Dec, the elongation is widened to 36°W .

♂.....The next issue shall treat the period from 16 Dec 2004 to 15 Jan 2005 ($\lambda=145^\circ\text{Ls}$, $\delta=4.4''$).

南 政 次 Masatsugu MINAMI

Forthcoming 2005 Mars (2)

Mars in 2005 (2005年の火星)

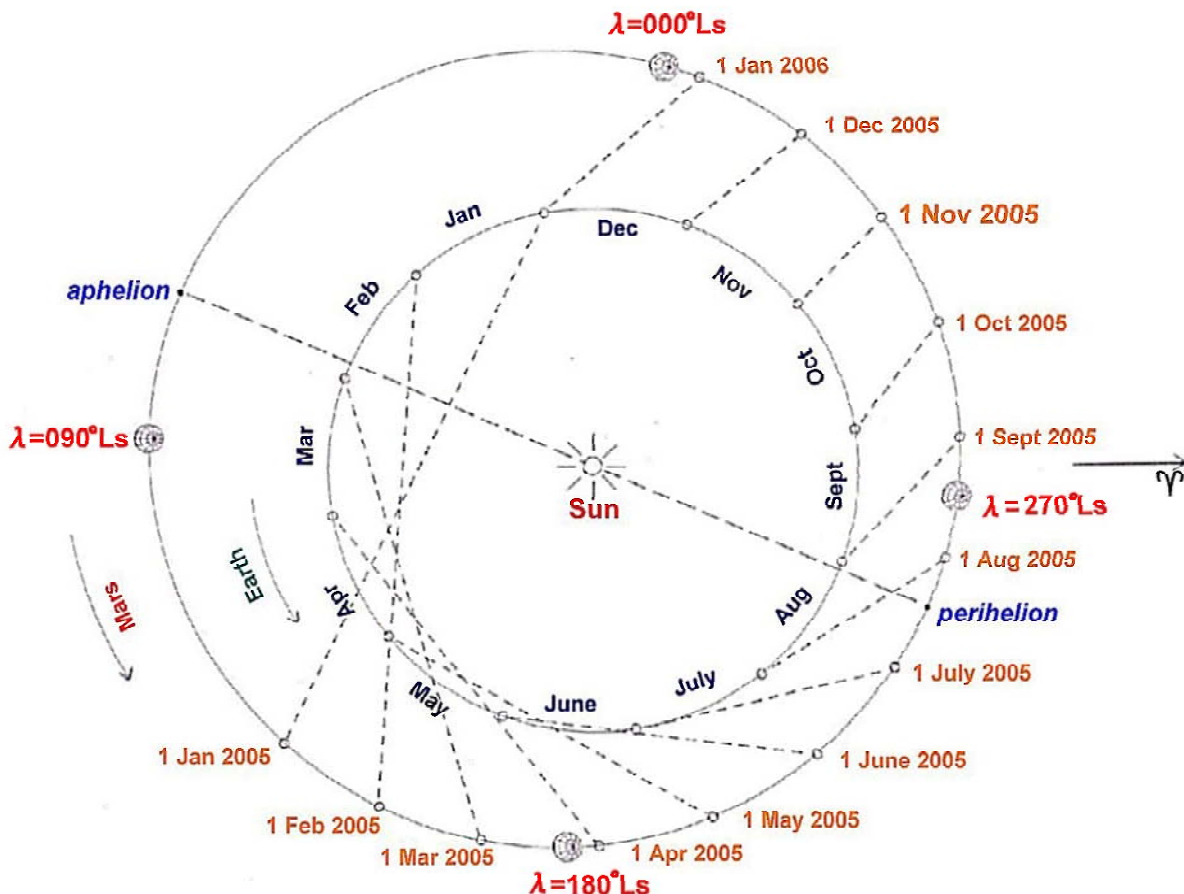
Masatsugu MINAMI, Masami MURAKAMI and Akinori NISHITA

南 政 次(Mn)、村上 昌己(Mk)、西田 昭徳(Ns)

★ 2005年最接近での最大視直径 δ は、2003年の25.11"という大きさに比べて、20.17"とやや小振りになり、2003年大接近の七月20日頃、また最接近後では2003年十月3日頃の大きさです。簡単にいえば、2003年の最も条件のよい時期の七月後半から十月初めまでの約二ヶ月半がすっぽりと抜けた接近ということになります。しかし、同時に注目しなければならない点は、次頁の視直径変化圖で明らかなようにLsを横軸にみると視直径変化のコブがずれている点です。従って、この圖から分かることは2003年の火星は南半球夏至($\lambda=270^\circ\text{Ls}$)前の火星面をよりよく見せてくれたのに対し、2005年では南半球の夏至から秋分($\lambda=360^\circ\text{Ls}$)に掛けて姿を頭わにすることです。2005年最接近時、火星の季節は $\lambda=316^\circ\text{Ls}$ 邊りで、一方2003年の場合はこの季節が実現した時はもう十二月なかばにずれ込んで、視直径は10秒を割っていたのですから、格段の違いなわけですから、2005年の最接近の頃の火星

は2003年には観察しようにも、既によくはない条件にあったということ、つまり2005年の最接近時は2003年では観察し得なかった火星を呈示してくれるということです。グラフを見ると、 $\lambda=290^\circ\text{Ls}$ あたりで、2003年の曲線と2005年のそれが交叉します。従って、これ以降、つまりほぼ $\lambda=290^\circ\text{Ls}$ 以降は2005年の方が有利ということになるわけです。今回はこの季節、2005年九月中旬に訪れ、 $\delta=16''$ 近くになっています。2003年の十一月や十二月の $\lambda=290^\circ\text{Ls}\sim 320^\circ\text{Ls}$ には、条件が悪くなっていましたが、ターミネータからの飛び出しや、黄雲の発生が見られましたから、今回はこうした状況をもっと有利な状態でチェックが出来るわけです。2005年はまだ中央緯度 ϕ が南半球を指していて、南極地域の観察には向いています。特に南極冠の $\lambda=300^\circ\text{Ls}$ 以降の極小期の観測の絶好機となります。図で示されるもう一つの特徴は、2001年までは最接近前より急峻に火星が近づいてくるのに対し、

大接近後の接近では、前半はより漸近的であるということです。2005年年初、 $\delta=4.2''$ 、 $\lambda=137^\circ\text{Ls}$ ですが λ の歩みに比べて視直径 δ はゆっくりしています。 $\delta=10''$ には七月12日頃、 $15''$ に達するのは九月10日頃です。漸近的に近づいて来る火



星は二月上旬に射手座近くにおいて赤緯は南緯24°あたりまで降りていますが、次第に高度を上げて夏には魚座まで達し、北緯5°あたりに来て、七月12日には西矩(太陽から黄経で90°先に昇り、従って夜明けに南中)になります。しかも視直径 δ は10秒に達しますから、初心者にも観測の好機に入ると言えるでしょう。夏休みは朝方の観測ということになります。

1^o The 2005 Mars, its angular diameter δ being 4.2 arcsecs at the beginning of 2005, is predicted to be closest to the Earth on 30 October 2005 (at 3:26 GMT à la J Meeus) with the maximal angular diameter of $\delta=20.17$ arcsecs; the season of Mars on the day is $\lambda=315.2^\circ$ Ls, and the tilt of the north pole is away to $\varphi=14.3^\circ$ S. The closest distance of Mars is 0.46406 au (69.42 million km), and the planet shines at position (RA: 03h02m, App Decl: +16°14' (2000.0)). The closest distance in 2003 was 0.37272 au (55.76 million km), and so this year the closest planet is more away by about 14 million km.

