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

MARS

 N_0 . 320 25 June 2006

OBSERVATIONS Published by the OAA Mars Section

■ CMO 2005 Mars Note (3)

'05 Mars: since '50 孟中孟華目の火星

-■ 松本 達二郎 T MATSUMOTO ┛

◆昨年(2005年)の火星の接近は、私が1950年の 接近(27Mar最接近、最大視直径14.1")の折りに火 星の観測を始めて以来、五十五年目の火星接近で したが、幸い私も六月から十一月まで観測を遂行 し、全体六十枚余のスケッチを得ることができま した。特に印象深かったのは十月24日のソリス・ ラクス南東側のダストで、卵形の西縁が際立って クッキリ見え、美しい光景でした(スケッチ参照)。

Tatsujiro MATSUMOTO's Drawing on 24 October 2005 at 13;30 GMT $\lambda = 312^{\circ}Ls$ $\omega = 112^{\circ}W$ $\delta = 20.1$ " $\iota = 13$ ° 440 × 18cm refractor

2005年は前回の大接近に比べシーイングが芳し くなく、主に18センチ屈折で観測しました(photo I)。この望遠鏡の筒部は自作、鏡で光路を折り曲

げコンパクトにしてあります。レンズ及び平面は 苗村敬夫氏の作で、F12にもかかわらず素晴らし い像を結び、まさに名手の作品です。ファインダ

ーは12センチ で、観測にも 使えます。

最近は視力 も落ち、双眼 装置を多用し ますので、18 センチでは光 量の不足を感 じ、23センチ のレンズを自 作しました。 18センチ同様 折り曲げ式で 経緯台に載せ



てあります(photo II)。私ともども写っていますの でご笑覧下さい。

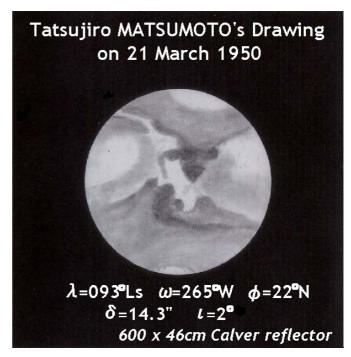


◆扨て、私は1930年生まれですから、今年数えで 喜寿です。OAAの会員になったのは1944年で、入 会当時は御多分に洩れず、変光星や黄道光の観測をしましたが、1946年に(以下に述べるような事情で)20センチ反射を作り上げてからは、惑星を観る様になりました。特に火星に興味を持つ様になったのは、周囲の諸先輩の影響があったからと思います。『**火星通信**』314号の佐伯雅夫様のLtEに伊達英太郎さん、前田静雄さんのお名前を拝見し、懐旧の情一入のものがありました。

◆伊達英太郎さん(1912~1953)には望遠鏡作りを ご指導頂いたのが発端で、以来病気療養中の雲雀 丘の御宅へ月二回くらいペースで参上し、いろい ろご教示頂きましたが、接客は一時間以内と医師 に決められておられ、いつも大慌てでお 暇しま した。御宅の庭には26センチの反赤、屋根の上の 観測台には11センチの反赤、他に8センチ屈経な どがありました。カメラもお好きで当時の高級機、 ライカやキネエキザクタがあり、触らせて貰うの が楽しみでした。そして鏡面研磨をしていた私を 前田静雄さん(1914~1952)に紹介して下さいまし た。◆当時前田さんは病の故もあってか勤め先を 退職され、自宅に光学研究所を開設しようと準備 中でした。京都駅の南にあったご自宅には部屋が 増築され、六連ぐらいのレンズ研磨機も設置され ており、数度にわたりお伺いし、火星のカラース ケッチの方法や鏡面研磨について教えて頂きまし た。ご両所のご親切は私にとり忘れられない想い 出です。ただ、それぞれご両所の火星観測はお身 体の都合で1946年、1943年までとなって、ご一緒 に観測できなかったのは残念なことでした。

- ◆佐伯恒夫さん(1916~1996)には1946年頃から、 以来お亡くなりになるまで五十年、火星も含めて いろいろとご指導いただきました。一寸厳しいと ころのある方でしたが、不熱心な私によくもお付 き合い願えたものと感謝しております。
- ◆私の1946年からの望遠鏡との付き合い始めは次の如くでした。神戸で戦災に遭い、私は父の郷里の中学に転校していましたが、敗戦の1945年の暮れ、学徒動員の報償金750円(十五ヶ月分)が元の中学から送られて来たことから始まります。当時750円は中学生にとり大金でしたが、インフレが激しい状況でしたので、貯金せず、京都山科の関西光学で20センチ鏡を製作して貰ったのが、望遠鏡との付き合い始りとなったのです(600円ぐら

いだったと記憶しています)。アイピースについては五藤光学がよろしかろうとの伊達さんのご意見で、五藤斎三所主に御願いしました。すぐお返事があり、自宅は戦災で全焼したものの、工場は無事で再建に努力中、しかし生活必需品が乏しく従業員ともども難儀しているから、食料、衣料など頂ければ有り難いとの事でした。早速、入手困難でしたが、統制外の食品などを集め、送ったところ、無事到着の報せとともにHM9mmのアイピースを頂いたのでした。今にして思えば敗戦のアイピースを頂いたのでした。今にして思えば敗戦の混乱のなか、転校生にまで報償金の支払いをされた先生、従業員の生活に思いを致された五藤社主、食品を無事届けてくれた運送屋さんなど、私は良い人々に囲まれていたと思います。



◆ところで、1946年は望遠鏡で明け暮れ、1948 年は火星のスケッチの練習した程度で、本気で観



測者会議が開催され、私も参加しました。当時の 遊星面課の課長さんは佐伯さんでした(火星課と 称されるのは1952年からと記憶しています)。こ の時の会議のことは、『日本アマチュア天文史』p63 に記録されていますのでご覧下さい。夜はカルバ -46センチ反射で火星のスケッチ(スケッチ参照) をしましたが、運転時計が動かず些か面倒だった のを覚えています(photo IIIは46cm鏡筒と筆者)。

会議終了後,木辺成麿(1912~1990)さんの錦織寺 を訪れ、病後でご静養中にも拘わらず,30cm反 射や研磨機を見せて頂けたのもよい想い出です。

◆爾来、五十有余年の時が流れました。当初は なかなか観測が軌道に乗ったとは言えませんでし たが、1971年の大接近の頃からはいろいろな意味 で環境が整ってきました。佐伯さんのお薦めで 1973年から1997年まで四半世紀の間OAA大阪支部 をお世話できるほど余裕が出来たのも幸いでし た。2003年の大接近や2005年の接近もすませ、ど うでしょうか、2007年の火星(18Dec2007最接近)も 大いに期待しているところです。

-atsujiro MATSUMOTO is a senior member of the OAA Mars Section who now lives in Amagasaki City, near Kobé. He was born in 1930, and has been a member of the OAA since 1944. He is one of those who got acquainted with the legendary OAA Mars pioneers Eitaro DATÉ (1912~1953) in Osaka and Shizuo (Haruhisa) MAYEDA (1914~1952) in Kyoto: Both died young, but DATÉ was known as one of the earliest leading observers of the OAA Mars Section (since 1933) and wrote the first Report of the Mars observations in 1935 and so on. MAYEDA is known as an OAA observer who drew Mars in colour (several pastel colour drawings produced in 1937 are known to us). In addition to the profound knowledge of Mars (DATÉ's book of Antoniadi on la planète Mars was later given to Tsuneo SAHEKI), both had full learning of the telescopes and telescope making, and so first T MATSUMOTO frequently met them to know how to make the planetary telescope. In 1946 he had a chance to make a 20cm reflector based on the advices of DATÉ and MAYEDA. Unfortunately however MATSUMOTO had no chance to observe Mars together with DATÉ and MAYEDA since both ceased to observe in 1946 and 1943 respectively because they suffered from serious disease. It was slightly earlier, in 1937 that MAYEDA detected a bright flare at Sithonius L (twinkled just like a star for five minutes).

T MATSUMOTO also began to learn much from Tsuneo SAHEKI (1916~1996) in Osaka. MATSUMOTO was first acquainted with SAHEKI around 1946, and so MATSUMOTO was under the guidance of SAHEKI concerning the planet Mars for 50 years until his death. Asked by SAHEKI, MATSUMOTO led the Osaka branch of the OAA from 1973 to 1997, and organised monthly meetings at the Osaka Planetarium.

In 1946, MATSUMOTO was busy in constructing his telescope, and in 1948 he just tried to make a practice of drawing the surface of Mars. On the occasion of the 1950 apparition however he began to chase Mars from October 1949. On 21 March 1950 (just two days before opposition), there was held a Meeting of the OAA Mars Observers at the Yamamoto Observatory where MATSU-MOTO joined: Photo III here is a snapshot of MATSU-MOTO at the ocular part of the 46cm Calver telescope, which was said once belonged to Walter GOODACRE (1856~1938). One drawing on the day by MATSU-MOTO is also shown here. SAHEKI was of course there as Director of the OAA Mars Section.

Since then, 55 years passed, and MATSUMOTO observed the last 2005 Mars from June to October 2005, and produced a total of about 60 drawings. The drawing here (see the top of the Japanese column) is the one made by T MATSUMOTO on 24 October 2005 to record the egg-like dust core near Solis L which appeared to him most beautiful and seems to be one of the most impressive events he ever experienced during these fifty-five years. To observe the case, he made use of his home-made 18cm F12 refractor whose tube looks compact (see Photo I) because he uses another mirror inside the tube to bent the light from the OG. He has also constructed a 23cm refractor (Photo II) of the design similar to the 18cm refractor. The person who stands next to the compact telescope is Tatsujiro MATSUMOTO himself.

