Volume 8, Issue 10
SOLAR ECLIPSE NEWSLETTER

October 2003

SOLAR ECLIPSE NEWSLETTER

The sole Newsletter dedicated to Solar Eclipses

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Dear All,

Autumn started in the meanwhile. Summer is past. We are getting closer to the end of the year. But of course first the total solar eclipse of 23 November on the South Pole. Quite a few organised tours are having or a plane or a boat to the path. Hopefully they all will see the event successful. Please send in your accounts and pictures. The SENL will publish. As for Jo and myself, we will not go this time. Financial it is a bit too much. Derryl Barr, our good friend wrote: “Only one thing is missing from this eclipse: Patrick Poitevin. Is it really an "eclipse" if Patrick isn't somewhere within the shadow's path? Perhaps we should call it an Eclise (obviously the "P" is missing).”

Fred Espenak and Pat Totten visited our new home in Tissington (Derbyshire, UK). Although it was a rather short visit, we enjoyed the time together. We made some plans for the partial eclipse of 14 October next year. Sunset eclipse in Hawaii …

In the meanwhile the registrations for the International Solar Eclipse Conference SEC2004 started. We are quite curious how many people will register. The limitation for the auditorium is 300 attendees, we that is far beyond our dreams. The program is completely full and there are speakers lined up on the waiting list. We keep you posted on this event of course.

We also learned about the illness of our good friend Professor Dr. Barrie Jones of the Open University of Milton Keynes. We wish him of course all the best and hope he will be better soon.

This Newsletter is rather thin. The mailing list is on low profile. Nevertheless the number of subscribers is still high. We are still over 315 subscribers, spread out over 40 different countries. We expect again an extra impulse of mailing for the transit of Venus and after the TSE of 2005 and 2006.

Enjoy this issue and … please keep those solar eclipse related messages coming …

Cheers, Joanne and Patrick

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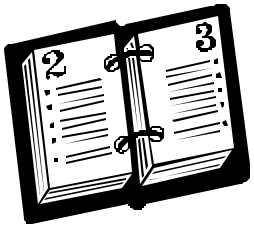

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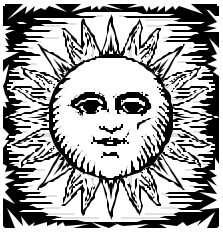

Dear All,

Please find herewith the solar eclipse calendar (SECalendar) for October. If you have any additional information, queries or remarks, please drop us a mail.

For the whole Solar Eclipse Calendar, see our Solar Eclipse WebPages at

http://solareclipsewebpages.users.btopenworld.com

October 02, 1853 Death of Dominique Francois Jean Arago (1786-1853), French astronomer. Studied solar eclipse of July 08, 1842 and concluded it exist of gas. (ref. DD 9/98, Rc 1999)

October 02, 1938 Minor Planet (2237) Melnikov 1938 TB. Discovered 1938 October 2 by G. N. Neujmin at Simeis. Named in memory of Oleg Aleksandrovich Melnikov (1912-1982), on the staff of the Pulkovo Observatory since 1933 and a professor at Leningrad University since 1947. His scientific research was centered on the study of the Sun, stellar astronomy and interstellar matter by spectroscopic methods. He was also concerned with astronomical instruments and served as president of IAU Commission 9. (M 8912) Obituaries published in Astron. Zh., Tom 59, p. 1036-1037 (1982); Astrofizika, Tom 18, Vyp. 3, p. 498-500 (1982); Zemlya Vselennaya, No. 1, p. 46-47 (1983). Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

October 02, 1959 At the New England eclipse of October 2, 1959, Dr. E. H. Land, inventor of the Polaroid Land camera, had accompanied Harvard astronomers on a DC-6 plane that flew above the heavy overcast. On this flight, Dr. Land and his colleagues secured several excellent photographs of the corona, using Polaroid cameras with telephoto lenses. (ref. S&T 4/1961p193).

October 02, 1978 Partial Solar Eclipse. A small scientific group under the guidance of R. Gulyaev had used the Partial Eclipse for cinematographic observation of occultation of individual chromosphere spicules by the Moon. Observes have been carried out using the large Lyot-type coronagraph (lens diameter is 53 cm, equivalent focal length is 18 meters) at the Tien Shan coronal station near Alma-Ata. The brightness distributions across spicules were first derived. (ref. personal mail RG)

October 03, 1986 The shortest possible duration of a total solar eclips may be a fraction of a second. The solar eclipse of October 3, 1986 was annular along most of the central track, but was total for about a tenth of a second over a restricted area in the North Atlantic Ocean. Eight observers saw this eclipse total from a plane. Some one did <see> this eclipse and was NOT on that plane. Russel D. Eberst <observed> the eclipse around Edinburgh in Scotland. He wrote: The evening of October 3, 1986 was quite clear and so observations of artificial satelites could be done. When the first satelite of that evening was observed, 1985-82A or Kosmos 1682, it seemed to be fainter in magnitude then expected. In the first instance, it was considered as the position of the satelite, in its long axis directed to me. But when the second and the following artificial satelites were appeared, the all looked unusual faint. They all looked if they would enter the shadow of the earth and where 1 1/2 magnitude less then expected. By a sudden, I realised their was a solar eclipse partial in the United Kingdom, and the satelites whom still <saw> the sun, would experience a partial solar eclipse. Calculating the magnitude corresponding to the sun, it would be about a 75 procent eclipse. Parently, I saw an eclipse, which was theoreticly not visible in Great Britain. ref. Zenit Feb 1987.