The opposition occurs this year after the perihelion, and hence it does after the day the planet is closest: The planet will thus be at opposition on 7 November at 8h GMT with App Decl=+15°54'.

The rate of increase of the angular diameter at the first half of the year is rather slow, and it is not until mid-July that δ reaches 10 arcsecs. After opposition, the diameter will decrease rather rapidly and goes down to $\delta=12.2''$ at the end of 2005.

When the planet is near at opposition, it will shine in *Aries* so that its apparent declination is near +16° as noted above and so the altitude of the shining Mars at meridian is higher by about 30° than that of the 2003 planet when it was closest if seen from the standpoint of the observers in the northern hemisphere. We shall repeat, but the approach during the first half of 2005 is more asymptotic or slower until the altitude of the planet in the northern sky will become more favourable. In early February, it shines very low around with App Decl=-24° at *Sagittarius*, and then the planet will cross the celestial equator from south to north at the end of June, and further ascends northward to +5° at *Pisces* in sum-

mer, and will pass the western quadrature on 12 July. The apparent diameter δ , after it passes $\delta=4.2''$ with $\lambda=137^\circ$ Ls at the beginning of 2005, gradually reaches $\delta=10''$ around 14 July; and so we may say the first favourable time for the northern observers would come in mid-July. The Martian season λ in mid-July is near 250°Ls where Ls denotes the Areocentric Longitude of the Sun. Somewhat by coincidence, it is the season when the 2003 Mars was near at opposition. Furthermore it is the memorial time when the 1956 global dust storm was entrained. The apparent diameter then reaches $\delta=15''$ around on 10 September. The data in 2005 are thus made into a Table.

Western quadrature on 12 July with $\delta=10.0''$ at $\lambda=247^\circ$ Ls

Perihelion on 17 July with $\delta=10.3''$ at $\lambda=250^\circ$ Ls

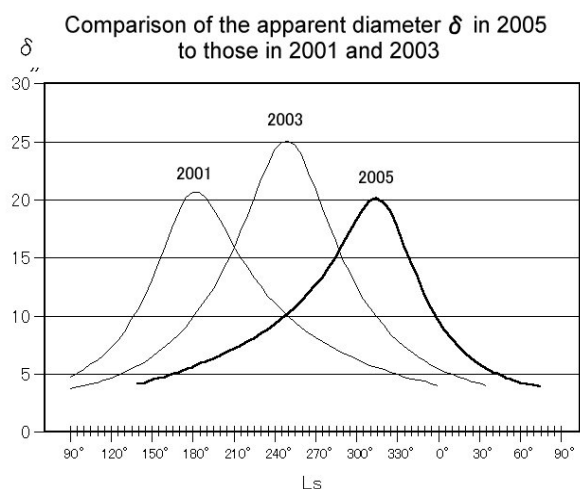
Stationary on 1 Oct with $\delta=17.8''$ at $\lambda=298^\circ$ Ls

Closest on 30 Oct with $\delta=20.2''$ at $\lambda=315^\circ$ Ls

Opposition on 7 Nov with $\delta=19.9''$ at $\lambda=320^\circ$ Ls

Stationary on 12 Dec with $\delta=15.1''$ at $\lambda=338^\circ$ Ls

Next we shall go in some details to compare the Martian season and the status of the 2005 Mars with those in 2003 and /or 2001.



As is suggested by the above Figure, the maximal δ (=20.2") in 2005 corresponds to the angular diameter we experienced in 2003 around on 20 July and/or on 3 October, and so we may say the 2005 apparition is similar to the 2003 case where a period of about 2.5 months from the latter part of July 2003 to the beginning of October 2003 are completely missed. The diameter of 20.2 arcsecs implies to be smaller than the maximal diameter in 2001, but it is still larger than the case in 1999. The above figure suggests however another important charac-

teristic of the 2005 apparition to be noticed: the peak of the diameter comes quite at different Martian season. The apparent diameter δ in the Figure is a function of the Ls, and so apparently the 2003 Mars showed us well the surfaces of Mars before the summer solstice of the Martian southern hemisphere ($\lambda=270^\circ\text{Ls}$), while the 2005 Mars will provide us the season from the southern summer solstice to southern autumn equinox ($\lambda=360^\circ\text{Ls}$ ($=000^\circ\text{Ls}$)). At opposition the 2005 Mars will attain the season of $\lambda=315\sim 320^\circ\text{Ls}$, so that we can watch better the seasons around this $\lambda=310\sim 325^\circ\text{Ls}$, while in 2003, this season visited in mid-December so that the δ was less than 10 arcsecs. So from the view-point of observing the Martian season, the 2005 apparition is very supplementary and our continuation of observations is indispensable.

It is also interesting to notice the intersection point of the 2001 and the 2005 graph. It is near the perihelion, and this implies that we can observe the season at $\lambda=250^\circ\text{Ls}$ in 2005 under the condition similar to that in 2001. Just the defect of illumination must be at the opposite side. We thus say we can observe the season symmetrically three times successively in 2001, 2003, and 2005.

2^o As stressed in the preceding section, it is absurd to regard the 2005 apparition is inferior to the 2003 apparition. They are both equally important with respect to the observations of the Martian seasons, and in some respects the 2005 Mars shows unrivalled points.

As suggested, the apparent diameter δ becomes larger than 15 arcsecs around 8 September 2005 when the season λ reaches 284°Ls . Since our recent Martian observations aim at the Martian meteorology as a function of the season, this value implies something dividable.

In 2003, δ proved to have been already near 16.1 arcsecs when the Martian season attained 286°Ls . The δ was further down to 15 arcsecs when the season reached $\lambda=290^\circ\text{Ls}$, so that in 2005 from around $\lambda=290^\circ\text{Ls}$, the 205 Mars will surpass the conditions in 2003.

On 30 October, when $\delta=20.2''$, the season reaches $\lambda=316^\circ\text{Ls}$ as repeatedly noted, but in 2003, at $\lambda=316^\circ\text{Ls}$ the δ was no larger than $\delta=9.8''$. The season $\lambda=290^\circ\text{Ls}$ will arrive on 17 September, and the day is the beginning of new era.

The south polar cap (spc) is already at the minimal state at $\lambda=290^\circ\text{Ls}$. The 2005 apparition provides the last opportunity in the present cycle to be able to observe the total regions of the southern hemisphere: In fact, after March 2005, the tilt of the north pole will go away from the Earth and the central latitude φ ($=D_\epsilon$) keeps $\varphi=14^\circ\text{S}$ even when the planet is near at opposition. So this is the best chance to watch the final/residual state of the spc beyond $\lambda=310^\circ\text{Ls}$. It should be remarked that after $\lambda=235^\circ\text{Ls}$ (around at the end of June in 2005) the centre of the spc will deviate from the south pole towards the direction of $\Omega=030^\circ\text{W}$, and the appearance of the final state of the spc is variable according as the CM varies.