We close here by remarking that T MATSUMOTO was the very observer who detected a flare near the Huygens Crater on 15 August at around 15:30 GMT: See $(Mn)\square$

http://homepage3.nifty.com/~cmomn3/2770AA/index.htm

– CMO **2005** Mars Report #21 –

OAA Mars Section

THE observational season of the 2005 Mars is now at the final stage. We here treat the period from 16 May 2006 (λ =053°Ls) to 15 June 2006 (λ =067°Ls).

The apparent diameter δ during the period decreased further from 4.6" to 4.1". The central latitude ϕ went up from 10°N to 17°N, and so it has been harder to watch the high latitude region of the SH. The phase angle ι was from 30° down to 25° (that means Mars is moving away far at the obtuse-angle side of the orbit). The planet still shined rather high up at the sundown time, but as our summer solstice was near, it became difficult to find the planet earlier. In Japan, it was reported the rainy season began at Kyushu to Tokai on 8 June, and at Kwanto on 9 June. It was on 15 June that it began at the Hokuriku district where Fukui is located. We hear the amount of rain fall at Okinawa was doubled more than the average year during this rainy season that ends around 20 June every year.

る・・・・・愈々2005年火星の觀測も終盤であって、觀測も揃わなくなった。今回は16May2006 (λ =053°Ls) から15June2006(λ =067°Ls) 迄を見る。この間視直徑 δ は4.6"から4.1"であった。中央緯度 ϕ は10°Nから17°N と急激に南半球が見え難くなっている。位相角 ι は30°から25°へ回復している(既に太陽の向こう側に去っているということ)。火星は日没時には可成り高く、見易い位置にあるが、夏至が迫っていて、夕空に長く殘るという感覺はない。九州から東海は六月8日、關東は9日に梅雨入りし、北陸は15日に宣言された。今年の沖縄は例年の二倍の雨が降り、災害が報道された。

♂·····The following are the observers who contributed this time: 今回は更に報告者數も報告數が減った。

AKUTSU, Tomio 阿久津 富夫 (Ak) 菲律賓 Cebu, the Philippines

1 CCD Image (20 May 2006) f/35⊗28cm SCT with a ToUcam II

ANDERSON, David デヴィッド・アンダーソン (*DAd*) 南卡羅萊納 *nr* Greenwood, SC, USA 1 Set of CCD Images (30 May 2006) f/48⊗33cm spec with ToUcam 740

HEFFNER, Robert ロバート・ヘフナー (*RHf*) 名古屋 Nagoya, Aichi, Japan 1 Colour CCD Image (5 May 2006) f/60⊗28cm SCT with Lu075C

MAKSYMOWICZ, Stanislas スタニスラス・マクシモヴィッチ (SMk) 法國 Ecquevilly, France 2 Drawings (18, 23 May 2006) 270×15cm refractor

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

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

3 Sets of RGB Images + 4 IR Images (24, 29 May 2006) $f/50 \otimes 25$ cm spec with Lu075M

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

Among the ccd images that were a few, HEFFNER (*RHf*)'s made at Nagoya on 21 May (λ =055°Ls, φ =11°N) at ω =268°W were very excellent for the smaller diameter of δ =4.5". Such a bright marking as the npc as well as the dark markings as Utopia, Syrtis Mj and M Cimmerium are finely depicted. Cebrenia has a lighter patch. The npc is white explicit being at the stage to begin to thaw rapidly. The atmosphere looks absolutely clear, but as to the water vapour condensate a genuine B filter should be used even though it depends heavily on the atmospheric condition of our terrestrial side. We hear *RHf* tried to shoot the case of the evening Tharsis and Alba Patera, but we suppose he missed the opportunities because of the sky conditions. AKUTSU (*Ak*) at Cebu gave an image on the preceding day 20 May (λ =055°Ls) at ω =281°W, but he failed to use any B filter (he has a Bitran and an IDAS set): The sky condition must have been poor. ANDERSON (*DAd*) shot on 30 May (λ =059°Ls, φ =13°N) at ω =043°W: His B (380~550nm) does not show any characteristic, while the R (570~900nm) image shows a seasonal character-

stic that the northern part of M Acidalium is darker.

 \nearrow At Fukui we (NAKAJIMA (Nj) and Mn) were endowed after a while with a fine sky on 21 May (λ = 055°Ls~056°Ls): We could introduce the planet around 18 hrs JST, and made the first observation at 18:20 JST (9:20 GMT) before the sunset (the Sun set down at 18:45 JST). The temperature inside the dome was 18°C, comfortable. During the twilight, the surface looks pale with low colour contrast: Even then at ω=246°W (9:20 GMT; Mn) the sph was faintly seen and at ω =256°W (10:00; Mn) it was definite though weak. Nj's observations at ω=251°W, 261°W also gave similar results. The morning Syrtis Mj was seen weakly with Int: Its morning neighbour near the terminator was misty. As the twilight ended, at $\omega = 265^{\circ} \text{W}$ (Mn) and $\omega = 270^{\circ} \text{W}$ (Nj), Utopia looked dark in contrast with the npc. Through G, the morning mist lighter. MORITA (Mo)'s images on 24 May (λ=057°Ls) at ω=237°W show a weak morning mist, and the IR image shows the dark band of Utopia in contrast with the npc. The Tharsis limb cloud was watched at Fukui thru G on 31 May (λ =060°Ls) at ω =161°W (10:10 GMT; Nj), 166°W (Mn), 171°W (Nj), 176°W (Mn), 181°W (Nj), 186°W (Mn): it was far weaker than the npc, but visible. The phase angle was $t=27^{\circ}$. We also tried to check Alba Patera on 6 June and 7 June ($\lambda=063^{\circ}$ Ls, $\delta=4.3^{\circ}$) but no result was obtained because of the poor conditions. The evening Xanthe was however seen bright to the south of the sinking M Acidalium. On 13 June (λ=066°Ls), M Acidalium passed the CM from our side, and we watched it at ω=035°W (10:10; Mn), 040°W (Nj), 045°W (Mn), and at 050°W (Nj). It was not easy to see the shape while the part adjacent to the npc looked darker (δ =4.1"). The evening limb and the morning side at the equatorial band were bright with the condensate but it was not sure the misty band was connected.

 σ · · · · · · MAKSYMOWICZ (*SMk*) checked positively the morning mist at Thymiamata to Chryse on 23 May (λ = 057°Ls) at ω =025°W∼ 027°W.

る・・・・・・ccd像ではヘフナー(RHf)氏の21May(λ =055°Ls、 φ =11°N) ω =268°Wの像は δ =4.5"としては出色の出來で、北極冠もウトピア、シュルティス・マイヨル、マレ・キムメリウム等の暗色模様も綺麗に整って描寫されている。ケブレニアが奇妙に明るい。北極冠は急速溶解開始寸前の姿で、RHf氏は初めてと思う。大氣のダスト成分は既に相當浄化されているが、ただ、水蒸氣の分布が南極方向も含めて不明確である。火星の水蒸氣はBフィルターを適切に使っても地球の空の水蒸氣の状態に依って描寫が違って來るので難しいところである。RHf氏はこの他、タルシスやアルバ・パテラ等を狙われた様であるが、空やシーイングの状態が整わず斷念したのであろうと思う。阿久津(Ak)氏は前日20May (λ =055°Ls) ω =281°Wで撮像しているが、全體に冴えない。前回の3Mayの像もToUcamであったので、6日にセブから電話を受けたときBitranでB像を撮る様に忠告して、Ak氏は諾と應えていたのであるが、また都合が附かなかったものか、不具合か。空の状態も悪いのかも知れない。アンダーソン(DAd)氏の30May(λ =059°Ls、 φ =13°Ls) ω =043°WもB光(380~550nm)では何の特徴も出ないが、R(570~900nm)ではマレ・アキダリウムの北部が南部に對して濃いというこの時期の特徴を好く描寫している。

る・・・・・21May(λ =055°Ls~056°Ls)は福井も久しぶりの晴れ間でシーイングも良好であった。 18:45JST頃の日没であったが、9:20GMTには觀測が出來ている(ウチの望遠鏡はコンピュータ制御ではないから、透明度が一寸でも落ちれば見附けられないし、日没も遅れるから以後こんなに早い觀測はない)。氣温は18°Cで丁度好い。薄明の内は像も白っぽく、色コントストが低いが、 ω =246°W(9:20)では南極雲が稍見えている。 ω =256°W(10:00)では弱いが明確であった。Nj氏の觀測(ω =251°W、261°W)も同じである。シュルティス・マイヨルは弱いがIntで見えている。その朝方はミスティである。 ω =265°W(Mn)、 ω =270°W(Nj)では(薄明も終わって)ウトピアが北極冠と對照よく濃く見えている。Gでは朝霧が明るく見えている。直前投稿の森田(Mo)氏の24May(λ =057°Ls) ω =237°Wでは朝方(シュルティス・マイヨル方向)では朝霧が出ていて、IRではウトピアが北極冠と對照して濃い。タルシス白雲は福井でG使用で31May(λ =060°Ls)に ω =161°W(10:10GMT; Nj)、166°W(Mn)、171°W(Nj)、176°W(Mn)、181°W(Nj)、186°W(Mn)と狙った。北極冠に比べて弱いが、稍出ているようであった。 ι =27°。アルバ・パテラも6June、7June