October 04, 0590 Quote from Historia Francorum by Gregory of Tours (ca 539 ED - ca 594), bishop of Tours: ... There was an Earthquake on the eighteenth day before the Kalends (note June 14) of the fifth month, being the fourth day (of the week), early in the morning when dawn was coming. The sun was eclipsed in the middle of the eight month and its light was so diminished that it scarely gave as much light as the horns of the moon on the fifth day. ... The eight month is October (Octo is the Latin for eight) but it can be even the eclipse of 13 October AD 581 which was about the same magnitude (0.66) at Tours. (ref. ENB 9/1998)

October 04, 1582 Switch over to the Gregorian calendar and cut 10 days from the calendar. Gregory's Decree promulgating the Reform directed that the day 4 Oct., 1582, should be followed by the day 15 Oct., 1582. Not all the Catholic countries, and not all the

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Protestant ones, switched precisely at that time. Ref. PP/TS-9/97

October 04, 1937 Birth of Eli Maor, auto of Venus in Transit. Chase solar eclipses. He was 20 years old when Sputnik I was launched on his birthday. (ref. Personal correspondence Eli Maor)

October 05, 1882 Giorgio Abetti, Italian astro physicist who is best known for his studies of the Sun, born in Padua 5 October 1882. He participated in numerous expeditions to observe eclipses of the sun and led one such expedition to Siberia to observe the TSE of 19 June 1936. Ref. The Bibliographical Dictionary of Scientists, edited by David Abbott, 1994.

October 05, 1931 Minor Planet 2359 Debehogne 1931 TV. Minor Planet discovered 1931, October 5 by K. Reinmuth at Heidelberg. Named in honor of Henri Debehogne, astronomer at the Royal Observatory in Uccle. Noted for his astrometric work on comets and minor planets. He also did some experiments on astrometry at eclipses.

October 06, 1241 "In this same year, namely 1241 from the Incarnation, on the 6th day from the beginning of October, on Sunday, the Sun was again eclipsed and all the air was darkened. There was gresat terror among everyone, just as in that eclipse which happened three years previously, as we have attested above." Refers to a solar eclipse in Split of 6 October 1241. From: Thomae Historia Pontificum Salonitanorum et Spalatinorum. Quoted in Historical Eclipses and Earth's Rotation, by F Richard Stephenson, Cambridge University Press, 1997, page 401.

October 06, 1990 Launch of Ulysses (ESA) with STS-41 Discovery. Orbit around Jupiter to research sunpoles. Initially called International Solar Polar Mission (ISPM). There were 5 austronauts in STS-41 and the flight took only 4 days. (ref. DD 10/98)

October 07, 2135 Next total solar eclipse in the Netherlands. Totality is in the north part of Holland. Utrecht will have a magnitude of 0.965. The eclipse of May 25, 2142 will be total in the Netherlands, south of the line Rotterdam-Zwolle, and including a large part of Belgium.

October 08, 1953 Minor Planet (2528) Mohler 1953 TF1. Discovered 1953 October 8 at the Goethe Link Observatory at Brooklyn, Indiana. Named in memory of Orren C. Mohler (1908-1985), solar astronomer, director of the McMath-Hulbert Observatory (1962-1979), chairman of the department of astronomy at the University of Michigan (1962-1970), member of the board of directors of the Association of Universities for Research in Astronomy (1962-1974). Mohler pioneered the exploration of the infrared solar spectrum with the lead sulphide infrared detector. His development of the vacuum spectrograph at the McMath-Hulbert Observatory led to the discovery of the "wiggly" solar spectral lines and to an understanding of the role of turbulence in the solar structure of the solar photosphere. (M 10546) Name proposed by F. K. Edmondson. Citation written by W. A. Hiltner. Obituary published in Phys. Today, Vol. 39, No. 4, p. 74 (1986). Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

October 09, -0424 (425 BC) "And the moon in haste eclipsed her, and the Sun in anger swore He would curl his wick within him and give light to you no more." Said to refer to a lunar eclipse of 425 BC, and an annular solar eclipse of 424 BC. Aristophanese (Greek, c450-385 BC) Chorus of Clouds (423BC) Ref. Eclipse Quotations Espenak's Webpages.

October 09, -0424 (425 BC) "On the first Mercury rises.On the third the Equinox.Night of the 15th 40 minutes after sunset, an eclipse of the moon begins. On the 28th occurs an eclipse of the sun." Inscriptions on a clay tablet, part of an ancient Chaldean astronomical almanac. The dates quoted are Chaldean. Some sources date these two eclipses to 9 (4) October 425 BC and 23 (18) October 425 BC. Ref. Eclipse Quotations Espenak's Webpages.

October 09, 1873 Birth of Karl Schwarzschild, German astronomer. Explained the fading at the edge of the sun in 1906. Died with health weakness due to World War 1. (ref. DD 10/98)

October 10, 1962 Mariner 2 (US) discovered solar wind. Was on its way to Venus. (ref. DD 10/98)

October 11, 1937 Minor Planet (3036) Krat 1937 TO. Discovered 1937 October 11 by G. N. Neujmin at Simeis. Named in memory of Vladimir Alekseevich Krat (1911-1983), corresponding member of the U.S.S.R. Academy of Sciences, a staff member of the Pulkovo Observatory and from 1964 to 1979 its director. His main contributions to astronomy involved solar physics and chromos-

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pheric structure, figures of equilibrium of close binaries, classification of eclipsing variables and cosmogony. He initiated and actively participated in the development of the first Soviet stratospheric balloon observatory. (M 10547) Obituaries published in Zemlya Vselennaya, No. 6, p. 33-34 (1983); Sol. Phys., Vol. 89, No. 1, p. 1-2 (1983); Izv. Glav. Astron. Obs. Pulkovo, Astrometr. Astrofiz., No. 202, p. 3-5 (1984). Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

October 11, 1937 Minor planet (4723) Wolfgangmattig 1937 TB. Discovered 1937 October 11 by K. Reinmuth at Heidelberg. Named in honor of Wolfgang Mattig (1927-), German solar physicist and cosmologist at the Freiburg Kiepenheuer-Institut, on the occasion of his retirement. In his thesis, Mattig worked on relativistic cosmology and, in 1957, he discovered an analytical relation between the redshift and the apparent magnitude of galaxies. He took an active part in the development of the Teide Observatory, Canary Islands. Since 1980, Mattig has been the German representative in the Solar Physics Commission of COSPAR. (M 22503) Name proposed and citation prepared by J. Schubart, endorsed by G. Klare and L. D. Schmadel. Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

October 12, 1605 "Wendelin at Forcalquier in Provence saw the whole Sun hidden apart from a very narrow thread towards the north, which ascribed to the illuminated atmosphere." Refers to a solar eclipse at Forcalquier, France, of 12 October 1605. From: Riccioli. Quoted in Historical Eclipses and Earth's Rotation, by F Richard Stephenson, Cambridge University Press, 1997, page 421. Wendelin (also Vendelinus - on the moon, or official name Wendelen Govaart) was born in Herk-de-Stad, Belgium, the same town as were PP was born. In 1980 PP co-organized the Year of Wendelen in Herk-de-stad to celebrate his 400 st birthday.