There are several phenomena characteristic or just observable in the season which we encounter in 2005. For instance the minute aftermath of the detachment and vanishing of Novus Mons is a subject of observation. At the same time of the observations of the inside of the spc as well as its periphery, the high latitude continents and dark markings should be carefully observed: For example in 1990 the region of Hellas showed a strange light and shade partly misted during the period $\lambda=320\sim 330^\circ\text{Ls}$. Eridania also behaved interestingly in 1990. Interesting is also the observation of the Tharsis ridges and Olympus Mons when they are in the afternoon. The evening orographic cloud over the summit of Olympus Mons ceases to be active around from $\lambda=200^\circ\text{Ls}$ (in 2005 around on 26 April), but the three Montes at Tharsis are different (also different among them), and the cloud over Arsia Mons continues to be active and makes another smaller peak from $\lambda=250^\circ\text{Ls}$ to $\lambda=330^\circ\text{Ls}$, namely the period when the planet is before and near at opposition. The Arsia white cloud was not observed at this season in 2001 because of the presence of the yellow cloud. So the white cloud must be sensitive to the mixture rate of condensate and dust. The summit of Olympus Mons should be watched carefully when it becomes near the terminator or limb. These should be checked by the use of the genuine Blue filter.

Even if the season after $\lambda=290^\circ\text{Ls}$ is very own with respect to 2005, we should also pay our careful attention to the season before that because the Martian season is not a simple repetition. The time of occurrence of the

dust clouds is different from year to year, and we should be on alert concerning the yellow cloud around from $\lambda=200^\circ\text{Ls}$ (at the end of April) though δ is still smaller with 6.5". The spc begins to thaw rapidly around from the time.

Rather unfortunately, the 2005 Mars will not provide well the information about the north polar region (npr), but we should pay attention to the activity of the north polar hood (nph) in relation with some possible dust disturbances. It was reported in 2002 the MGS cameras caught several dust outbursts near the northern high latitude region during the very season from $\lambda=315^\circ\text{Ls}$ to $\lambda=350^\circ\text{Ls}$ (see weather reports in 2002 in MGS-Web).

In this sense, M Acidalium and Utopia are the regions attentively watched in 2005: As well Chryse and the area from Neith R to Ætheria are the important gates concerning the npr dust/condensate cloud information. Since Chryse played frequently a special role in entraining the dust disturbances in 2003 (especially the December 2003 significant dust occurred at $\lambda=315^\circ\text{Ls}$), we should be attentive about this particular region.

The last but not the least, we should call attention a bit to a possibility of the reflection flare occurrence in 2005. The 2005 Mars is akin to the 1958 case, and so the Solis L area is still a candidate. Geometrically the coincidence of D_E and D_S will occur around 8 November when the apparent diameter is still of $\delta=19.9''$. Refer to a detail in another article in the CMO-Web which we shall translate soon from the Japanese edition.

3^o Finally we try to mention about the observation cycle and stress that the observation of the Martian season is now a principal object of the Martian observations.

The planet Mars approaches the Earth every two years and two months and then away, and every apparition the planet shows us a different season in Ls to us with a different maximal diameter. So in order to observe the whole Martian season in a favourable condition it will need exactly seven times of apparitions or 15 or 17 terrestrial years. During the period, there are several apparitions where the maximal angular diameter is below 15 arcsecs, and in those periods we (the northern observers) are under the cold winter season. However these apparitions

also are important for us to gather the data about the seasonal meteorology on Mars.

Yes the present day observation of Mars is for the observations of the atmospheric phenomena on Mars and nowadays the effort just to detect the details on the Martian topography has been very out of date. However it is important for the observers to be acquainted with the fundamental dark or bright markings on the planet since the diurnal variations and/or the annual variations, and/or furthermore the secular changes can be observed with reference to the fundamental marking configuration on Mars. In any scientific work, repetition or comparison is a key word: the true difference (or even differentiation in mathematics) can be established based on a rigid comparison (or a reference frame in mathematics) and if the comparison frame is fragile, any assertion cannot be proved. In real observations of Mars, the repeated comparisons of the surface with the same surface on the preceding days are the least requirement of the wise observations. A repetition day by day of observing the same surface from the same angle, even if boring, is one of fundamentals.

If one wishes to compare the surface on the day with the surface appearance of the day before one should have prepared the observation 40 minutes earlier than the day before. Conversely speaking to find the same surface as the surface one observed the day before, one have only to observe 40 minutes earlier than the time one observed the day before, because the rotation of Mars is longer than the rotation of the Earth by about 40 minutes (exactly 41.3 minutes longer, while the rotation of Mars is 24h37m26s: more exactly speaking we must further take account of the every-day mutual motions). If we repeat this consideration, we are easily led to the following axiom: To prepare the documents enough to cover all the cases, we should observe every 40 minutes every day at fixed times. The planet rotates nearly 10 degrees every 40 minutes, and so if we observe every 40 minutes, we are to have a series of images each of which are separated by 10 degrees and its multiples. The following table show how we shall get the series of ω by the every 40 minute observations (in the case seen from Japan during the opposition time).

GMT	12:20	13:00	13:40	14:20	15:00	15:40	16:20	17:00	17:40	18:20	19:00
27 Oct	068°W	078°W	088°W	097°W	107°W	117°W	127°W	136°W	146°W	156°W	166°W
28 Oct	059°W	069°W	079°W	089°W	098°W	108°W	118°W	128°W	137°W	147°W	157°W
29 Oct	050°W	060°W	070°W	080°W	089°W	099°W	109°W	119°W	128°W	138°W	148°W
30 Oct	042°W	051°W	061°W	071°W	081°W	090°W	100°W	110°W	120°W	129°W	139°W
31 Oct	033°W	043°W	052°W	062°W	072°W	082°W	091°W	101°W	111°W	121°W	130°W
01 Nov	024°W	034°W	044°W	053°W	063°W	073°W	083°W	092°W	102°W	112°W	122°W
02 Nov	015°W	025°W	035°W	045°W	054°W	064°W	074°W	084°W	093°W	103°W	113°W
03 Nov	006°W	016°W	026°W	036°W	045°W	055°W	065°W	075°W	085°W	094°W	104°W
04 Nov	358°W	007°W	017°W	027°W	037°W	046°W	056°W	066°W	076°W	086°W	095°W
05 Nov	349°W	359°W	008°W	018°W	028°W	038°W	047°W	057°W	067°W	077°W	086°W
06 Nov	340°W	350°W	360°W	009°W	019°W	029°W	039°W	048°W	058°W	068°W	078°W
07 Nov	331°W	341°W	351°W	001°W	010°W	020°W	030°W	040°W	049°W	059°W	069°W

As seen, since the rotation period is irrational, the degrees slightly deviate after a while, and hence every week we should adjust the observing time. In the above cases, if one wishes to obtain the surfaces which one saw five days before, one should shift the observation times by 20 minutes. After about 40 days or about 20 degrees in Ls, the similar surface come around to recur, and it is good again if one could obtain a series of the surfaces with the same longitudes to compare.

For the ccd imagers, the span of 40 minutes from one shot to the following looks too long. If so, one can take the surface pictures every twenty minutes. In this case one can get two series of images to be compared. Furthermore, since such a phenomenon as the movement concerning the polar hood or the polar dust is rapidly variable and so these cases demand a shorter span observations, the every 20 minute observations are recommended. □

便 り

Letters to the Editor

●.....Date: Sat, 27 Nov 2004 14:48:03 +0100
Subject: Saturn images, november 25th 2004

Hi all, finally here are some images taken under good/very good conditions to finally test the mewlon a bit. I'm quite pleased with the results even if the color image could have been better. The chrominance is obtained with the RGB Astronomik filters and I find the colors to be excellent. The difference in IR/R+IR: note the contrast of the belts is better in near-IR as the filter offers a better penetration of the atmosphere. The UV image is the best I have obtained, the optical quality of the telescope and the open tube (no correcting plate) were important to be successful in those very short wavelengths ! Best wishes,

○.....Date: Sat, 27 Nov 2004 15:44:50 +0100
Subject: Re: Saturn images, november 25th 2004

Thanks Paolo : It has been quite a relief, this isolated good night through all those cloudy weeks... Chris

----- Original Message -----

From: "Paolo R. Lazzarotti" <info@astromeccanica.it>

Date: Sat, 27 Nov 2004 15:33:00 +0100

Subject: Re: Saturn images, november 25th 2004

Congs, Chris!!! We were out in the same night with the same seeing!!! I agree with you regarding color image, a bit dead. But I'm happy to see you back with "our" planets! ;-))

○.....Date: Sun, 5 Dec 2004 15:00:16 +0100
Subject: Re: RE:A first analisis of the 2003 dust . . .