 $(\lambda=063^{\circ}\text{Ls}, \delta=4.3")$ に狙ったが、條件が揃わず、これは全く觀測には掛からなかった。これは2007年の課題である。但し、夕方のクサンテは夕方のマレ・アキダリウムの南に明るく見えている。13June $(\lambda=066^{\circ}\text{Ls})$ にはマレ・アキダリウムが南中し、 $\omega=035^{\circ}\text{W}(10:10;\text{Mn}), 040^{\circ}\text{W}(\text{Nj}), 045^{\circ}\text{W}(\text{Mn}), 050^{\circ}\text{W}(\text{Nj})$ で觀測した。北極冠に近いところが濃いが、全體の姿を固定するのは難しい状況になっている $(\delta=4.1")$ 。赤道帶は夕方も朝方も明るく、水蒸氣による事は確實だが、殘念ながら肉眼では霧の帶は確認できない。

 \checkmark ・・・・・・マクシモヴィッチ(SMk)氏の23May(λ =057°Ls) ω =025°W~027°Wでは朝方のテュミアマタ・クリュセに霧をチェックしている。

The substitution of the period from 7 Apr (λ =036°Ls) to 24 Apr (λ =044°Ls) (see LtE here and in #319):

♂・・・・・・追加報告: ピーチ(DPc)氏のバルバドス(1966年に英國から獨立、もし英語讀みならバルベードス、緯度は13°N強か。雨期は六~十一月の由)での觀測は7 $Apr(\lambda=036^{\circ}Ls)$ から2 $4Apr(\lambda=044^{\circ}Ls)$ まで十八日間に及びコンスタントに良像が得られている。

PEACH, Damian A デミアン・ピーチ (DPc) バルバドス Barbados

23 Sets of CCD Images (7, ~11, 13, ~24 April 2006) f/40⊗35cm SCT with Lu075M

On 7 Apr (λ =036°Ls, δ =5.5") the images were taken around ω =150°W, and show considerable details of the areas of Phasis and Proportis I. The sph looks thick, though its most part is at the night side. Olympus Mons was not yet at the evening side, and is seen as a shadowy spot. Notable is that the B image shows a cloud patch at the lower place near the CM following Olympus Mons at Ω=150°W~160°W (see PELLIER (CPI)'s LtE). Since ι=35°, it must have survived for three or four hours after the sunrise. On the following day, the images were given at around $\omega=142^{\circ}$ W, and the situation is the same as the day before. The B image on 9 Apr ($\lambda=037^{\circ}$ Ls) at $\omega=$ 127°W shows the misty patch following Olympus Mons, as well as a smaller one at Alba. The sph looks weaker, and rather an evening cloud at Argyre is more evident. This is also comparable with the image at ω=125°W on 10 Apr (λ =038°Ls). On 11 Apr (λ =038°Ls) at ω =108°W, 116°W, the afternoon Solis L is clearly visible, and a bit of Nilokeras is near the limb. The morning mist patch is near the terminator. On B, a misty matter covers some part of Boreum or the dark fringe of the npc. The images on 13 Apr (λ =039°Ls) at ω =097°W show Solis L slightly strange. Auroræ S is dark following a cloudy matter near the limb with. The late morning Tharsis looks to be covered by a faint mist. On 14 Apr (λ =039°Ls) at ω =081°W, 088°W, Solis L is near the CM. M Acidalium lays dark near the limb, unseen on B. The configuration around of the npc in B differs from the aspect in R. The Argyre cloud does not seem to extend to the direction of the southern pole. The image on the following day was made at ω=087°W so that it is compared with the one made on the preceding day: A little difference in B. The cloud near Auroræ S looks to be a condensate. M Acidalium is now large on the image on 16 Apr (λ =040°Ls) at ω =068°W. The region around

Auroræ S is quite resolved, and the area of Capri Cornu is quite faded to show a desert colour nuance (maybe not exactly if made on the dichromatic method). Near the morning terminator, a shadowy spot is seen, maybe the summit of Ascræus Mons (also on B; that implies the mist is lower). The images on 17 Apr (λ =041°Ls) at ω =055°W are also interesting: The description of M Acidalium is superb. The B image also suggests an existence of mist around the npc which admits however the longer wavelength light to pass through. On 18 Apr (λ =041°Ls) at ω =036°W, the cloud at Argyre

D PEACH's images on 18 Apr 2006
at Barbados

ω=036°W φ=5°N λ=041°Ls
δ=5.2" ε=33°

proves quite weak yet near noon. An outstanding and strange feature seen inside the dark M Acidalium is a brighter segment caught at the northern part: It is visible in R and also in B and lighter than Achillis Pons. It re-

minds us of Elisabeth SIEGEL (ESg)'s "Novus Pons" in 1993, but the present writer (Mn) has never experienced. The HST photos give us examples of M Acidalium in 1993 at λ=020°Ls, and 1996 at λ=021°Ls and 058°Ls, while they have not explicitly proved such a slit or segment. The area of S Meridiani appears normal. The images on 19 Apr (λ =042°Ls) at ω =025°W, 028°W, 032°W also show the light segment at the northern part of M Acidalium. The following morning area is quite misty. In appearance, the segment looks separated from the npc by the dark band, but if more highly resolved it may be related with the disturbance near at the perimeter of the npc. The Argyre cloud is weak before the CM. Margaritifer S and S Meridiani look very classical. On the day DAd made images at ω=082°W as reported previously (#20 in CMO #319) whose R component however does not look to resolve the segment. TES does not show any dusty disturbance (at height of 20~30km) around the day around the area. The images on 20 Apr (λ =042°Ls) was made at ω =030°W and so made compared with the images on the preceding day: The water vapour distribution over M Acidalium looks slightly different. On 21 Apr (λ =042°Ls) at ω =042°W, most part of S Sabæus is now seen, and the eastern part of Deucalionis R recovered to be lighter. The segment inside of M Acidalium might have been extended to the east (slit?). An evening cloud at Hellas is a bit seen near the limb. The images on 22 Apr (λ =043°Ls) at ω =359°W were made two hours after *CPl* in the suburbs of Paris: Syrtis Mj is so quite near the limb. A light area to the west-north of Ismenius L. The Thymiamata morning mist was not yet seen. The images on 23 Apr (λ =043°Ls) were produced at ω =354°W, and so comparable with the preceding-day images. Finally on 24 Apr (λ =044°Ls) at ω =339°W, 342°W, Deucalionis R was caught in a good position. The area around Yaonis R looks strange a bit, but no more images, and so this may be a theme in 2007. This apparition Damian PEACH (DPc) worked fully one year from 19 April 2005 (λ=196°Ls) to 24 April 2006 (λ=044°Ls), and provided a long series of superb images to which anyone is accessible through our Gallery:

http://homepage2.nifty.com/~cmons/2005/index_DPc.html

 $\sqrt[3]{\cdots}$ 7Apr(λ =036°Ls)には δ =5.5"であるが、 ω =150°W邊りからの像で、パシスやプロポンティスI周 **邊も含めて可成り詳細が見て取れる。オリュムプス・モンスは未だ夕方ではなく淡い暗點で出ている。** 南極雲が殆ど陰に隠れた形で濃く出ている。注目するのはB像でオリュムプス・モンスの後方、 Ω =150°W~160°W邊りの低地に朝霧が殘っていることである。 ι =35°であるから、朝縁から三~四時間 經っている。翌日はω=142°W邊りで、ほぼ同じ状況。9Apr(λ=037°Ls)はω=127°WにB光があるが、オリ ュムプス・モンス後方の朝霧塊の他、アルバに少し雲が出ているかも知れない。南極雲の方は弱まっ たのか、この時はソリス・ラクスの向こうのアルギュレに出ていると思われる。翌日もω=125°W邊り でよく似ている。11Apr(λ=038°Ls)にはω=108°W、116°Wで午後のソリス・ラクスが完全に見えて居る。 ニロケラスが夕方に殘っている。例の朝霧塊は極く朝縁に出ている。Bで見ると北極冠の周りのRで は濃いボレウムに白雲が懸かっているようである。13Apr(λ=039°Ls)ω=097°Wでは稍ソリス・ラクスが 奇形に見える。アウロラエ・シヌスが午後端で濃いがその西が雲か。朝遅いタルシスにも霧が這って いるらしい。14Apr(λ=039°Ls)ω=081°W、088°Wではソリス・ラクスが南中、マレ・アキダリウムはRで 午後端に横たわるが、Bには出ない。北極冠邊りもRとBでは配置が違う。アルギュレの夕雲は南極(見 えない)の方に延びていない様だ。翌日もω=087°Wで前日と比較が出來る。Bに稍違いがある。アウロ ラエ・シヌスの上は白雲か。16Apr(λ= 040° Ls)ω= 068° Wではマレ・アキダリウムが大きく起きて來てい る。異様なのはアウロラエ・シヌスの邊りで、カプリ・コルヌの邊りが砂漠色になっている。この像 は二色像だからニュアンスが出ない。朝方にアスクラエウス・モンスらしい暗點が出ている(Bでも。 朝霧は平地を這う)。17Apr(λ=041°Ls)ω=055°Wも興味深い像で、マレ・アキダリウムの描冩としてはこ の時期最高。Bで見ると、北極冠の周りにRを通す霧が出ているようである。18Apr(λ=041°Ls)ω=036°W ではアルギュレはお昼で白雲は未だ弱い。夕方に少し。この像で奇妙なのはマレ・アキダリウムの北 部に暗色であるはずのところが、明るくなっていること。RでもBでも出ている。アキッリス・ポン スよりも明るく、例のシーゲル(ESg)さんの"ノウゥス・ポンス"に似ているが、私は經驗が無い。HST には1993年に λ =020°Ls、1996年には λ =021°Ls、058°Lsなどのマレ・アキダリウムの畫像があるが、explicitに出ているものはない。シヌス・メリディアニの邊りが正常に出ている。19Apr(λ =042°Ls) ω =025°W、028°W、032°Wでもマレ・アキダリウム北部の半明帶は出ている。色彩は二色では區別が附かないだろう。その朝側は白霧である。半明帶は北極冠と濃い暗帶で隔てられているようであるが、分解能を上げれば關係があるかもしれない。アルギュレの雲はCM前で弱まって見える。シヌス・メリディアニやマルガリティフェル・シヌスが古典的。なお、この日にはDAd氏の ω =082°Wがあるが、Rでも半明帶は分離していない。TESではこの日の前後で(少なくとも20~30km上空)には擾亂が出ていない。20Apr(λ =042°Ls) ω =030°Wは前日と比較が出來るが、マレ・アキダリウム上の水蒸氣の分布が違って來ている。21Apr(λ =042°Ls) ω =042°Wではシヌス・サバエウスが殆ど見え、デウカリオニス・レギオの東部が明るく回復している様だ。マレ・アキダリウムの半明帶は東へ延びているか。ヘッラスの夕雲が少し見えている。22Apr(λ =043°Ls) ω =359°Wはパリ郊外のペリエ(CPI)氏の二時間後の觀測、シュルティス・マイヨルは隠れ掛かる。イスメニウス・ラクスの北西が明るく寫る。テュミアマタの朝霧は未だ出ていないようである。23Apr(λ =043°Ls)は ω =354°Wで前日と比較できる。24Apr(λ =044°Ls) ω =339°W、342°Wではデウカリオニス・レギオが好い位置で捉えられている。ヤオニス・レギオの邊りは奇妙な様子だが、これは2007年迄お預けである。