October 12, 1605 This occurrence of saros 137 was observable from London with a m.901 shortly after noon. Preceding this by 15 days, on the evening of Sep 27 a Partial Lunar Eclipse was also observable from London. It is these two Eclipses that most authorities believe Shakespeare refers to in Act I, scene ii, lines 112-113 of King Lear when the Earl of Gloucester despairing of the coming disorder attributes it to "these late Eclipse in the Sun and Moon portend no good to us.." In the same scene Edmund, the bastard son of Gloucester, discusses these eclipses saying "My father compounded with my mother under the Dragon's Tail and my nativity was under Ursa Major, so that it follows I am rough and lecherous. Fut I should have been that I am, had the maidenliest star of the Firmament twinkled on my bastardising." The solar eclipse of 12th October fell within one degree of longitude of Spica, the brightest star in the constellation of the Virgin and hence 'the maidenliest star in the firmament'. Ref. PN. 10/99.

October 12, 1983 Minor Planet (5424) Covington 1983 TN1. Discovered 1983 October 12 by E. Bowell at Anderson Mesa. Named in honor of Arthur Covington (1913-), Canada's first radio astronomer. His discovery, during the partial solar eclipse of 1946 Nov. 23, that microwave emission was far more intense from the vicinity of sunspots than elsewhere on the sun, was the first indicator that magnetic fields were important in the generation of nonthermal cosmic radio emission. In 1947 Covington inaugurated at the National Research Council of Canada daily measurements of the solar microwave flux at 10.7 cm. (M 23541) Name suggested and citation prepared by C. J. Cunningham. Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

October 12, 1983 Minor planet (8472) Tarroni 1983 TC. Discovered 1983 October 12 at the Osservatorio San Vittore at Bologna. Named in memory of the Italian amateur astronomer Gino Tarroni (1958-1986), a member of the Sezione Astrofili dell'Università Popolare Sestrese. A fine observer of the sun, he was in charge of the solar section of the Unione Astrofili Italiani, and he served as secretary of the Unione for the four years preceding his tragic death in a road accident. Tarroni also had interests in speleology and mountain climbing. (M 34627) Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

October 14, 1688 John Evelyn, a founder member of the Royal Society, made the following entry in his celebrated diary for 14th October (Old Style) 1688: " The Kings Birth-day, no Gunns from the Tower, as usualy: The sunn Eclips'd at its rising: This day signal for the Victory of William the Conqueror against Herold neere Battel in Sussex: The wind (which has hitherto ben West) all this day East, wonderfull expectation of the Dutch fleete." It's interesting that Evelyn should note this eclipse, for it wasn't even partial at London. It wasn't good news for King James upon whose birthday it fell: within the month another William had landed in England and by the end of the year James had fled. The invader was crowned William III early next year. Ref. PN 10/99

October 14, 1788 Sir Edward Sabine (1788-1883). Mentioned a correlation between sunspots and magnetic disturb on earth. (Ref. Rc 1999).

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October 14, 1934 Death of Sir Arthur Schuster (1851-1934). A comet is discovered and photographed by Sir Arthur Schuster (1851-1934), Germany/UK, during an eclipse in Egypt: first time a comet discovered in this way has been photographed. The Total Solar Eclipse had been observed by Sir Joseph Norman Lockyer (1836-1920), Ranard and Schuster from England, Tacchini from Italy, Trépied, Thollon and Puiseux from France. Observation from Sohag at the Nile. (Ref. Rc 1999)

October 14, 1979 Minor planet (4316) Babinkova 1979 TZ1. Discovered 1979 October 14 by N. S. Chernykh at Nauchnyj. Named in honor of Artur Nikolaevich Babin (1936-) and Aleksandra Nikolaevna Koval', husband and wife, solar astrophysicists at the Crimean Astrophysical Observatory for more than 35 years, known for their research on the fine structure of active solar features. (M 23351) Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

October 14, 2000 The first International Solar Eclipse Conference (SEC2000) in Elzenveld Antwerp Belgium organized by Patrick Poitevin and Joanne Edmonds (14 -15.10.00). A Crossroad on Physics and Eclipses of the Sun. Speakers in chronological order: B. Foing, S. Koutchmy, E. Verwichte, F. Clette, B. Jones, P. Maley, G. Meiser, J. Anderson, P. Kalebwe, J.C. Casado, E. Hiei, O. Staiger, D. Makepiece, J.M. Lariviere, V. Rusin, D. Berghmans, R. Chou, J. Hopper, D. Fischer, F. Espenak, J. Pasachoff, F. Podmore, E. Krupp, J. Steele, F. Verbelen, R. F. Stephenson and P. Tiedt.

October 15, 1582 Switch over to the Gregorian calendar and cut 10 days from the calendar. Gregory's Decree promulgating the Reform directed that the day 4 Oct., 1582, should be followed by the day 15 Oct., 1582. Not all the Catholic countries, and not all the Protestant ones, switched precisely at that time. PP/TS-9/97

October 16, 1977 Minor planet 3798 de Jager 2402 T-3. Minor Planet discovered 1977 October 16 by I. van Houten-Groeneveld at Palomar. Named in honor of Cornelis de Jager, Dutch astronomer. His research concentrated on solar physics. He also attended different eclipse expeditions. He promoted international scientific collaboration, in particular with the Soviet Union. (M 18138) Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

October 17, 1906 Minor planet 1781 Van Biesbroeck A906 VB. Minor Planet discovered 1906 October 17 by A. Kopff at Heidelberg. Named for George Van Biesbroeck (1880-1974) in recognition of, and appreciation for, many years of devoted services to astronomy through observations and discoveries of minor planets, comets, satellites, and double stars. He also attended solar eclipse expeditions.