Dear Masatsugu, now it's my turn to apologize for answering late ! I've been busy all week preparing some interventions for yesterday's meeting of the *Commission des observations planétaires*. Although as we're use to write long e-mails there is just no problem if it takes us a few days to answer ;-) No about what can "get started" a dust storm, I agree with you that some other reasons than northern dust fronts are to be considered. I still find your idea of building a kind of linkage between dust events and solar flares "revolutionar" and of the most

interesting. Recently I've been reading about a study written by German scientists about Earth climatology ; their idea was the Sun activity might provide a cooling of our climate until 2030, a bit against the idea of the global warming. Here is an interesting piece : "The solar eruptions, the most explosive events in the solar system, provide an enormous energy, and are likely to increase the UV radiation of 16%. Stratospherical ozone absorbs this exceeding energy by creating local warmings and circulations disturbances (...) the changes in circulation (...) can penetrate into the troposphere and influence the temperature and atmospheric pressure. Thus different atmospheric activities like storms, would be the consequence of the exceeding energy present in the atmosphere, providing a way to absorb it". This text brings some light to your idea, because as you point it the martian atmosphere is much more open and vulnerable ! As there isn't any ozone layer on Mars, the energy provided by an X-flare could influence directly the lower martian atmosphere. Of course this doesn't mean that other supplementary triggering factors are not likely to step in the scene. About northern dust fronts, they seem to be permanent at the edge of the NPH during northern autumn/winter, and of course the majority just dissipate without creating a bigger event. But, while other factors are to be found, this one has the advantage of being simple to understand : it's easy to understand how a small dust storm can raise a bigger dust event. I've attached a small animation from TES data of the July storm. It just shows very well how a small northern dust cloud transiting from Isidis Planitia on June 29th (just barely visible on my image of that day) raised a bigger but diffuse dust on June 30/July 1st over Iapygia Viridis, Mare Thyrrenum and again Isidis. On July 2/3/4 a thicker dust cloud starts just at the n. edge of the Hellas basin. As you pointed it last year in one of your Director's Notices, the dust has nothing to do with the basin itself. About the December storm, even if some previous northern dust activity can be detected with the MGS data, the solar X flare can be responsible, or both!

About the SAF, yes they look quite happy with my work and willing to give me a hand for my observations. I've been really nicely accepted inside the Commission

by Daniel Crussaire (the now President of the commission) and Gino Farroni, the former director of the Jupiter section (now Marc Rieugnié is the actual coordinator).

I think that my whole text should be available in January. Best wishes

○ **Date: Sun, 19 Dec 2004 15:28:21 +0100**

Subject: Re: RE:Re:RE:A first analysis of the 2003

Dear Masatsugu, You have raised an interesting point about the air pressure circulation in the Hellas basin, and I have some unexpected news to tell you - After reading one of the CMO 2001 notes, where you wrote about it, I was also assuming that Hellas was usually (if not always, as meteorology is not permanent) governed by a high pressure system. But last year I bought a book on Mars which gave a different information: that Hellas was usually a place governed by a cyclonic circulation ! The book is "*La planète Mars, histoire d'un autre monde*" and has been written by three French scientists (Forget, Costard, Lognonné). The authors present on three occasions a global model of atmospheric circulation during the martian southern summer solstice (quite the season seen in 2001(less) and 2003), based on a simulation made at the Laboratoire de météorologie dynamique de Paris, which without doubt show a clockwise/cyclonic circulation inside Hellas (further enhanced during dusty times as the winds blow stronger). Here is the full explanation I have looking for during the last week. The MGS page "late martian weather" yes proves that the pressure is higher on Hellas floor, as well as in other low-land places, like Acidalius and the other northern martian plains. The case of Acidalius especially hit me, as for there had been clear sign of it being occupied by a low pressure :1) first, let's note that the book I'm talking about do show a cyclonic circulation above Acidalius.

2) On every images taken in 2001 and 2003, Acidalius looked to be occupied by a southern extension of the NPH (just take a look at HST image in June 2001 for example). This looked not really compatible with a high pressure to my eyes. 3) The atmosphere above Acidalius looks to be quite frequently crossed by dust fronts. In 2003, as we've talked about already, and also at the beginning of 2002 (in the MOC weather reports you know), a great number of dust clouds, some of them

quite important, are seen. But fronts are not carried by high pressure systems... Thus, for me Acidalium was typically a cyclonic region. The contradiction between this and the MGS data about pressure was total so I've been asking François Forget about it, and he gave me the solution: the air circulation is not governed by the pressure in itself, but by pressure differences at the same altitude. So the fact that the pressure in Acidalium is higher than in, let's say, Arabia at the southern east, doesn't imply at all that the circulation is anticyclonic above Acidalium... F. Forget said it's like the pressure difference in Paris and above the Mont Blanc in the Alps. The objective pressure is lower at the mountain top, but during the time, the HP can completely be situated over the mountain while in Paris there is a low-pressure system... Thus, we can't say that Hellas is governed by a anticyclonic system. I may varies with the time, while in fact it seems that it's actually more governed by a depression... (at least in spring/summer). We might change our vision of the behaviour of dust clouds in that region. At the end of this message I copy to you his answer to the question I asked him (it was about that contradiction).

I'm quite pleased with the Takahashi, it looks excellent, even if I've not encountered enough good nights to test it! Many thanks for translation of the name - I was indeed curious of it, if it was meaning something special or not. High bridge then, we suppose to the stars ;-)

Best wishes,

Explanation by François Forget :

On Sun, 12 Dec 2004, Christophe Pellier wrote:

> A quel niveau ce raisonnement est-il erroné?

Ma foi, votre raisonnement est erroné au moins sur le point suivant : La pression de surface est plus basse dans les zones de basses altitude comme le bassin d'Hellas parce que la colonne d'atmosphère est beaucoup plus épaisse (de même que la pression à Paris est beaucoup plus élevée qu'au sommet du Mont Blanc... et cela ne veut pas dire qu'il y a une dépression sur le Mont Blanc). Ce qui compte pour la circulation, c'est la différence de pression à une altitude donnée. Sur Terre, pour cartographier les dépression et anticyclone on calcule la pression équivalente "au niveau de la mer". Ainsi on peut avoir un anticyclone sur le Mont Blanc avec une pression de 600 hPa au sommet (mais 1020 une fois "ramenée au niveau de la mer) contre 1000 hPa à Paris. Sur Mars c'est pareil, sauf qu'il n'y pas de niveau de la mer, alors on en calcule un à partir des mesures du champ de gravité...