 \eth ······In the next issue we shall review the observations made during a few weeks from 16 June 2006 (λ =067°Ls, δ =4.1").

便り

Letters to the Editor

•••••• Date: Thu, 25 May 2006 10:58:54 +0100 Subject: Jupiter 25th 20th Apr 2006

Hi Guys, The 25th was from our last evening of the imagefest, when I was just lucky enough to catch a couple of reds before the warning spits of rain turned into a tropical downpour. The ring in BA is invisible in "red" Note also the bright storm in the south polar region: this brightness caught my eye on an Image from the 20th . Note the longitudes are almost exactly the same. The subtle changes over the rest of the planet during the 5 days are interesting to note also.

O · · · · · · · Date: Sun, 28 May 2006 09:46:51 +0100 Subject: Alphonsus

Hi Guys, I also had ago at our moon in Barbados. This is a medium res' single avi shot of Alphonsus at f25 on my C14, using a red filter. Best wishes

O····· Date: Sun, 4 June 2006 19:31:53 +0100 Subject: Jupiter 3rd Jun

Hi Guys, Here's a Jupiter offering from last night. Seeing was steady but with thin cloud. This was the best of about 8 R B's runs.

Here is also a couple of Lunar shots from Barbados, one of the spectacular Pythagoras , and one of the straight wall, Birt is well shown. Best wishes

O····· Date: Fri, 9 June 2006 18:10:43 +0100 Subject: Jupiter UK 8th Jun

Hi Guys, Seeing was pretty good last night in spite of what we keep going on about here in the altitude challenged UK; There I go again!

I thought I would give the Toucam a try too, as they seem to work very well in good seeing, certainly far more relaxing than manually changing filters with RGB. There is of course the added bonus of seeing Jupiter in colour, with 50% gain giving a reasonably low noise image at f28. Such and enormous shadow from such a little moon. The shadow cast on the far side of the sphere is stretched out too.

Transparency? Well I could see three stars but that's about all! Best wishes

O·····Date: Mon, 12 June 2006 11:44:00 +0100 Subject: Jupiter 11th Jun. UK

Hi Guys, Yet another clear evening with out current heat wave. Seeing was fair but hazy.

C14 @ F25 2.5× powermate with ATK filter block . Filters Trutek type 1 red and type 2 Green and Blue. Lumenera 075 mono @18fps 45secs per colour plus two filter changes up to a total time of around 2.5 mins

O····· Date: Tue, 13 June 2006 15:25:37 +0100 Subject: Re: Mars images (April 24th, 2006 - Final Session)

Well Done Damian, a fantastic effort of patience and dedication, a whole year of it! As well as a brilliant result.

O····· Date: Sun, 18 June 2006 22:30:12 +0100 Subject: Jup 16 june UK

Hi Guys, Here's a brace of Jupiter image sets from the 16th, they show some of the significant and seemingly rapid changes to the EZ.

Dave TYLER (デヴィッド・タイラー Bkh UK 英)
http://www.david-tyler.com/
http://homepage2.nifty.com/~cmons/2005/index_DTy.html

• · · · · · · Date: Fri, 26 May 2006 13:11:48 +0200 Subject: Jupiter may 23

25 June 2006 Ser2-0409_

Hi all, Jupiter on 23 may 2006.

http://www.astrosurf.org/pellier/J060523a-CPE

(visible wavelenghts)

http://www.astrosurf.org/pellier/J060523b-CPE

(IR, SP470, UV) Regards

O · · · · · · Date: Sun, 28 May 2006 18:08:42 +0200 Subject: Re: Jupiter May 28

Hi David (ARDITT), interesting your tests of the new Astronomik filters. How difficult is the IR742 in comparison with the Baader 685? I would consider getting one in the future, but not if it's too difficult to use in comparison with my Murnaghan IR70, which passes a lot of infrared light.

The bright spot in the NTB must be Europa in transit. It's more visible in IR, for me, because of the low IR albedo of Jupiter in near-IR that enhanced the moon by a

O····· Date: Sun, 04 June 2006 16:57:31 +0200 Subject: Jupiter, june 2nd 2006

Hi all, seeing was superb for the altitude that night!

http://www.astrosurf.org/pellier/J060602a-CPE

(RGB, B, G) http://www.astrosurf.org/pellier/J060602b-CPE

(R, IR, SP470, UV, 1 micron)

There is an interesting rift just north of GRS. Is this again the South equatorial disturbance? Note it's closed in red light but "open" in near-IR in the EZs. Note BA as a red ring in RGB, dark in UV, and bright in the partially CH4 absorbing 1-micron images. Best wishes

O····· Date: Mon, 05 June 2006 19:50:29 +0200 Subject: Re: Mars images (April 9th, 2006.)

Hi Damian, I've taken your latest images under WinJupos to be sure, but I think that the white patch seen in the B images is not the Olympus cloud. On this one (april 9th) it's located at around 150°W of longitude when the volcanoe lies near 130°W; the cloud should be found much closer to the meridian. orographic clouds are an afternoon phenomena, so this must be some morning mists developing on the west side of the bigger Olympus shield. But by the way it's not less interesting...! Best wishes

O····· Date: Sun, 11 June 2006 13:33:43 +0200 Subject: Jupiter, june 5th 2006

Hi all, some images on June 5th showing the WSZ area: http://www.astrosurf.org/pellier/J060605-CPE

O Date: Sun, 11 June 2006 19:25:10 +0200 Subject: Jupiter, june 6th 2006

Hi everyone, again a night with very good seeing (the last one for the week):

http://www.astrosurf.org/pellier/J060606a-CPE

(RGB, B) http://www.astrosurf.org/pellier/J060606b-CPE (R, IR, SP470, UV)

○ · · · · · · Date: Mon, 12 June 2006 21:31:30 +0200 Subject: Jupiter, june 9th 2006

Hi guys, finally the seeing degraded. I can't say that this happened quite often recently in my location!

http://www.astrosurf.org/pellier/J060609-CPE

Interesting is nonetheless the thick EB/EZs part, almost the darkest part of the planet in near-IR. This illustrates how weak can be the explanation of seeing by the jetstream; it was extremely weak that night, no more

than 4 meters .sec; it was running some 10 times faster for my best images of june 2nd. I'm used to explain this poor seeing by the presence of a moderate (though) easterly ground wind. Even a fast jet stream, if coming from the north or west, doesn't degrade the image that much.

O Date: Tue, 13 June 2006 19:45:45 +0200 Subject: Jupiter, june 10th 2006

Hi everyone, fairly poor seeing for that session: http://www.astrosurf.org/pellier/J060610-CPE.jpg

The distance between WSZ and WSY is almost precisely 10°. As my IR70 filter has been sent to someone who is going to measure its precise bandpass, I have used the Johnson I filter instead (photometric). Regards

O: Date: Wed, 14 June 2006 20:16:50 +0200 Subject: Jupiter, june 11th 2006

Seeing rather good but two much clouds to make more... http://www.astrosurf.org/pellier/J060611-CPE

O · · · · · · Date: Wed, 14 June 2006 21:04:07 +0200 Subject: Jupiter, june 12th 2006

Good conditions on the following night, at least for a while, but it was seriously degraded to catch the WSZ longitudes.

http://www.astrosurf.org/pellier/J060612-CPE

There are some interesting features in the STrZ following the GRS, here a very dark but very small blue spot with a faint reddish veil...

Also a very brilliant spot in the NEB. A note for the measurers: please don't use the 3 mn RGB images, I think that there is a drift between colors when resolution is good enough - white spots may show some red and blue drifting. R, IR and G frames are nice. Best wishes, O · · · · · · Date: Mon, 19 June 2006 20:18:36 +0200 Subject: Some filters transmission measured.