October 18, 1967 There was an eclipse of the sun by the Earth on October 18, 1967 and Surveyor V was functioning then on the moon. Unfortunately, the mirror could not be tilted to see the Earth, although temperature measurements were obtained as they did with Surveyor III, but more successful that time. (ref. S, LE O 1943-1993, FG)

October 19, 1965 Carrington rotation number 1500 starts. Begin 9 November 1853. (ref. DD 10/98)

October 20, 0301 On October 20 a spot was seen on the sun; observed from China. Ref BAA 6/00

October 21, 1982 Minor planet (3061) Cook 1982 UB1. Discovered 1982 October 21 by E. Bowell at Anderson Mesa. Named for James Cook (1728-1779), British circumnavigator and one of the first scientific navigators. He observed the solar eclipse of 1766 Aug. 5 from Newfoundland and in 1769 measured the transit of Venus from Tahiti. In 1761 he assisted the Astronomer Royal, Nevil Maskelyne, in tests of John Harrison's fourth marine chronometer as a means of determining longitude at sea. (M 10846) Name proposed by the discoverer following a suggestion by B. Hetherington. Cook is also honored by a lunar crater. Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

October 21, 3046 Next total solar eclipse at the location of Cincinnati Observatory, Ohio. The last total solar eclipse took place on 2 January 1395. Though, there are in the meantime near-misses on 7 August 1869 (mag 0.993) and on 8 April 2024 (mag 0.996). ref. Private JM 9/99.

October 22, 1885 Prof. Theodor Ritter Oppolzer (1841-1886), professor in astronomy in Vienna and author of the monumental Canon der Finsternisse started his work. The canon was published spring 1887.

October 22, 1977 Launch of ISEE 1 and ISEE 2 (US). Research of solarwind, magneto sphere and magneto tail. Ref. DD 10/99.

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October 22, 1911 The only region north of latitude 15 degrees north with an eclipseless period longer than 16 years is in China and Tibet, where therse was no solar eclipse between 22 October 1911 and 12 November 1928. A time lap of 17.06 years. Ref. More Mathematical Astronomical Morsels by Jean Meeus; Willmann-Bell, 2002.

October 22, 1994 Birth of the Solar Eclipse Section, VVS Belgium (Werkgroep Zonsverduisteringen). The date this decision was made by the VVS board, the founder and proposer Patrick Poitevin was in Bolivia for the Total Solar Eclipse of November 3, 1994.

October 22, -2135 (2136 BC) The first record of a solar eclipse was made in China during the reign of the Emperor Chung K'ang. The Chinese considered this event to be an attack on the Sun by a dragon, and they endeavored to scare the dragon away by making as much noise as possible. It is not sure if this description was a prediction of an observation.

October 23, 1976 A friend of Eric Jones (England) was invited for a wedding on October 23, 1976 in Melbourne. The Bride and Groom where not interested in astronomy. You can imagine their reaction as they left the Church after the ceremony and the sun was blotted out. I suppose it must have made the wedding photographs difficult to take, and I am just trying to imagine a posed picture of bride and bridesmaid all with solar filters...

October 23, 1998 SOHO again full operational after contact loss on June 24, 1998. Ref. DD 10/99.

October 24, -0443 (444 BC) "Duke Li (of the Chinese dynasty), 34th year. The Sun was eclipsed. It became dark in the daytime and stars were seen." Refers to an annular solar eclipse of 24 October 444 BC. From: Shih-chi (Chinese). Quoted in Historical Eclipses and Earth's Rotation, by F Richard Stephenson, Cambridge University Press, 1997, page 227. Stephenson points out that as only 93 percent of the Sun was obscured, the allusion to darkness must be exaggerated, and that this eclipse is the earliest in any civilisation for which the stars is reliably reported. Venus and Mercury were well placed for visibility.

October 24, 1667 Death of Govaart (Godfried) Wendelen, Belgian astronomer. Observed eclipses and calculated solar parallax. Known as Vendelinus (Mooncrater) and born in Herk-de-Stad, Belgium in 1580 which is also the birth city of Patrick Poitevin.

October 24, 1995 While many eclipse chasers went to India, Thailand, Vietnam, etc., Patrick Poitevin went to the far east small island and observed totality from Angges, Sangihe Talaud (Sulawesi) with 1m54s totality.

October 25, 1789 Birth of Samuel Heinrich Schwabe (1789-1875), German chemist and amateur astronomer. Chased for inter Mercury planet. Discovered in 1843 sunspot cycle. (ref. DD 10/98, Rc 1999)

October 25, 1975 Satellite HEOS 1 (US) stops. Studied seven years long the Sun and relation to the earth (ref. DD 10/98)

October 26, 1147 "On Sunday, the 7th day before the Kalends of November (Oct 26), a solar eclipse occurred at the 3rd hour and persisted until after the 6th . This eclipse stood fixed and motionless for a whole hour, as noted on the 'clock' . . . During this hour a circle of different colours and spinning rapidly was said to be in the way." Refers to an annular eclipse in Brauweiler, Germany, of 26 October 1147. From: Annales Brunwilarensis. Quoted in Historical Eclipses and Earth's Rotation, by F Richard Stephenson, Cambridge University Press, 1997, page 394.

October 26, 1841 Birth of Prof. Theodor Ritter Oppolzer (1841-1886), professor in astronomy in Vienna and author of the monumental "Canon der Finsternisse".

October 26, 1970 (12 Feb 1893 - 26 Oct 1970) 1951 Marcel Minnaert studied biology at the University of Ghent in his native Belgium and physics at the University of Leiden in the Netherlands. Minnaert published a collection of poems related to astronomy and popular books on light and color and physics of the open air.