Christophe PELLIER (クルストフ・ペリエ nr Paris 法)
chrspillier@tiscali.fr

●.....Date: Sat, 27 Nov 2004 14:27:12 -0600

Subject: Re: RE:A first analisis of the 2003 dust activi

Dear Masatsugu, Many thanks for forwarding to me the interesting analysis of dust storm activity from 2003. I quite agree with your comments. The webcams are too overprocessed to allow ready comparison with past visual observations. Did my friend, Michael Snowden, from New Zealand ever contact you with his ultraviolet observations made in Argentina? They promised something quite grand, but I have only seen a few representatives thereof. I suppose I should contact him again.

I have been returning to normal form after the travels and surgery. Meanwhile, I have been doing some interesting brain imaging work to complement my position at the local hospital and, when time has allowed given these professional activities (and that included several major presentations just this past two weeks) trying to finish the text of the galaxies book against an unrealistic deadline (December 1). It is intriguing to compare the fresh worlds revealed in advanced imaging both in the inner and the outer universe.

Once this is behind me, I plan to invest once more in serious Martian studies. I heard just today from a good friend of mine from Sicily, Luigi Prestinzena, who in the past helped me obtain rare Schiaparelli documents and is publishing a collection of his various Mars writings assembled from over the years -- this revives my enthusiasm. Hard to believe it, but I will be at Lowell Observatory in only one month's time. An English translation of Flammarion's *La Planète Mars*, vol. 1, is in the works I hope, and perhaps a revised edition of my Planet Mars book by University of Arizona Press. If the latter is to be a reality, I am hopeful of adding some fascinating sections on the great Mars work of Japan.

Tony Misch has been in touch and is laying plans for our Great Expedition to Mars with the Lick refractor in October 2005.

Tomorrow we will observe the 40th anniversary of the Mariner 4 launch to Mars. I remember the excitement and anticipation of that day.

I will write more presently; you sound well, but overworked as always. Ever,

Bill SHEEHAN (ウィリアム・シーハン MN 美)

sheehan41@charter.net

●.....Date: Sun, 28 Nov 2004 08:12:33 +0900

Subject: Re: 拝受

Mn>CDは未だ全部見ていませんが、いろいろ入っていて、随分使えそうです。私(Mn)関係では野次馬の長い文章の他、台北便りの(2)と(3)は見つけられました。Mars Sectionも可成りあるので復元します。LiEもかためてやる様に作ってみます。佐伯さんのや、貴君から私宛のものもあります。どれも懐かしい。阿久津さんなどに貴君が初めてあったときの話は良く憶えています。但し、Mars(13)など13のつくものが出てこないようなので、そちらでまたお願いすることにします。>>1986年からこの一太郎のようですが、1987年でも貴君が文豪ミニを使っていたことは間違いありません。多分ポータブルとデスクトップを使い分けていたのでしょうか。私が1986年台湾にいるときに、台湾でミニを買ったら？と貴君は言ってきたのですが、実際に初めてミニを見たのは京都駅のプラットホームでの貴君の途中下車で、貴君が肩にぶら下げて東京からの帰りだったと思う。ということはこれは1987年で、そのころも2DDを使って打っていたはずです。従って、貴君のところにも2DDはある筈ですね。引越して無くなったかも知れないけど。なお、1988年のLiEは後で纏めて、NEC9800邊りで打ちだして貰ったのを使ったことを憶えています。これは多分このCDに入っているものなのでしょうから、これはそのまま再現できると思う。宮崎さんが可成り書いている。>

私の部屋の3.5インチ・フロッピーの山の中から文豪ミニ5用という箱を見つけることができました。ほんの10枚足らずですが、『火星通信』関係も何枚かありました。「連絡用NO1 浅田⇄南」とか「浅田No.2」と南さんの字でラベルに書いてあるのもありました。WORDの文書に変換したものを、LHAで圧縮して添付します。研究室の5インチも、もう一度再調査してみようと思います。

○.....Date: Fri, 03 Dec 2004 02:46:51 +0900

Subject: Re: 掘り起こし

.....残る可能性は、3.5インチの中に一太郎の文書が保存していないかということになりますが、時期的にどうでしょうか？前回お送りした一太郎より前の時期のものならば、どこかに5インチがあるはずなのですが。.....お話をうかがうとフロッピーが壊れている可能性が高いのが何枚かあるように思います。お送りいただければ、一応試みはみます。

今晴れていますので、今シーズンの木星の初撮像をしようと思います。

○.....Date: Mon, 06 Dec 2004 09:29:55 +0900

Subject: Re: Hellas

.....私には廻っているのは良く分からなかったのですが、時計回りに廻るのは、南半球ですから、低気圧を意味しています。(木星の大赤斑も南半球で、反時計回りなので高気圧。)私にはヘラスがなぜ低気圧になるのかな？というのが疑問で

す。盆地だから朝方は冷え込んで低気圧ということなのでしょう？日射が入り始めると、気温が上昇し、京都のように過熱されて上昇気流が発生し、対流圏の底では低気圧ということも考えられます。.....火星の大循環のシミュレーションをしている人に聞いてみたら面白いかもしれません。

○.....Date: Tue, 07 Dec 2004 05:20:29 +0900

Subject: Re: Hellas

Mn>廻るというのは、低気圧部が廻るという意味ではありません。赤くなっているコアが、低気圧部でつむじ風が立っているところです。従ってここが強い上昇気流のあるところ。ここがヘッラスの周りを回るのは。もう一度TESに戻って見ましたが、綺麗に廻っています。これは低気圧が廻るというのではなく、颱風の進路のようなもので、颱風の進路形成と同じ議論が出来るはずで。ヘッラスは円形固定ですからもっと単純です。>ヘッラスは高気圧気団です。ただ、吹き込みがあって黄雲が紛れることはあるでしょう。>

少し整理させていただくと、南さんのおっしゃっている高気圧とは下降気流の場所、低気圧とは上昇気流の場所ですね。上昇気流のところは、対流の底では空気が吹き込むので低気圧、対流の天井では吹き出すために高気圧になります。ですから、南さんのおっしゃる低気圧、高気圧は対流の底の話ですね。ヘッラスは南半球にありますから、ヘッラス全体が(ある高さで)高気圧だとすると、その周りの空気の流れは反時計回りになります。時計回りということは低気圧性の渦ということで、ヘッラスの周辺対流圏上層の空気の流れを見ていることになりませんか。.....

Mn>木星の赤斑とヘッラスと似たところがあるかもしれませんね。もう少し、教えてください。赤斑自身が廻る場合周縁部は気圧的にどうなのですか？ つむじ風のような、トルネードのようなものが起こりますか？ 向きが一定なのは、気圧配置が一定なのですか？

大赤斑は上昇気流の領域で、全体が(対流圏上層では)高気圧になっていて、それは周辺部の風が反時計回りであることで確認されています。大赤斑の周りを明るい斑点や暗い斑点が廻ったり、通過したり、吸収されたりするのですが、明るい斑点は高気圧性の渦、暗い斑点は低気圧性の渦と考えられています。

>火星の場合、もう一つは気温ですから、これが早朝激変する。このとき高気圧部の周辺はどういう影響を受けるかというのは割と簡単な図式ではないでしょうか。

ヘッラスは一日中高気圧(下降気流)の領域なのでしょう？私の持っている盆地のイメージは朝と日中の温度差が(周りに比べて)大きいところというものですが、それなら朝は下降気流の領域、