Dear all, recently the french amateur Philippe Roussel (a "spectroheliographist") has measured the real transmission of a few filters, some of them interesting to us planetary observers:

http://astrosurf.com/spectrohelio/filtres.htm

I'd like to bring your attention especially on the W47 curve; I have always suspected that the Wratten curve anyone can find on the web is completely false and the test confirmed this intuition. The filter is a real violet bandpass filter that transmits very well the UV wavelengths and quickly blocks bluer rays (cutoff looks to be near 430 nm), and it's also much more transparent than I thought (85 % of transmission instead of ~40 %). Now we can understand why it easily shows the Venusian dark markings! One however must take care of carefully blocking the huge IR leakage (at right on the curve). Here again the theorical curve is wrong, as it underestimates the problem. As a curiosity, the IR leakage is so large that one can use the W47 as a good IR-pass filter (in association with any red longpass glass). This is indeed a very good violet filter for Mars, to be considered as an efficient alternative to the difficult UV filter. The test also confirmed that the IR-C filter I bought from Murnaghan in 2004 is in reality their IR70 filter - my friend Florent had asked for the same but got one really redder, the true IR-C! (and finally I'm glad with mine).

An ideal transmission for Jupiter. A less positive surprise is the transmission of the Schuler UV filter, with a peak near 380 nm instead of 365 in theory. The filter is also less transparent than announced. I may turn to another UV filter in the future.

Unfortunately, the complete transmission of my IR 1000 filter has not been measured as the spectrophotometer used isn't sensitive after 900 nm. Best wishes,

O····· Date: Sat, 24 Jun 2006 00:50:43 +0200 Subject: Jupiter, 22th June 2006

Hi all, a good night but with 30 mn of clouds that prevented me from taking better images of the WSZ area http://www.astrosurf.org/pellier/J060622-CPE

As said in my preliminary post, there migth be a northern shift of WSZ with WSY. The two spots look to be 6-7° apart. Same comentary than Ralf about the bright spot on the SEB - it's impressive in the short wavelenghths, certainly the brightest cloud of the planet in blue or violet! Maybe this is a new outbreak? This is when one regrets not having a CH4 filter... note on the technical side; I think that I've finally been able with this session to identify albedo differences between the Blue filter and the SP470. Jupiter in that last one looks globally less contrasted (especially belts are less dark), and the albedo of the EB looks closer to that of the SEB than in blue light, where the SEB is certainly darker. The SP470 is transparent in UV (peaks at 380 nm +/- 150 nm) (but not the Astronomik B (440 nm +/- 120 nm), and therefore could be sensitive to higher scattering hazes, those ones better seen in full UV. Best wishes

Christophe PELLIER (クルストフ・ペリェ *nr* Paris 法) http://homepage2.nifty.com/~cmons/2005/index_CPI.html

••••• Date: Sat, 27 May 2006 09:49:50 -0500 Subject: Mars Images - 09, 15, 16, 17, 18, 19, and 20 Oct 2005

Dear Masatsugu & Masami, Attached are the remaining Mars images I have for October 2005 that I would like to submit to the CMO 2005 Gallery.

Please let me know if you have any questions regarding the images. Best Regards,

O····· Date: Sat, 27 May 2006 09:52:23 -0500 Subject: Paper Versions of the CMO

Dear Masatsugu, I just received the paper versions of the CMO. I would like to thank you for sending them to me. I have enjoyed reading through them. The information I will get from them will hopefully make me a better Mars Observer. Thanks again for you kind consideration! Best Regards,

O····· Date: Sat, 27 May 2006 15:47:42 -0500 Subject: Cloud, Mist, or Dust on 17 October Image?

Dear Masatsugu, Thanks for your reply. As I was preparing the images I just sent to you I did notice that the 17 October images captured the "small rozenge light matter" to the SW of Niliacus L that was reported by Ed Grafton and discussed in CMO 312 on page Ser2-0241.

I have attached an animated Gif which shows how coincidental this phenomenon was with the dust storms that followed during the following days:

http://homepage3.nifty.com/~cmomn3/WFl17 19Oct05animated.gif

I don't know if this sheds any light on the discussions about the explanation of this observation and how it might be related to the dust storms. But I thought it was interesting and I would forward it on. Regards,

Bill FLANAGAN (ウィリアム・フラナカ ン Houston TX 美) http://homepage2.nifty.com/~cmons/2005/index_WFI.html

•••••• Date: Sun, 28 May 2006 00:48:33 +0900 Subject: RE: My last Mars 2005-2006, Part1 - 2006/

Minami-san, The 10:49UT image is turning out basically the same as the earlier one from the 21st - the blue channel is not showing too much unfortunately. Maybe the seeing conditions and altitude were too much for the current angular diameter.

I am still using the color camera LU075C so maybe that's why also.

BUT! :-) I have recently purchased a DMK mono camera and LRGB filters. Now I intend to image Mars next week around June 1st in the blue channel with filters around ω =160°W.

I will need some good luck, as you know the weather in May has been horrible, mostly cloudy everyday. I am confident if it's clear, I will get some images of the Tharsis region this coming week.

Please wish me luck! And I will send images next week, conditions permitting.

○·····Date: Sun, 4 June 2006 20:45:20 +0900 Subject: May 21st 10:49 UTの画像

Dear CMO, Here is the 10:49Ut image from May 21st UT. Finally had some time to process it.

I think it's a decent image for the angular diameter but again no clouds visible. Best regards,

Robert HEFFNER (p.7 · ^7+ Nagoya, Japan) http://homepage2.nifty.com/~cmons/2005/index_RHf.htm

• · · · · · · Date: Sun, 28 May 2006 16:06:03 +0100 Subject: Jupiter May 28

A late clearance last night enabled me to get a few shots of Jupiter at the unusually low altitude of 18 degrees (good practice for the next 3 apparitions!)

I have tried a couple of new things here. Firstly, I have used an Atik ×0.5 focal reducer screwed to the camera to decrease the EFL of the Dall-Kirkham-Dall telescope and increase image brightness (whoever heard of anyone using a focal reducer to image a planet before?) Secondly, I am trying a new IR filter, the Astronomik IR Pro 724 nm.

In the past I have tried IR filters at 685 nm, which seemed to give a result almost the same as R without IR block, and at 807 nm, which doesn't transmit enough detectable radiation with my set-up for Jupiter.

The 724 nm filter seems to be a successful compromise, particularly at revealing the bright spot in the NTrZ (or is it the NTB?), which is not very apparent in the visible light image.

O····· Date: Sun, 28 May 2006 23:07:45 +0100 Subject: Re: Jupiter May 28

On 28 May 2006, at 17:08, Christophe Pellier wrote:

> Hi David, interesting your tests of the new Astronomik filters. How

25 June 2006 Ser2-0411

> difficult is the IR742 in comparison with the Baader 685 ?

I have not directly compared them, but will do so and tell you. I did wrongly give the transmission wavelength as 724 nm.

> The bright spot in the NTB must be Europa in transit.

Thank you Christophe for that revelation.

O····· Date: Thu, 1 June 2006 02:10:26 +0100 Subject: Jupiter May 29

I had quite good seeing this night, and have made a technical comparison between various types of filters.

At the top, the RGB and RRGB images are the same image, but different processing.

The images below go in a succession of filters through G (IR block), R (no block), broadband infrared (Baader dyed glass filter 685nm), narrowband infrared (Astronomik interference filter 742 nm) and further into the infrared (Astronomik interference filter 807 nm).

Of course, the trouble as always was that seeing did not stay constant, but deteriorated by the time the narrowband images were taken. The trouble with these filters is that though, theoretically, they might be expected to provide more sharpness because they completely exclude the visible and near IR, because they transmit much less radiation, either the gain has to be turned up or the frame rate decreased, both of which mitigate against higher resolution. Possibly with a larger aperture they would be more beneficial.

Between the Baader IR and the Astronomik 742, gain has to be increased by about 20% (working in the upper half of the Toucam gain scale). With the Astronomik 807 filter, at 10 fps, a bright image cannot be obtained on the screen with my 10" aperture. The stacked results, nevertheless, are not too bad. More from May 30 to come.

O····· Date: Thu, 1 June 2006 19:03:20 +0100 Subject: Jupiter May 30

One of my most productive nights this year. On this occasion the seeing improved as the night wore on, while Jupiter got lower, so the effects seemed to cancel out, and I was able to get images over a period of more than 3 hours. I was still able to get a good result at midnight when Jupiter was 19 deg. up.

I obtained useful results from both the Astronomik 742 and 807 nm IR filters, as well as RGB, in some cases going down to a frame rate of 5 fps to brighten the IR images.

O····· Date: Sat, 3 June 2006 17:33:35 +0100 Subject: Jupiter June 02

Sixth successive night of imaging, looks like there will be a seventh. Quite good seeing and transparency for a period around 22:00, corresponding to culmination. The GRS seems to have a light "eyebrow" here (S of the latitude of BA).

O····· Date: Mon, 12 June 2006 17:21:30 +0100 Subject: Jupiter June 11

At last this apparition, I have achieved some detailed images of the giant planet. I used the 245 mm Newtonian, a narrowband IR 807 nm interference filter, and slowest capture rate on the mono Toucam to maximise signal. Obviously, seeing was unusually good.

Presented as a JPG and an animated GIF covering 7 minutes of rotation, which demonstrates the reality of features like the fine swirls in the NEB.

O····· Date: Sat, 17 June 2006 23:48:18 +0100 Subject: Jupiter June 14

These are the "first light" images from my new C11. I did not collimate it - these were taken with the collimation it came from the States in (I have done so since). Seeing was poor. The L in the LRGB images in this case is an average of R and G.

Lots more to come as we have been having a run of clear evenings recently.