October 26, 1992 Minor planet (6337) Shiota 1992 UC4. Discovered 1992 October 26 by K. Endate and K. Watanabe at Kitami. Named in honor of Kazuo Shiota (1949-), a Japanese amateur astronomer who developed image-processing technology for astronomical photographs. He is also interested in total solar eclipses and developed a special filter for use in observing these eclipses. (M 29146) Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

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October 26, 1992 Minor planet (6338) Isaosato 1992 UO4. Discovered 1992 October 26 by K. Endate and K. Watanabe at Kitami. Named in honor of Isao Sato (1963-), Japanese expert on occultations. He succeeded in making the first photographic observation in Japan of an occultation by a minor planet, that of Geminorum by (381) Myrrha on 1991 Jan. 13. He promotes observations of occultations by minor planets in Japan generally and made the first use of a color video to obtain flash spectra at the northern and southern limits of total solar eclipses. (M 27462; M 27477) Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

October 27, 1728 Birth of James Cook (1728-1779), British circumnavigator and one of the first scientific navigators. He observed the Solar Eclipse of 1766 August 5 from Newfoundland and in 1769 measured the transit of Venus from Tahiti. (Ref. Rc 1999)

October 27, 1780 The first official American total eclipse expedition when a party went to Penobscot, Maine. It was led by Samuel Williams of Harvard, and was given 'free passage' by the British forces, but unfortunately a mistake in the calculations meant that the party remained outside the track of totality. He did not see the corona but only an effect what we call today Baily's beads.

October 27, 1780 Saros 120. Samuèl Williams, prof. Harvard led expedition to Penobscot Bay, Maine (during Revolutionary War! - and Bay was behind enemy lines). British granted the party safe passage.

October 28, 1992 (6459) Hidesan 1992 UY5. Discovered 1992 October 28 by K. Endate and K. Watanabe at Kitami. Named in honor of Hideo Sato (1940-), staff member of the National Astronomical Observatory (formerly Tokyo Astronomical Observatory) who first worked on the solar corona, later moving to the Sky Patrol Section as a night observer. His life's work is the photometry of close binaries. He is also one of the leading members of the observatory's baseball team. (M 30099) Name proposed by the second discoverer following a suggestion by K. Tomita. Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

October 29, 0840 The only emperor to have died of fright because of an eclipse was Louis of Bavaria, in 840. His three sons then proceeded to indulge in a ruinous war over succession.

October 29, 0878 ". . . the sun darkened for one hour of the day." This solar eclipse is recorded under the entries for the AD 879, but is probably the one on 29 October AD 878. From: The Anglo Saxon Chronicles translated and collated by Anne Savage, CLB Publishing Ltd. Ref FE 01/01

October 29, 0878 "The Sun was eclipsed at 1 hour of the day." Refers to the total solar eclipse of 29 October AD 878. From: The Anglo Saxon Chronicles. Quoted in UK Solar Eclipses from Year 1 by Williams.

October 29, 0878 Total solar eclipse of which London was just in the path of totality. King Alfred wrote The sun was eclipsed the first hour of the day. Also Tycho Brahe mentioned in his Historia Coelestis to the Annales Fuldenses, of which the sun was eclipses after the 9th hour and the stars were visible. Ref. St LK 06/99.

October 29, 1837 Birth of John Herschel. During the eclipse of 18 August 1868 from the Red Sea through India to Malaysia and New Guinea, prominences are first studied with spectroscopes and shown to be composed primarily of hydrogen by James Francis Tennant (1829-1915), UK, John Herschel (1837-1921, UK - son of Sir John Frederick William Herschel 1792-1871, grandson of Sir William Herschel 1738-1822), Pierre Jules Cesar Janssen (1824-1907, France), George Rayet (France), and Norman Pogson (UK/India). (Ref Rc 1999)

October 29, 1951 Minor Planet (1953) Rupertwildt 1951 UK. Discovered 1951 October 29 at the Goethe Link Observatory at Brooklyn, Indiana. Named in memory of Rupert Wildt (1905-1976), who was awarded the Eddington Medal by the Royal Astronomical Society in 1966 for his discovery in 1939 that the negative hydrogen ion is an important contributor to the opacity of the solar atmosphere. He identified the absorption bands in the red part of the spectra of the outer planets as due to methane and ammonia, and he made pioneer calculations of models for the interiors of the giant planets. A professor in Yale University's Department of Astronomy for many years, he was Yale's first scientific representative on the Board of Directors of the Association of Universities for Research in Astronomy and served two terms as AURA president and chairman of the board (1965-1968, 1971-1974). (M 6954) Obituaries published in Q.J.R. Astron. Soc., Vol. 17, p. 522 (1976); Strolling Astron., Vol. 26, p. 46 (1976); Phys. Today, Vol. 29,

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SECalendar

No. 4, p. 89 (1976); Sky Telesc., Vol. 51, p. 156 (1976); Icarus, Vol. 30, p. 441-445 (1977). Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

October 31, 1920 Minor planet (944) Hidalgo Discovered 1920 October 31 by W. Baade at Bergedorf. German astronomers observed the total solar eclipse 1923 September 10 in Mexico. After the eclipse they had an audience with the president of Mexico and asked permission to call this planet after Miguel Hidalgo y Costilla (1753-1811) who proclaimed the Mexican independence in 1810. R. Schorr wrote: "Zur Erinnerung an die Deutsche Sonnenfinster-Expedition nach Mexiko im Sommer 1923 und die ihr durch die mexikanische Regierung erwiesene gastliche Aufnahme ist unter der Zustimmung des Staatspräsidenten Don Alvaro Obregón der ... am Bergedorfer Spiegelteleskop entdeckte, durch seine Bahn besonders interessante Planet ... nach dem mexikanischen Nationalhelden Hidalgo benannt worden." (AN 221, 159 (1924)) Dictionary of Minor Planet Names - ISBN 3-540-14814-0 - Copyright © 1999 by Springer-Verlag Berlin Heidelberg

October 31, 1999 Jack Evans, first Director of the Sacramento Peak Observatory, from 1952 to 1976, and his wife, Betty, died on October 31st. He was 90; she was 89. With their health becoming more fragile and uncertain, they had agreed to end their lives rather than become a burden to their children and grandchildren. Jack left a note that they wanted to make an end when they still were gloriously happy. Starting from a bare site in the Lincoln National Forest, Jack collected an outstanding scientific staff, and with their help, built Sac Peak into the world's premier solar observatory. Ref. JB 11/99

and ... keep those solar eclipse related messages coming ...