正午頃は上昇気流の領域になるような気がします
が。……

○……Date: Wed, 08 Dec 2004 06:33:36 +0900
Subject: Re: Hellas

Mn>朝早いすなあ。今日は空は好くなかったと思
うけど。

昨日は朝まで晴れがもたないかなあという期待
と、年末に集中講義で惑星の話をする(福岡教育
大学in宗像)ので準備のために早起きしてみまし
た。

Mn>そうです、私の言っている高気圧は下降気流で
す。底の話。木星では底がないから上層で話すのでし
ょうね。

ヘッラスは下降気流の領域ですよ。すると対
流圏の底では高気圧になりますね。高気圧の周り
では(南半球なら)反時計回りの流れがあるはずで
す。木星の渦は(南半球では)高気圧性のものは反
時計回り、低気圧性のものは時計回りに廻ってい
ます。

Mn>台風の進路は何が決めるんですたっけ？ ヘッラス
が反時計回りに廻っていて、旋毛風が時計回りに回転
していると、かみ合った歯車同士みたいですな。その
小さい方の歯車にコリオリ力みたいなものが働いて小
歯車をヘッラスの縁を時計回りに動かせば好いわけで
す。> >赤斑の周りの斑点にはどういう力が働いていま
すか？

大赤斑の周りの斑点は大赤斑の渦流に乗っかっ
ているだけで相互作用はしないようです。ですから、
大赤斑の周りを反時計回りに廻り、あるものは通り
抜け、あるものは大赤斑に吸い取られています。
……ヘッラスもこれと同じかなと思った次第です。
でも時計回りならヘッラスが低気圧性の渦の
はずで、南さんのおっしゃることと整合性を
もたせるには、巻き上げられたダストの対流圏の
上層での運動をTESが検出したのかと思います。
それでよろしいのでしょうか？

Mn>この七月黄雲の場合、ヘッラスからノアキスへ一旦
出るのですが、引き戻されてヘッラスの周りを回るの
です。可成りの力ですな。ヘッラスの周りが低気圧部
として強かったのでは？ >>とにかく、こんな明瞭な
運動が火星上で確認されたことは無いのではないで
しょうか。起こった場所が平凡でなく、シッカリしてい
る。

私もこの場所には注目したいと思います。気圧
や温度のデータはどこの論文に載っていました？
PS：輪島塗の浅田正さんのTV見たかったです
が、あいにく職場へ行っておりました。

浅田 正 (Tadashi ASADA 宗像 Fukuoka)
asada@kiu.ac.jp

●……Date: Tue, 30 Nov 2004 22:17:18 +0900
Subject: 画像送付のご案内

つついご無沙汰致しましたがお変わりなきご
様子にて、大慶至極に存じ上げます。小生、お蔭
様で元気で、最近入手したシーロスタットを整備
したりして、楽しんでおります。……

Webの『火星通信』277号、拝読致しました。
大変な労作で流石、火星専門家のレポートと感じ
入りました。閃光観測の項はこのままで結構と存
じますが、とりわけ英文が素晴らしく、感服して
おります。国際化のためにも大切なことと存じま
す。画像につきましてはどの程度のサイズが良い
のか、不慣れなので解りませんが、添付して送信
します。元画像が良くないので、替わり映えしな
いかとも思いますので取捨はお任せします。

2004年もあと僅かとなりました。ご無理をなさ
らぬよう、ご自愛の程願ひあげます。 早々

○……Date: Thu, 2 Dec 2004 21:17:44 +0900
Subject: ご指摘の件について

さっそくのご返信、有難う御座いました。画像
も無事着いたとの事で安心しました。ご指摘の点
ですが、当時スケッチの方は、ほんのメモ程度の
つもりで描いたものですから、写真との整合性に
欠けており配置も不正確で、具合が悪かったと反
省してしております。円の中に描かない方がこの
ような場合は良いのかもしれない。時間もビデオ
の時間からの推定ですから、30分頃とするべき
でした。写真とスケッチとの間の問題ですが、カ
メラも双眼装置も簡単に脱着できるようにし
てありますので、30秒位でカメラから眼視観測に
移行できます。今にして思えば、写るか否かは別
としても、再度ビデオ撮影をするべきでしたが、
初めて観る現象に気をとられてしまいました。お
忙しいところ色々ご指導いただき有難うございま
した。

松本 達二郎 (Tatsujiro MATSUMOTO
尼崎 Hyogo)
tmatsumo@dd.ij4u.or.jp

●……Date: Wed, 08 Dec 2004 02:45:38 +0000
Subject: Jupiter Occultation

Hi All, I have attached some images of this morn-
ing's Jupiter occultation. Best,

Don PARKER (唐那・派克 Miami, FL 美)
park3232@bellsouth.net

●.....Date: Wed, 8 Dec 2004 22:18:51 -0500
Subject: Comet Machholz (C/2004 Q2)

I made an observation of Comet C/2004 Q2 (Machholz) on December 8, 2004 at 06:30 U.T. using a 9-inch F/13.5 Maksutov-Cassegrain at 97x. The coma

appeared large and diffuse whereas the nucleus was "star-like" in nature. The brightest star southwest of the comet is HIP21893 (6.78m). I welcome any comments on my observation.

The best of luck imaging and observing comets and

TEN YEARS AGO (112)

----CMO #152 (25 December 1994)----

CMO#152は、1995年の最接近(11Feb)前の年末号で、寒いときに相当にご苦労様なことだが31Dec、1Jan、2Janと年越し同時早朝観測の計画が巻頭に告げられている。期間中日本からはシヌス・サバエウスからソリス・ラクス邊りまで見えたようである。λは040°Ls直前。冒頭記事は、タイミング良く日岐(HK)氏の防寒対策が述べられている。経験では観測中マイナス7℃というのがあるそうだが、寒さよりアイピースの結露や鏡筒バンドの問題の方が深刻らしい。支度はスキーウェアだそうで、丁度この頃は朝方の観測だから、パジャマの上にセーターを着てその上にスキーウェアを羽織るといことになるらしい。手袋は使わない由。十二月は最もシーイングが悪いと述べられている。

MarsSection報告は16Novから15Dec1994までの一ヶ月間。視直径はまだ15Decで $\delta=9.6''$ だが、一ダースの観測者が揃っている。パーカーさんは早くから始動して、主に十一月に多く全体19ccd像を報告している。日本ではNov後半は欠測日がないようである。筆者(Mn)は一ヶ月間で61観測、続いて村上(Mk)氏(15cm反射)が30こなしている。Mk氏には八日連続の記録がある。Mk氏はマレ・アキダリウムあたりを好く観察しているようだが、この事が後にバルティアのサイクロンを捉える下地になっているのであろう。Nov下旬アメリカ側ではシュルティス・マイヨルが見えているようで、唐那・派克氏の像ではシヌス・サバエウスがマレ・セルペンティスとキッチリ繋がっている。この頃のウトピア邊りは1980年代の様子を彷彿とさせた。筆者は天津で反射経緯臺も使うが、経緯臺では17hGMTでは南が上を向くものの、朝方20hGMTでは像が寝ころぶので、岩崎(Iw)氏やMk氏にも困難が出る。この頃は私はキツイお叱りをした様で、皮肉を言われているIw氏だけでなく、この号では森田(Mo)氏が散々である。要するに、視直径の小さいときの写真観測の場合でも南北線をキッチリ出せ、それには好く観ることということをお願いしたいのだが、Mo氏には気の毒なほどキツイ。二度と読む気がしないと思うけど、二度と読む必要のないぐらい今ではMo氏は克服されて名人である。