O····· Date: Mon, 19 June 2006 01:54:24 +0100 Subject: Jupiter June 16

Excellent seeing for the altitude, combined with a now-collimated C11, gave me my best image set so far.

This large set is arranged logically, in columns of LRGB (where L=R), R, IR 742 and IR 807. But what is this diagonal line that runs across Jupiter from the NPR near the CM to the equator near the p limb? It is real, it is in all the images (and Dave Tyler's as well), and it is rotating with the planet.

The satellite shadow in the last row of images is interesting enough, as well.

O····· Date: Sun, 25 Jun 2006 01:26:11 +0100 Subject: Jupiter June 24

Images taken tonight in IR, not very good seeing, suggest white spots Y and Z may have merged, or be very close to it.

Unfortunately, I did not take any images in blue, which has tended to show them more separate recently.

David ARDITTI (デヴィッド・アーディチ Edgware ME 英)
http://www.davidarditti.co.uk/observatory.html
http://homepage2.nifty.com/~cmons/2005/index_DAr.html

• · · · · · · · Date: Sun, 28 May 2006 17:41:53 +0900 Subject: Alba Patera

『火星通信』#319、拝見いたしました。その中でアルバ・パテラの記述があるので思い出したのですが、先日幕張の地球惑星合同大会の火星のセッションで、火星の大循環モデルを動かしている人(北大の高橋さん)から、「北半球の秋に、アルバ・パテラの風下側に渦ができ、その渦が日射の影響で午後から夕方に強くなる」という計算結果が示されました。このシミュレーションは観測事実と合うのでしょうか?

もう一つ面白そうなシミュレーションは、京大の小郷原さんという人のもので、λ=180°Lsあたりでヘラスの北(赤道側)にダストを置いてみたら急激に広がったというものでした。

O····· Date: Sun, 28 May 2006 22:47:08 +0900 Subject: Re: Alba Patera

> どうも面白いニュース有難う。レポートは出ていますか? 予稿集の原稿を添付します(念のため、日本語版 と英語版)。

> これは具体的にどうでしょうね。秋になると白雲活動は鈍るのですが、 > その原因になるのでしょうかね。渦だと黄塵が出そうだけど、テンペ >には白雲の渦巻き颱風が出たことがありますが、これは夏から秋にかけ >て。アルバにもまだ白雲が出ています。こんどもっと調べてみます。秋 >といっても何時ですかね。冬に近いと北極雲に近くなるし、風下は東西 >南北どちらですか?

これは講演の中では右側になっていました。 ただ講演の途中で気づいたのですが、図では北 が上なのですが経度は右向きに増えていました。 講演の左右が正しいとするとアルバ・パテラの 東ですが、・・・・・

- > アルバ邊りには氷結が出ることがあるので、これも気懸かり。
- > 目射の影響で渦巻きが強くなるのですか?

という話でした。

>> 「 $\lambda = 180^{\circ}$ Lsあたりでヘラスの北(赤道側)にダストを置いてみたら急激 >> に広がったというもの」

> これは2001年の黄雲を真似たものでしょうね。一般的にそうなら面白い >結果です。ただ、何故そうなるかの理由ですね。難しくはないでしょう >が。これがモデルではどうなっているのでしょう。ヘッラスの盆地と關 >係ありますか?

ヘラスの中のダストは広がらなかったのに、 北の外側に置いたら広がったということなので、 地形の影響をうけているという話でした。

> それと私の予想では、これは黄塵が真っ直ぐ上空に昇るから擴がるだ > と思う。 京大の小郷原さんというかたは地球物理ですか?

里村さんという気象の人(ずっと以前に会ったことがあります)、と共著なので地球物理だと思

TEN YEARS AGO (130)

----CMO #176 (25 June 1996) pp1855-1870----

この号のトップページは『火星通信』がemail-address (cmo@)を持ったとのアナウンスである。
CMO-Web-Pageの開設も同時に紹介されている。世界の観測者とコミュニケーションをとって
観測情報の交換を行うという『火星通信』の目的がより充実するためにも、時節を得た新しい
通信網の利用であった。以来、今日まで続いているわけであるが、十年前のパソコン通信環境
と、現在の容量・スピードなどと比べると、信じられないほどの小さな環境で動かしていたの
を思い出す。画像一つ送受信するのにもかなり時間がかかっていた
のは、もう昔語りとなってしまった。

次いで南政次(Mn)氏による「アラン・W・ヒース先生介紹"Alan WHEATH"」が和文・英文併記で掲載された。ヒース氏はBAAの土星部門のディレクターを長く務められた方で、伊舎堂(Id)氏が独立発見した1990年十月の土星白斑の記事を『火星通信』で見られて興味を示され、お便りをいただいたのが、お付き合いの始まりであったとしている。その後も火星のスケッチや観測レポートを送って下さっているのは御存知の通りである。本文には、ヒース氏の観測歴と人となりが詳しく述べられている。また、当時使用中の30cm反射望遠鏡に関して、その由来に続いて、以前、此の望遠鏡で火星の観測

COMMUNICIALIONS LOTION AND MAKE OPENING YALLODS

AS JUSTED 1996

THE STATE OF THE S

をされていた、フィリップス(Theodor E R PHILLIPS)師のことが1910年代の火星スケッチと共に紹介されている。

1994/1995 Mars Note(11)は「S・ホヰットビィ氏の北極冠(350°Ls~083°Ls)」と題してS WHITBY (SWb)氏の観測した今期のnpcの縮小状況を、いつもの手法で測定して従来の観測と比較したものである。結果は、ほぼカーブに沿っているが、ばらつきがあり縮小の傾きはなだらかであった。スケッチからの読みとり作業は筆者も手伝って足羽山で行った様に憶えている。

LtEは、Jim BELL氏(USA)からのcmoとの画像送受信テストの成功に関して、またWolfgang MEYER氏からは、五月にViolauで開催されたMEPCO (the Meeting of Planetary and Cometary Observbers)成功のことと、1954年から1961年にMfP (Mitteilung für Palnetenbeobachters)に掲載されたドイツでの古い火星観測記事のコピーの同封があった。それに対する南(Mn)氏の謝辞が英文で述べられている。国内からは、森田行雄(Mo)氏、木村精二氏からのものが見られる。

筆者による記事として、七月の天象とTen Years Agoが掲載されている。TYA(6)はCMO #010 (10 June 1986), CMO #011 (25 June 1986)の二号分が紹介されている。いまから二十年前当時の火星は最接近前の逆行に移ったところで、視直径も20秒角を越えていた。六月中旬までの観測報告ではアルシア雲が λ =175°Lsに夕方の白斑として捉えられた観測があったと特記されている。

材上 昌己 (Mk)

います。ただ、地球シミュレータを使ってはいないようなので、分解能は悪いのかもしれません。以上、手元で分かることだけですが。

○····· Date: Tue, 06 June 2006 16:11:22 +0900 Subject: 読めなかった5インチFDD

以前、5インチのフロッピーディスクで2DDは 九国大で読めないのでなんとかしますと、お知 らせしましたが、本日福岡大学の竹内さんのと ころに動いているマシンがありましたので、読 み出して3.5インチに書き出してきました。文書 ファイルだけを、lzhファイルにしたものを添付 いたします。

○····· Date: Thu, 08 June 2006 21:38:06 +0900 Subject: Re: 読めなかった5 インチFDD

> 中嶋秀夫さんが纏めた佐伯さんの講演録は5インチに入っていませ >でしたか? 既に貰っていましたっけ?

中嶋氏から次のようなメールをもらいました。 > 一太郎で打ったか、ソニーのワープロで打った > か記憶が定かでありません。

- > データとしてはどこかにあると思いますが、印
- > 刷物があるのでしたら、そちらからOCRで起こ
- > した方が早いと思います。時間があるのでした
- > ら探してみます。

彼のOCRでいっそデータ化してもらったほうが良いのではないでしょうか?佐伯先生の講演録以外の記事もできると思いますので。ただ彼は期限を切られると対応できるか不安がっていましたが。

達田 正 (Tadashi ASADA 宗像 Fukuoka) http://homepage2.nifty.com/~cmons/2005/index_As.html

• · · · · · · · Date: Sun, 28 May 2006 18:24:23 -0400 Subject: Our Friend remembered

20 years ago today our old buddy, Chick Capen, passed away. It seems like just a little while ago.

O····· Date: Mon, 5 June 2006 11:10:09 -0400 Subject: RE: Mars images (April 7th, 2006.)

WOW! Damian, that is good. Parker still observing Mars too? I suspect the old Red Planet is too far into the western horizon now, but one never knows.

O····· Date: Mon, 12 June 2006 18:55:24 -0400 Subject: RE: Mars images (April 24th, 2006 - Final Session)

You "done good" Damian. Hope you do not burn out like me:-) yeah, after decades of Mars my interest has waned, but it still gets into my blood when I first see it in the early morning sky.