Best regards, Patrick and Joanne

solareclipsewebpagesSENL200310btopenworld.com
http://solareclipsewebpages.users.btopenworld.com

Correctie op SE-calender for september

From: Wil Carton To: solareclipsewebpagesSENL200310btopenworld.com Date: Wed, 03 Sep 2003 21:14:29

Patrick, Ik lees in de SEML eclipse-calender van september: September 02, 2817 Next total solar eclipse in Amsterdam at sun altitude of 14 degrees. Annular eclipses in Amsterdam will be on October 2, 2350, March 26, 2639 and May 23, 2878 (the same century as the total solar eclipse).

Volgens mij zal Amsterdam reeds op 22 juli 2381 de eerstvolgende totale zonsverduistering meemaken. Een jaar of vijf geleden dacht ik nog, op grond van mijn berekeningen met de 'Tables of Moon and Sun' van Jean Meeus (Leuven, 1962), dat Amsterdam in 2381 net buiten de zuidelijke grens van de brede totaliteitsgordel zou liggen. Maar de moderne programma's Emapwin van Takesako en Wineclips van Scsibrany, beiden met een zeer uitgebreide maanbaanberekening met formules van Chapront, geven allebei aan dat Amsterdam ruim binnen de totaliteitsgordel zal liggen. De hoek met de breedteparallel is ook dusdanig klein, dat er een zeer grote marge van DeltaT zal zijn waarvoor Amsterdam binnen de totaliteitsgordel zal liggen. Het is een perigeum-verduistering met een uiterst brede totaliteitsgordel, die in Europa gedurende heel het derde millennium alleen wordt overtroffen in juli 2726, welke eclips over vrijwel geheel Belgie loopt. Met vriendelijke groeten, Wil Carton

2nd october secalendar

From: Jay.M.PasachoffSENL200310williams.edu To: solareclipsewebpagesSENL200310btopenworld.com Date: Mon, 29 Sep 2003

Hi. For future years, you may want to add to the October 2nd entry that not only astronomers but also students went along, in the first sentence. And you could add something like: Several of the first-year students in the expedition were inspired to go on in astronomy, including Jay Pasachoff, later Chair of the Working Group on Eclipses of the International Astronomical Union; John Leibacher, later Program Director of the GONG project and Director of the National Solar Observatory, and Donald Goldsmith, later not only a professional astronomer but also a science writer and consultant to "The Astronomers" on Public Television. Instead of "Harvard astronomers," I think it would be suitable to say "Donald H. Menzel and other Harvard astronomers." Jay

> October 02, 1959 At the New England eclipse of October 2, 1959, Dr. E. H. Land, inventor of the Polaroid Land camera, had accompanied Harvard astronomers on a DC-6 plane that flew above the heavy overcast. On this flight, Dr. Land and his colleagues secured several excellent photographs of the corona, using Polaroid cameras with telephoto lenses. (ref. S&T 4/1961p193).

SEDates

International Solar Eclipse Conference

An international Solar Eclipse Conference 2004 (SEC2004) will be held on 2004 Aug 20-22 at Open University, Milton Keynes, England. The main objective of the conference is to bring together professionals and amateurs to discuss all aspects of solar eclipses. Two days of lectures will be given in each of the following disciplines: predictions, mathematics, solar physics, weather forecasting, eye safety, diameter measuring, edge and central, and ancient eclipse research. Both past and future solar eclipses will be discussed, as well as the 2004 transit of Venus.

For registration and more details, contact Patrick Poitevin (email: solareclipsewebpagesSENL200310btopenworld.com)

or visit the SEC2004 web page: http://solareclipsewebpages.users.btopenworld.com/SEC_files/SEC2004.html

SEScannings

Index SENL September

Dear all, Please find herewith the Index of the September 2003 issue of the Solar Eclipse Newsletter (SENL). Beside the topic, the page number is listed. Please post your solar eclipse related contributions to us. Thank you.

The SENL can be downloaded free of charge. You only need Adobe Acrobat Reader on your computer. For Adobe see

http://www.adobe.com/products/acrobat/readstep2.html

.../...

See the latest SENL and also the complete SENL Index since November 1996 at our Solar Eclipse WebPages at

http://solareclipsewebpages.users.btopenworld.com

The SENL will be soon on the WebPages of Fred Espenak/NASA. See

http://sunearth.gsfc.nasa.gov/eclipse/SENL/ and the index at

http://www.mreclipse.com/SENL/SENLinde.htm with example: SENL0011.pdf

http://sunearth.gsfc.nasa.gov/eclipse/SENL/SENL0011.pdf

Comments and contributions are welcome at solareclipsewebpagesSENL200310btopenworld.com

And ... keep those solar eclipse related messages coming ... Best Regards,

Astronomy Books

From: J.P. van de Giessen To: SOLARECLIPSESSENL200310AULA.COM Date: Sun, 21 Sep 2003 19:30:41

Ls, After more then a year my website Astronomical Books Online http://home.deds.nl/~giessen/ is again online. There are many links to books about Solar Eclipses (See section Solar System)

My purpose is collecting all books about astronomy which are completely online and free for reading. So if you now about the existence of ebooks concerning eclipses please let me know. Jan Pieter

SETalk

Delta T

From: Jean Meeus Date: Tue, 02 Sep 2003 18:47:41

On 2003 August 1, the difference between the uniform Dynamical Time and Universal Time was Delta T = 64.54 seconds. Jean Meeus