LtEではパーカー(DPK)さんの他、シーゲル(ESg)さんが年末挨拶、Miraさんの誕生はこの年だったそうで、今年(2004年)丁度シーハンさんが来られた頃十歳になった勘定である。『朝日』の永井靖二(Ng)氏が十二月9日が1874年の金星凌日の120周年というので記事を書いた。LtEで神戸の金星臺の碑のマークが洒落ていると書いている。Iw氏は年末年始も宮崎に缶詰めようであるが、年越し観測には都合が好いとのことである。HK氏の長野は18日に-8℃、積雪50cmとある。那覇の伊舎堂(Id)氏は十二月初めに那覇マラソンを走っている。Mk氏もこの頃はLtEに登場して、大崎正次先生の先祖は福井の丸岡と書いてある。当時筆者はPCを持っておらず、ccd像のプリントなどを送って貰っている。この号の印刷体裁を診ると、これは西田(Ns)氏の臺灣製パソコンでの編集で、記事は未だ「文豪」で書いていると思う。英文はCenturyで、両端揃っているのはこれはワープロワザではない。十六頁建てで、中島(Nj)氏、Ns氏と三人作業である。紙は薄い。福井は15日が初雪だったようで、今年よりも早い、というか、今年は凄く遅い。南 政次(Mn)



other celestial objects. Regards,

○·····**Date: Wed, 22 Dec 2004 01:21:39 -0500**

Subject: Clavius

I was able to make an observation of the walled plain Clavius (58.4°S, 14.4°W; 69 miles (111 km)) on December 21, 2004 between 00:00 and 02:00 U.T. The amount of detail visible was very challenging but I believe that I succeeded in recording an accurate depiction of what was noted. The large crater over the northeast rim is Porter (56.1°S, 10.1°W; 32.3 miles (52 km)) while the one over the southeast rim is Rutherford (60.9°S, 12.1°W; 29.8×33.6 miles (48×54 km)). The moderate-sized crater located between Porter and Rutherford is D. The chain of craters over the center of the plain are, in order from east to west, are CB, C, N, and J. The two craters over the southwest rim are K and L. The large crater, the majority of which is obscured by shadow, south of Clavius is Blancanus (63.6°S, 21.5°W; 65.3 miles (105 km)). The crater over the northeast rim of Blancanus is D.

The best of luck in your own imaging and observations of the Moon and planets. Happy Holidays and a Happy New Year! Regards,

Carlos HERNANDEZ (カルロス・ヘルナンデス FL 美)
mars@ilcs.net

●·····Dear Masatsugu, Once again I must express my regrets for not sending you my observations from the last apparition; health problems and trouble with the computer too!

Our computer has been giving us a lot of problems. After installing McAfee Security Centre the system became very unstable. With the result that a lot the files containing my colour impressions for colourising drawings are either lost or inaccessible. McAfee has been removed but the problem remains.

I have enclosed some colour work from last year to show what I am attempting (printed out before the McAfee disruption).

Enclosed is my first drawing from the current apparition 0 almost had another this morning but was thwarted by rapid fog development!

Much as the previous apparition I will be hindered by my having to depart for work at 4 am (12:30 am Satur-

day). So can only catch the planet on my days off - Wednesday & Sunday, until later in the apparition of course.

Very best wishes, (8 December 2004)

To the OAA Mars Section, Merry Christmas & Good Seeing for 2005

David GRAY (デヴィッド・グレイ Durham 英)

●·····**Date: Fri, 10 Dec 2004 16:41:33 -0600**
From: "Daniel Troiani" <dtroiani@triton.edu>
To: cmo@mars.dti.ne.jp Cc: vzv03210@nifty.com
Subject: 2003 Mars apparition Map

Hi, all!, Attach to this email are my 2003 Mars apparition map. Feel free to use them on you web site or in your journal. Happy Holidays!!!!

Attached file: Here is my new 2003 Mars apparition map. South is up with the SPC and some white clouds seen over the South Polar Region during most of the observing season. North is on the bottom showing the bright white but small North Polar Cap. This map shows what Mars look like close to its opposition date in August 2004. Most white areas were clouds with the "Syrtis Blue Cloud" over Syrtis Major. Fog was in the Hellas region at times and Chryse had a mix of white clouds with a little dust. Orographic clouds were observed over great volcanoes in the Tharsis region (See the 2003 Apparition Report-JALPO). Dan Troiani using the computer program "Photoshop" to produced this map. The hues and colors match the CCD images perfectly and what Mars look visually. It was produced using drawings and CCD images I made using a 12" LX200 telescope from the Meade Corp. I use the data (CCD's, drawings, and photos) from the Mars section of the ALPO during the 2003 apparition to confirm all of my observations made with the 12" LX200. The original B&W surface map took about 50 hours of computer time to produce because of all the fine details seen at this closet apparition of Mars.

○·····**Date: Fri, 17 Dec 2004 17:58:49 -0600**
Subject: ALPO Marition Chronicle

MARTIAN CHRONICLE No. 1 (DECEMBER, 2004)

The 2005 Apparition has arrived! The 2005-2006 apparition is underway despite what the calendar might say. Even if a bust, a negative observation is a welcome sight, as Robin Gray reports on an observing session from last November 22 (14:00 to 14:31 UT). Apparently seeing conditions overwhelmed the appearance of Mars and no details were seen using a 150mm f/9 refractor at 228 and

334x with #80A, #23A and #21 Wratten filters from a location in Paradise Hill, Nevada.

We have never said that it would be easy this close to solar conjunction. Nonetheless, persistence can pay off and it did for Tomio Akutsu in Japan. Both on November 9 (21:28 UT) and 22 (21:41 UT) he managed to ferret out very discernible albedo features using a 12.5? Newtonian at effective $f/31$ and a saturation stacking technique to circumvent dubious seeing. Nothing abnormal is perceived in either image.

Once again, the Royal Astronomical Society of Canada is looking forward to our reports and has put out a request for documentation technique. The newest Mars Map now available on the ALPO site soon and has drawn favorable comments and is worth a look.

Happy Holidays!!!!

The Mars Section in 3D
Daniel Joyce, Daniel Troiani, Deborah Hines

Dan TROIANI (タニエル・トロイアニ II 美)

dtroiani@triton.edu

●.....Date: Tue, 21 Dec 2004 22:54:21 +0900
Subject: RE: カンパ拝受

CMO-WEBの方はいつも拝見させていただいており、楽しみにしています。

2005年の火星は我が家のベランダから視界を超えて北上しますので、ほとんど撮影は無理かと思っています。衝を過ぎるころからぼつぼつとソフィア・堺の60cmで撮れるかと思っています。

今後ともよろしく願いいたします。

熊森 照明 (Teruaki KUMAMORI 堺 Osaka)

KHF11706@nifty.com

●.....Sent: Friday, December 24, 2004 6:28 AM

Nous vous souhaitons de passer d'excellentes fêtes et nous vous présentons nos vœux les plus sincères pour la Nouvelle Année.

Gérard TEICHERT (シエラル・タイシエルト)

Hattstatt 法)

gteichert@hotmail.com

☆ ☆ ☆

Forthcoming 2005 Mars (3)

Ephemeris for the Observation of the 2005 Mars. II

January and February 2005

Masami MURAKAMI

村上 昌己(Mk)

◆ This is a sequel to Part I in #299 where the Ephemeris for the Physical Observation of Mars from 1 November to 31 December 2004 was given, and the present one deals with the Ephemeris of the period from 1 January 2005 to 28 February 2005: The data are listed for every day at 00:00 GMT (not TDT). 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. The apparent declination of the planet is given at the last column. The data are basically based on *The Astronomical Almanac for the Year 2005*.