Jeff BEITH (ジェフ・ビーシュ FL 美) http://homepage2.nifty.com/~cmons/2005/index_JBs.html

•••••• Date: Mon, 29 May 2006 13:08:46 +0900 Subject: Jupiter 27 May 2006

こんにちは、先週末の土曜日の夜はChris宅で観測しました。ホテルのテラスと比べ遥かに条件が良く、安定した木星像が得られました。

O····· Date: Mon, 12 June 2006 15:32:35 +0900 Subject: Jupiter 10 June 2006

こんにちは、先週、土曜日は久々にChris宅で彼と木星を観測しました。同じC-11でも私のホテルと彼のところではシーイングが全く違い、彼の家は良い環境になっています。気流が良いとUV.メタン像も解像度があがり、メタン像のNNTB付

近には白斑が顕著です。

阿久津 富夫(Tomio AKUTSU セブThe Philippines) http://homepage2.nifty.com/~cmons/2005/index_Ak.html

•····· Date: Thu, 01 June 2006 02:20:32 +0900 Subject: Re: #319発送

本日到着致しました。有り難うございます。 頓挫している荒山峠の報告は、現在纏めに入っています。これにつきましては、『天界』の原稿にする予定です。書いて良い物がどうかしている子ですが、ローエルの語学力で旅をしずからNOTOでは、ローエル本人が理解できないまま文章になってはけっこう無頓がです。特に方角に関してはけっこう無頓がです。特に方やら道筋も前後しているようにあって、どうやら道筋も前後していますね。

※色々な方々が既に検証されていますが、先 駆者の論文を読まないで進めています(^^ゞ

前にもお伝えしましたと思いますが、針ノ木 峠もチェンバレンが行ったことは知っていたけ れど既に快適な有料道路が無くなっている事を 知らなかった訳です。古いガイドブックを見て いたのですが、情報が少ないことに腹をたてて いるだけですね。・・・・・

まぁ、パソコンとソフトの普及で、家に居な がらにして百年も前の旅が出来るのは楽しい。

長 兼 弘 (Kanehiro OSA 野々市 Ishikawa)

•····· Date: Thu, 1 June 2006 09:40:44 +0900 Subject: Re: #319発送

『**火星通信**』クロネコ便、昨日午後4時頃到着 しております。有難うございました。

佐藤 健 (Takeshi (Ken) SATO 廣島 Hiroshima)

•····· Date: Thu, 1 June 2006 23:07:36 +0900 Subject: Re: #319発送

CMO#319クロネコにて31日落手いたしました。 有難うございました。『**火星通信**』も20周年との 事、衷心よりお祝い申し上げます。すぎし日、 佐伯さんから「火星は南さんに継いでもらうの で宜しくナ」と云われたのを思い起こし、今日 の盛況を見まして一入感慨深いものがあります。

『朝日新聞』の佐伯さんの記事については、「新聞の記事というのはあんなもんやで、ナァあんたもそう思わんカ」という佐伯さんの声が聞こえるような気がしたものですから、特に感想も申し上げず失礼しました。

小生2005年の火星は六月から十一月までスケッチで楽しみました。ただ加齢のせいか、三分ぐらいで模様が見えなくなるので、子供のお絵かきみたいになってしまいました。仕方が無いのでビデオを撮りました(10月はHDV)が未整理で、加齢の悲しさをあじわっています。

○·····Date: Fri, 16 June 2006 16:45:23 +0900 Subject: 原稿送付

いよいよ梅雨の候となりましたが、御変わりなく御過ごしのことと存じます。過日は早速ご返信を頂き、有難う御座いました。御言葉に甘え、埋め草にでもと思い、一文共々写真、スケ

ッチなど、同封致しましたのでご笑覧下さい。 ○·····Date: Tue, 20 June 2006 22:55:54 +0900 Subject: 平信

お便り有難う御座いました。小生の原稿を『**火 星通信**』に掲載して頂けるとの事、昔話でまこ とに面映い感じですが、本年は私にとり喜寿の 年なので、大変記念になります。

毎夜の観測、まことにご苦労様に存じます。健康に一層ご留意のほど祈念申し上げます。

松本 達二郎 (Tatsujiro MATSUMOTO 尼崎 Hyogo)

••••• Date: Sat, 3 June 2006 15:33:49 -0400 Subject: Jupiter with shadow transit

Hi all - This image of Jupiter and Europa from last weekend captured in good seeing but poor transparency. We are actually peaking at 33 degrees in elevation here in Buffalo - up more than a degree since April - woo hoo!! cheers -

O · · · · · · · Date: Tue, 20 June 2006 08:25:09 -0400 Subject: 6 inches of Jupiter

Hi all - Here is Jupiter captured (on 27 May 2006) through my 6" refractor at a focal length of about 3.5 meters. Everything gets easier as you decrease the focal length - except the resolution! Seeing quite good, elevation just under 34 degrees - I used an A/P 155 edfs and DMK21BF04 webcam. best wishes -

Alan FRIEDMAN (アラン・フリート マン NY 美) http://www.avertedimagination.com/images/

• · · · · · · Date: Sat, 3 June 2006 15:40:06 -0700 Subject: Jupiter - June 01, 2006

All, It has been reasonably clear for weeks, but finally got an evening with no wind, so got some useable images with the 36cm Cassegrain (equipped with ATK 1HS). Seeing was only fair, but no desert breezes this night. It is a 112 in the desert as I write this. Thanks

Dave MOORE (デーヴェイト・ムーア AZ 美) http://homepage2.nifty.com/~cmons/2005/index_DMr.html

•····· Date: Sat, 3 June 2006 23:36:20 +0800 Subject: Re: #319発送

CMO#319は昨日(六月2日)マンションの玄関の「收信箱」にはいっていました。「收信箱」の日本語は「郵便受」だったようです。今まで一度もCMOの不着がありませんでした。

私は19階建てのマンションの12階に住んでいます。小さな南向きベランダがあって、南天の星を見ることができます。北天は見えません。持っている望遠鏡は7倍35mmのニコン双眼鏡だけです。これは21年前に新宿のヨドバシカメラ本店で買いました。今でもレンズやプリズムに曇りはありません。

ベランダから眺めると、南1kmぐらいのところに50階(?)の新光ビルがあり、東4kmぐらいのところには世界一のノッポビルとされている101階ビルが見えますが、距離が遠いのでいつも霞んでいます。・・・・

蔡さんも無事ですが、三年前の前立腺手術以後、歩行が実に危なっかしくなりました。それでも頑張って旅行しようとしています。今年も

澎湖島に居住している長女の方のところへ半月 滞在の予定で出かけました。澎湖島は台湾海峡 の真ん中にある群島です。

日本では小泉首相が郵便局民営化で頑張って、 議会まで解散させましたが、台湾でもいつの間 にか民営になっています。民営になった後でも 郵局(郵便局とは言わない)の儲金(貯金)業務は 繁昌している様子です。

○·····Date: Wed. 7 June 2006 12:51:36 +0800 Subject: アドレス変更

天文科学教育館 $\underline{\text{http://www.tam.gov.tw/}}$ には「服務信函」というメールアドレスがあるので、そこへ南さんのアドレス変更を申し入れようと思います。

ところで、台湾でコンピュータに使われてい る漢字は、Big-5と呼ばれる一組13000字余りです が、このなかには「阪」はあるけれども「坂」 はないようです。また緑ヶ丘のヶは片仮名です から、Big-5のなかにはありません。日本語の三 ヶ月は中国語で三個月と書き、このときの個の 字は、筆写のときは手数を省くために、竹の字 の右半分のように書く(个)ことが、許容されて います。竹の右半分のような字は、手で字を書 くときにだけ使われ、活字やコンピューターに は使われないようです。个は現在台湾で使われ ている辞典二冊調べてみたところ、有りません。 また、「緑」の字は、日本で戦後JIS漢字を作ると きに作られた形で、戦前の日本は現在の台湾と 同じく「緑」を使っていました。そんなわけで、 南さんの新アドレスは福井縣阪井市三國町緑丘 でがまんするのが得策だとおもうのです。

○····· Date: Thu, 15 June 2006 12:38:30 +0800 Subject: 住所改変の件

邱國光館長あてにe-mailを送りました。邱さんは日本語が読めるかどうかわからないので、台湾のコンピューターで使われるBig-5漢字(大陸で繁体字と言っている文字)を使って、台湾の国語で書きました。これは外省人が持って、現在の国語がその後いくらか変形したもので、現在のに連がある分はとは微妙な違いがある分はBig-5では書けないのですから日本語として、臺灣國語ではあかも知れないことを考慮して、臺灣國語で注意書を付け加えました。どうもやこしい話ですが、南さん意味がわかりますか。

幸いに邱さんからすぐ返事が来て、係りの人に変更させるとのことです。化けたとは言っていません。邱さんは私からe-mailを受け取ったことをたいへん喜んでくれました。喜びが伝わってくるような文章で返事してくれました。王永川さんも、今でも天文館に勤めている様子です。

賴 武揚 (W.-Y LAI 臺北 Taiwan)

• · · · · · · · Date: Mon, 5 June 2006 14:57:28 +0100 Subject: Mars images (April 7th, 2006.)

Hi all, Here are some images from April 7th. The SPH is bright, and the Olympus cloud is seen near the centre of the disk.

25 June 2006 Ser2-0415

http://www.damianpeach.com/temp/m2006 04 07rgb.jpg O·····Date: Mon, 5 June 2006 16:15:48 +0100 Subject: Mars images (April 8th, 2006.)

Hi all, Here are some Mars images from April 8th. Solis Lacus is on view. Olympus cloud is again seen. Also the SPH seems to extend northward as patchy mist over Mare Sirenum.

http://www.damianpeach.com/temp/m2006 04 08rgb.jpg
.....Date: Mon, 5 June 2006 18:01:32 +0100
Subject: Mars images (April 9th, 2006.)

Hi all, Here are some images from April 9th. Similar details to the previous day. The Olympus cloud is still present.

http://www.damianpeach.com/temp/m2006 04 09rgb.jpg
.....Date: Mon, 5 June 2006 20:02:59 +0100
Subject: Mars images (April 10th, 2006.)

Hi all, Here are some images from the 10th. The bright cloud near Olympus Mons is quite prominent again.

http://www.damianpeach.com/temp/m2006_04_10rgb.jpg

O····· Date: Mon, 5 June 2006 23:13:02 +0100 Subject: Mars images (April 11th, 2006.)