Subject line from SearchDatabase.com

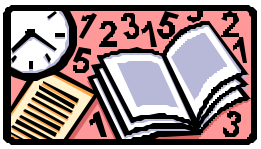
From: George Madden To: "SOLARECLIPSESSENL200310AULA.COM" <SOLARECLIPSESSENL200310AULA.COM> Date: Thu, 04 Sep 2003

" Today's News: Sun turns toward Eclipse"

From: "SearchDatabase.com" <searchDatabase-7978EE4998BA9276SENL200310lists.techtarget.com>

From: J.P. van de Giessen

George, Send a hyperlink, I couldn't find the article Jan Pieter van de Giessen



Analog or video capture for Laptop

From: Dale Ireland To: "Solar Eclipse List (solar eclipse list)" <SOLARECLIPSESSENL200310aula.com> Date: Sat, 06 Sep 2003 12:20:50

Evan This is what you are looking for

http://www.computervideogear.com/digital_video_capture_card/pyro-av-link-cardbus.htm

Although it seems to me that just recording the Orion electronic eyepiece image into a camcorder would be much easier in the field, then do the real editing on your desktop later. Dale

Babcock

From: solareclipsewebpagesSENL200310btopenworld.com To: SOLARECLIPSESSENL200310aula.com Date: Fri, 12 Sep 2003 08:31:51

>From HASTRO:

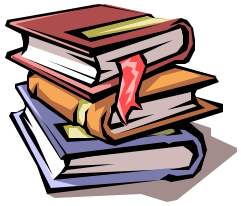
Horace W. Babcock, inventor of many astronomical instruments including the solar magnetograph, discoverer (with his father Harold) of the distribution of the solar magnetic field, and discoverer of magnetism on other stars, passed away 29 August 2003. The director of the Mt. Wilson and Palomar Observatories from 1964-78, he was the father of adaptive optics and the founder of the Las Campanas Observatory.

Links to more information and to two obituaries may be found at http://phys-astro.sonoma.edu/BruceMedalists/BabcockHW/index.html Joe Tenn

Delta T September

From: Jean Meeus Date: Fri, 03 Oct 2003 17:47:38

On 2003 September 1, the difference between Dynamical Time and UT was Delta T = 64.54 seconds. Jean Meeus



SETalk

Electronic imaging eyepiece

From: Evan Zucker To: SOLARECLIPSES-SENL200310AULA.COM Date: Thu, 04 Sep 2003 02:48:27

I'm beginning to make advance plans for forthcoming partial eclipses and the transit of Venus. I've been considering getting an electronic imaging eyepiece for my 8-inch LX200 so I can display an image from my filtered telescope on a TV or laptop computer monitor.

Does anybody have any experience with these types of eyepieces? I'm not trying to do anything fancy, and so I'm not interested in spending a bunch of money. Oceanside Photo and Telescope (where I bought my telescope) has an Orion Monochrome Electronic Imaging Eyepiece for $65 and a Orion Color Electronic Imaging Eyepiece for $120. I would consider the color version because my Thousand Oaks filter makes a the sun look a pleasing orange color, and it also might be useful for planetary viewing at night.

Mono: http://www.optcorp.com/cart/ProductDetail.asp?PR_ProductID=2817
Color: http://www.optcorp.com/cart/ProductDetail.asp?PR_ProductID=2417

Speaking of OPT, they also sell a fantastic green laser pointer that I saw in use in the desert last weekend. In the dry but dusty desert air, the laser beam was easily visible and made it very easy to point out objects in the night sky. I suspect it's bright enough that it could be used to point to planets or bright stars during totality. There are two versions:

http://www.optcorp.com/cart/ProductDetail.asp?PR_ProductID=2070 William Optics Star Laser Pointer

http://www.optcorp.com/cart/ProductDetail.asp?PR_ProductID=2375 Hotech USA Astro Aimer Laser Pointer (includes red LED map-reading light and a white flashlight) -- EVAN

From: Fred Bruenjes

I don't think I would want that during totality. Not only would it be a distraction to those intent on looking at the corona and other wonderful phenomena, but wouldn't it also mess up photos taken by cameras? Fred Bruenjes http://www.bruenjes.org

From: Evan Zucker

You're probably right about that. That was a bad suggestion on my part. I guess I got so enthusiastic when I saw this laser pointer that I was trying to think of other uses for it. -- EVAN

From: Jean-Paul GODARD

I bought one from Meade last year and I am very happy of that. Many usages can be derived;

-You can use it to tape a movie to your camcoder..
Sounds(comments) are captured by standart camcorder microphone

- If it is a DV camcorder, you finally get get a *.avi file on your computer and you can use the individual (planetary) image for image processing (Choosing & Stacking with Registax mars images make you able to fix the turbulence and greatly improve details) Resolution is equivalent to 320x288

-If you have a little screen on yours, you can share the real-image with people around you

- At three recent "Mars party" I used such Electronic Eyepiece to get an image from Mars and to project realtime view on a big wall with a video projector...
More than two hundred of guys where able to see a "confortable" image at the same time (Mars was about 3 feet wide on the wall, using a Barlow lens) (Other scopes where on the other side of the building, and people where queuing some time more than half an hour to see at the Eyepiece)

- For last Mercure transit, I succeeded to capture the (only) images that where used by Fhe French national TV Channel FR2 for prime time report of the event

It's a "best Buy" for planetary astronomy...
Unfortunately, the CCD sensor is so tiny, that it is quite impossible to get a full picture of the sun or of the moon...on standart scopes...
Considering the use of short focal lenght device...

I also used one with an Orion Halpha filter... results where poor due to lack of sensitivity For deep sky ...too ;-(((Cordialement, Martine & Jean-Paul ("We met in Moon's Shadow") tlouzeauSENL200310noos.fr jean-paul.godardSENL200310noos.fr

From: Mike Simmons

No, they don't cause a problem for photos. If you're not directly behind the beam you don't see it well at all. Several people have tested this by taking astrophotos in a dark location with a green laser beam shining through them.