Data (00:00GMT)	ω	ϕ	λ	δ	ι	Declination
1 January 2005	252.50°W	8.2°N	137.45°Ls	4.2"	21.8°	-20°52'
2 January 2005	242.77°W	7.9°N	137.94°Ls	4.2	22.0	-21 00
3 January 2005	233.04°W	7.6°N	138.44°Ls	4.2	22.2	-21 08
4 January 2005	223.32°W	7.3°N	138.93°Ls	4.2	22.4	-21 15
5 January 2005	213.59°W	7.0°N	139.43°Ls	4.2	22.6	-21 23
6 January 2005	203.87°W	6.7°N	139.92°Ls	4.2	22.8	-21 31
7 January 2005	194.14°W	6.4°N	140.42°Ls	4.2	23.0	-21 38
8 January 2005	184.42°W	6.1°N	140.92°Ls	4.3	23.2	-21 45
9 January 2005	174.69°W	5.8°N	141.41°Ls	4.3	23.3	-21 52
10 January 2005	164.97°W	5.6°N	141.91°Ls	4.3	23.5	-21 58

Data (00:00GMT)			ω	φ	λ	δ	ι	Declination
11	January	2005	155.24°W	5.3°N	142.41°Ls	4.3"	23.7°	-22°05'
12	January	2005	145.52°W	5.0°N	142.91°Ls	4.3	23.9	-22 11
13	January	2005	135.80°W	4.7°N	143.41°Ls	4.3	24.1	-22 17
14	January	2005	126.07°W	4.4°N	143.91°Ls	4.3	24.3	-22 23
15	January	2005	116.35°W	4.0°N	144.42°Ls	4.3	24.5	-22 29
16	January	2005	106.62°W	3.7°N	144.92°Ls	4.4	24.7	-22 35
17	January	2005	96.90°W	3.4°N	145.43°Ls	4.4	24.9	-22 40
18	January	2005	87.18°W	3.1°N	145.93°Ls	4.4	25.1	-22 45
19	January	2005	77.45°W	2.8°N	146.44°Ls	4.4	25.3	-22 50
20	January	2005	67.73°W	2.5°N	146.94°Ls	4.4	25.5	-22 55
21	January	2005	58.01°W	2.2°N	147.45°Ls	4.4	25.7	-22 59
22	January	2005	48.28°W	1.9°N	147.95°Ls	4.4	25.9	-23 04
23	January	2005	38.56°W	1.6°N	148.46°Ls	4.5	26.1	-23 08
24	January	2005	28.84°W	1.3°N	148.98°Ls	4.5	26.3	-23 12
25	January	2005	19.11°W	1.0°N	149.49°Ls	4.5	26.4	-23 15
26	January	2005	9.39°W	0.7°N	150.00°Ls	4.5	26.6	-23 19
27	January	2005	359.66°W	0.4°N	150.51°Ls	4.5	26.8	-23 22
28	January	2005	349.94°W	0.1°N	151.03°Ls	4.5	27.0	-23 25
29	January	2005	340.21°W	0.2°S	151.54°Ls	4.6	27.2	-23 28
30	January	2005	330.48°W	0.5°S	152.05°Ls	4.6	27.4	-23 31
31	January	2005	320.76°W	0.9°S	152.57°Ls	4.6	27.6	-23 33
1	February	2005	311.03°W	1.2°S	153.09°Ls	4.6	27.7	-23 35
2	February	2005	301.30°W	1.5°S	153.60°Ls	4.6	27.9	-23 37
3	February	2005	291.57°W	1.8°S	154.12°Ls	4.6	28.1	-23 39
4	February	2005	281.84°W	2.1°S	154.64°Ls	4.6	28.3	-23 40
5	February	2005	272.11°W	2.4°S	155.16°Ls	4.7	28.5	-23 42
6	February	2005	263.38°W	2.7°S	155.68°Ls	4.7	28.6	-23 43
7	February	2005	252.65°W	3.0°S	156.20°Ls	4.7	28.8	-23 44
8	February	2005	242.92°W	3.3°S	156.73°Ls	4.7	29.0	-23 44
9	February	2005	233.18°W	3.6°S	157.25°Ls	4.7	29.2	-23 45
10	February	2005	223.45°W	3.6°S	157.78°Ls	4.8	29.4	-23 45
11	February	2005	213.71°W	4.2°S	158.30°Ls	4.8	29.6	-23 45
12	February	2005	203.98°W	4.5°S	158.83°Ls	4.8	29.8	-23 45
13	February	2005	194.24°W	4.8°S	159.36°Ls	4.8	30.0	-23 44
14	February	2005	184.50°W	5.1°S	159.88°Ls	4.8	30.1	-23 44

Data (00:00GMT)	ω	ϕ	λ	δ	ι	Declination
15 February 2005	174.77°W	5.5°S	160.41°Ls	4.9"	30.3°	-23°43"
16 February 2005	165.03°W	5.8°S	160.94°Ls	4.9	30.5	-23 41
17 February 2005	155.29°W	6.1°S	161.48°Ls	4.9	30.7	-23 40
18 February 2005	145.54°W	6.4°S	162.01°Ls	4.9	30.8	-23 38
19 February 2005	135.80°W	6.7°S	162.54°Ls	4.9	31.0	-23 37
20 February 2005	126.06°W	7.0°S	163.08°Ls	4.9	31.2	-23 35
21 February 2005	116.31°W	7.3°S	163.61°Ls	5.0	31.4	-23 32
22 February 2005	106.56°W	7.6°S	164.15°Ls	5.0	31.5	-23 30
23 February 2005	96.82°W	7.9°S	164.68°Ls	5.0	31.7	-23 27
24 February 2005	87.07°W	8.1°S	165.22°Ls	5.0	31.9	-23 24
25 February 2005	77.32°W	8.4°S	165.76°Ls	5.0	32.1	-23 21
26 February 2005	67.56°W	8.7°S	166.30°Ls	5.1	32.2	-23 18
27 February 2005	57.81°W	9.0°S	166.84°Ls	5.1	32.4	-23 14
28 February 2005	48.05°W	9.3°S	167.38°Ls	5.1	32.6	-23 10
1 March 2005	38.30°W	9.6°S	167.93°Ls	5.1	32.8	-23 06
2 March 2005	28.54°W	9.9°S	168.47°Ls	5.1	32.9	-23 02
3 March 2005	18.78°W	10.2°S	169.01°Ls	5.2	33.1	-22 57

シー・エム・オー・フクイ

 中島 孝 Nj

★長らくこの欄もご無沙汰いたしましたでしたが、引き続き2003年から今年に掛けて、次のようにカンパを頂戴しています。熊森 照明様(2003年十二月、350)、石橋 力様(2004年一月、351)、神崎 一郎様(2004年一月、352)、松本 達二郎様(2004年三月、353)、東亜天文学会様(2004年四月、354)、熊森 照明様(2004年十二月、355)。ありがとうございました。この内、東亜天文学会からのご援助は「穴水ローエル會議」に関するものです。『火星通信』はまったく同じ様な体裁で発行を続ける予定ですので、これまで同様のご支援をいただきますようお願いいたします。不一

☆ **Kasei-Tsushin CMO** (Home Page: http://www.mars.dti.ne.jp/~cmo/oa_mars.html)

『火星通信』#300 (25 December 2004) 編集：南 政次(Mn)、村上 昌己(Mk)、中島 孝(Nj)
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