Hi all, Here are some images from April 11th. Solis Lacus is well placed. Some interesting clouds and hazes seen in the B images.

http://www.damianpeach.com/temp/m2006 04 11rgb.jpg
O·····Date: Tue, 6 June 2006 19:31:57 +0100
Subject: Mars images (April 13th, 2006.)

Hi all, Here are some images from the 13th. Note the interesting bright cloud over Auroræ Sinus. Also the faint dark patches at Ascræus and Arsia Mons. Arsia looks quite dark and reddish.

http://www.damianpeach.com/temp/m2006 04 13rgb.jpg
.....Date: Wed, 7 June 2006 00:35:25 +0100
Subject: Mars images (April 14th, 2006.)

Hi all, Here are some images from April 14th. The small cloud over Auroræ Sinus remains from the previous day though looks a bit more diffuse.

http://www.damianpeach.com/temp/m2006 04 14rgb.jpg
O....Date: Wed, 7 June 2006 20:01:26 +0100
Subject: Mars images (April 15th, 2006.)

Hi all, Here are some images from the 15th. The Auroræ Sinus cloud is much weaker as the days have passed. http://www.damianpeach.com/temp/m2006_04_15rgb.jpg

O····· Date: Wed, 7 June 2006 23:42:10 +0100 Subject: Mars images (April 16th, 2006.)

Hi all, Here are some images from April 16th. An extensive mist over Tharsis near the terminator. Also mist over Chryse. Argyre is also cloudy.

http://www.damianpeach.com/temp/m2006 04 16rgb.jpg
.....Date: Fri, 9 June 2006 22:58:52 +0100
Subject: Mars images (April 17th, 2006.)

Hi all, Here are some Mars images from April 17th. Arygre is filled with haze merging into the SPH. Note the lighter area across Eos/Protei Regio.

http://www.damianpeach.com/temp/m2006 04 17rgb.jpg
O·····Date: Fri, 9 June 2006 23:55:28 +0100
Subject: Mars images (April 18th, 2006.)

Hi all, Here are some images from April 18th. Note the thick mist over Tharsis/Tempe near the terminator. Sinus Meridiani coming into view.

http://www.damianpeach.com/temp/m2006 04 18rgb.jpg

O····· Date: Sun, 11 June 2006 13:05:23 +0100 Subject: Mars images (April 19th, 2006.)

Hi all, Here are images from April 19th. This marked a notable achievment for me - 1 whole year of Mars observation during this 05-06 apparition (i began on April 19th, 2005.) Note the thick cloud over Tempe is again present. Achillis Pons looks bright.

http://www.damianpeach.com/temp/m2006 04 19rgb.jpg http://www.damianpeach.com/temp/m2006 04 19bw.jpg O·····Date: Mon, 12 June 2006 16:19:45 +0100 Subject: Mars images (April 20th, 2006.)

Hi all, Here are some images from April 20th. The bright cloud over Tempe remains, though is weaker on this day than the previous two days.

http://www.damianpeach.com/temp/m2006 04 20rgb.jpg

.....Date: Mon, 12 June 2006 17:19:49 +0100
Subject: Mars images (April 21st, 2006.)

Hi all, Some images from April 21st. Weak clouds over Tempe, Chryse and Argyre. Hellas is hazy on the limb. http://www.damianpeach.com/temp/m2006 04 21rgb.jpg http://www.damianpeach.com/temp/m2006 04 21rgb.jpg https://www.damianpeach.com/temp/m2006 04 21rgb.jpg ht

Hi all, Here are some images from April 22nd. This is probably the best session so far with very clear views for δ=5". Some weak haze over Chryse. Edom looks bright. http://www.damianpeach.com/temp/m2006 04 22rgb.jpg O·····Date: Mon, 12 June 2006 22:36:31 +0100 Subject: Mars images (April 23rd, 2006.)

Hi all, Here are some images from April 23rd. Syrtis Major is just into view.

http://www.damianpeach.com/temp/m2006 04 24rgb.jpg
O·····Date: Mon, 12 June 2006 23:46:38 +0100
Subject: Mars images (April 24th, 2006 - Final Session)

Hi all, Here is my 135th and final session of Mars images for the 2005/6 apparition. Its been a fantastic and productive apparition for me and one that i will look back on with many good memories, with many nights of good conditions. This last session at Barbados under excellent seeing nicely shows the Sinus Meridiani hemisphere and Syrtis major.

http://www.damianpeach.com/temp/m2006 04 23rgb.jpg

I look forward to both contributing and seeing all your images in the coming 2007 apparition of the red Planet. Best Wishes

• · · · · · · Date: Sat, 10 June 2006 21:17:52 -0400 Subject: Emailing: DSC00075 (2)

Dear Masatsugu, Thank you for sending the package of CMOs, which arrived about a week ago. Thank you also for the latest edition which arrived today. Having done approximately nothing for the CMO, unless you count the introduction to Bill Dickinson, I appreciate being remembered anyway, in spite of my having given in to my bad eye. The cloudiness of my vision has only gotten worse.

On a happier note, remembering that you had cats, I am sending the attached photo. It shows the newest member

of our family, Tyler's cat, named *Luna*. A Jellico, tuxedo cat, she is strictly an indoor pet, so she looks for any way to gaze outside, hence her perch in the window. Tyler picked out her name. Thank you again for the CMOs. Best wishes,

Sam WHITBY (サム・ホイットヒーィ VA 美)

• · · · · · · · Date: Tue, 13 June 2006 13:32:36 +0200 Subject: IR-Jupiter with 6"

Dear Masatsugu, after a long period of bad weather now I could take some pictures of jupiter. I tried something new with my 6" Newton. I used an b/w videomodul (Sony ex-view chip) with <800 nm IR Filter... Here you can see one of the results: best wishes

O····· Date: Sat, 17 June 2006 03:44:06 +0200 Subject: Re: IR-Jupiter with 6"

Dear Masatsugu,

I love all the planets and so I always try to get some pictures...

- > I asked Professor Tadashi ASADA to give us his comments on your
- >image: Tadashi ASADA is our CMO member since 1986 and he is an expert on >Jupiter who took a Ph D degree from Kyoto University by a study of the >Jovian atmosphere.

ups, what a surprise!

- > He comments that your IR image is quite excellent for the use of a
- > 15 cm reflector:

We had good seeing conditions and I took the pictures in 2 Minutes, so I have no unsharpness from Planet rotation: The IR Filter slow dawn the seeing motion and I realy was surprised, what a clear picture I got. So I decided, to take 4 days long pictures every 10 minutes to create my own Jovian Map. I am still proceding this 52 avi Files...

This map will help me, to compare pictures from different weeks... When I am ready with proceeding, I will also create a Planet rotation...

- > He adds that since the IR light reveals fine details, it is
- > recommendable to chase the change of the markings during a
- > considerable time lapse. For example, he assures you it would be
- > interesting if you could chase continuously the motion of the two

- > dark spots seen on your image inside the SEBs (along the same
- > latitude as the GRS).

I will do this and show you the results...

My first Webcam-Picture from Jupiter this year showd the RS Jr clearly. And since March 2006 I always took pictures with my Webcam. Now I will take Pictures with the Videomodul, they show more...

Two weeks ago I was on a Workshop of Planetary Observers in **Violau**/Germany. There I got the Idea to try Jupiter with IR-Filter... I am Sorry, I cannot work now with colour Filters until next year. I have to buy them and also a Filter weel but in the moment I have no money (I am unemployed since 4 years)...

- > This email shall be followed by several recent Jovian images taken by
- > Christophe PELLIER and David TYLER which will be instructive to you.

yes, I got them. They are great and inspiring! best wishes

O····· Date: Sat, 17 June 2006 03:57:11 +0200 Subject: Jupiter on 12.06.06 with Red Jr.

Dear Masatsugu, here an other Videopicture from Jupiter showing GRS and Red Jr. best wishes

O····· Date: Wed, 21 June 2006 01:52:31 +0200 Subject: Re: FW: Some filters transmission measured. Dear Masatsugu,

> http://astrosurf.com/spectrohelio/filtres.htm

this website is very interesting. I also know a website from a german amateur with several filter curves:

http://www.astroamateur.de/filter/

and good news:

I got a filter weel from a friend and several filters, now I am testing are they "homofocal" and what about their transmission... I hope, soon I can take pictures by wavelength between 400 nm and 1000 nm!!! And then I hope to catch some Venus structures too :-))...Best wishes

Silvia KOWOLLIK (シルヴィア・コヴォッリク Ludwigsburg 徳) http://homepage2.nifty.com/~cmons/2005/index_SKw.html



シー・エム・オー・フクイ

■中島 孝 *Ni*

★今回は、**松本 達二郎**様(379)よりご寄付を頂きました。有難うございました。不一。

★ Kasei-Tsûshîn CMO (Home Page: http://www.mars.dti.ne.jp/~cmo/oaa_mars.html)

『火星通信』<mark>#320</mark> (25 June 2006)

編集: 南 政 次(Mn)、村上 昌己(Mk)、中 島 孝(Nj)

西田 昭徳(Ns)、常間地 ひとみ(Ts)



Akinori NISHITA and Hitomi TSUNEMACHI

Edited by: Masatsugu MINAMI, Masami MURAKAMI, Takashi NAKAJIMA,

Published by/for:東亞天文学会 OAA 火星課 Mars Section

☆ Any e-mail to CMO is acknowledged if addressed to

cmo@mars.dti.ne.jp (Masami MURAKAMI at Fujisawa) vzv03210@nifty.com (Masatsugu MINAMI at Mikuni-Sakai)