But that doesn't mean there won't be problems with people who won't want you shining one around while they're taking photos. Some people are dead set against them and many aren't convinced they won't find the beams ruining their photos. This has already become a very

(Continued on page 12)

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controversial item and topic of discussion. I'd advise against using one anywhere near other observers. Mike Simmons

From: Richard Monk

You might like to know that I recently bought attachments for both my Sony DSC and Minolta Dimage digital cameras that allow me to attach them to 5" Celestron through a wide angle eyepiece. Both bought after a thwarted attempt to photograph the Mercury transit.

In spite of its lack of a shutter release socket and its lack of manual mode, not to mention a washed out LCD display in the bright sunshine, the Sony came-up trumps with some fantastic solar photographs (through a 1000 Oaks +2 filter) showing large sunspots.

The Minolta (Dimage 7Hi) has all the bells and whistles but similar solar photography resulted in a solar disk whose brightness varied from normal at its circumference to a +5 level at the centre.

I will put examples up on my web site if this posting generates positive feedback.

The eyepiece used was a MaxView 40, a lovely wide angle 40mm optic that is well within most budgets.

Incidentally, I tried attaching the cameras to a 7.5mm eyepiece for a shot at Mars, but there was too much instability in the system for a respectable picture, even if optically the images of Mars showed lots of detail. Best wishes Richard

From: Bob Morris

Is that the exact model name/number of the Sony? How many pixels?

What are the "attachments"? Do they screw into the filter threads of the Sony lens?

How do they attach at the eyepiece side? Thanks.

From: Jay Friedland

Hi Evan, I have been doing a bunch of experiments as well. I think your best bet may be one of three solutions:

1) either a digital camera or DV camcorder at prime focus (Richard's idea of using the MaxView 40 is very good and we'd love to see pictures). A camcorder also allows stacking of the images which is turning out amazing results for Mars.

2) Try a PC164c or PC165c from Supercircuits (http://www.supercircuits.com). These are security cameras that have very low lux capability and are being widely used by IOTA for grazes and occultations. They are fairly easy to add to your scope via a C-mount to t-mount adapter or a 1.25 scope eyepiece adapter. They are much higher quality than the 'electronic eyepieces".

3) Try a teleconverter on your camcorder - I've been using a Kenko 3x teleconverter on my Sony PC100 and it has worked very well giving a nice large full solar disk. (You can see some video from the recent Transit of Mercury at http://gallery.cinemagic.com). I have also heard that the CrystalVue Sharpshooter 8x32 monocular which has 37mm entry and exit threads has produced very nice results (this could be a great transit lens). Be careful about vignetting on either of these lenses when zoomed out at wide angle. Please let us know your results, Jay

From: Richard Monk

Hi Bob The Sony camera I used was a DSC S70. It is a 3.3 megapixel compact style of camera of which I believe there are several more recent versions.

The attachment is in the form of a collar which screws into the camera body and allows the lens turrett to zoom in and out. The front of the collar screws onto the front end of the Maxview eyepiece (it has a screw thread for the purpose) - and then the eyepiece attaches to the telescope in the usual way.

It may be better to buy such a collar separately from a Sony supplier as I found the one that came with the "digital conversion kit" horrendously expensive. The only other item in the kit was an attachment ring that could be screwed onto the end of an eyepiece which did not have a thread to receive the collar. The kit cost me ý80 and with $1.40 odd to the pound that strikes me as rip-off! Hope the info is of help. BW Richard

From: Richard Monk

Sure will post the pictures shortly. I tried recording the Mercury transit with an analog camcorder (Sony TR3300) and the results were very disappointing - with the Venus transit in mind I would be very interested to know if a digital camcorder would do a better job and if so, what model! Having queried its performance locally, I was advised that such a camcorder would not be man enough for the job.

As to teleconverters - I have tried photographing Mars through a Tokina 2.5x to 5.0x zoom teleconverter attached to my Minolta - the results were laughable! My best results so far for the old-fashioned SLR solar/eclipse photography have been with a Tamron 500mm mirror with a x2 flat-field converter. With an effective 1000mm, it is certainly less bulky than my 5" telescope. Richard

From: Fraser Farrell

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I found it difficult to get a digital camera still image that even recorded Mercury; probably because the planet's image was near the limit of resolution on the day. The transit started late in the afternoon here - therefore high airmass and warm air - and the cirrus that covered the western sky all afternoon didn't help either!

I used the same monocular projection setup that worked fine for the 1993 and 1999 transits, producing a solar image about 30cm diameter. Mercury was visible whenever a focus was (momentarily) attained despite the seeing problems on the day. But it was frustrating trying to capture these brief appearances on digital camera, even after programming for very short exposures.

Best result from the camera (Canon powershot A40) was obtained in the hour before sunset; by taking several 10-15 second movies (AVI) of the projected image and then afterwards stacking selected frames. Incidentally the same technique has been used to obtain many of those marvellous amateur images of Mars this year.

The cheap generic webcam I also tried was defeated by its own automated brightness/contrast controls. It adjusted itself to record the sun's projected image quite nicely - which obliterated the tiny black dot we really wanted to see ;-)

The big sunspot near centre on transit day was easily recorded by both cameras. I guess the secret to successfully photographing a transit is to produce - somehow - a BIG black dot for your camera to see. So I'm optimistic about recording Venus transit here next year, even though it's another afternoon-until-sunset event. cheers, Fraser Farrell

From: Richard Monk

Timo Will reply shortly as I am busy at the moment putting the final touches to my appended web page relating to these solar images taken with digital cameras. I will see if I can bear to put examples of my dismal attempts to record the Mercury transit later! Richard

From: Richard Monk

As requested, I have just uploaded a selection of solar photographs recently taken with two standard digital cameras. Find my web Page: http://homepage.ntlworld.com/rimonk/index.htm then follow the link to Solar Photography. Richard

From: Richard Monk

Hi Timo I used two set-ups. One with my analog camcorder, Sony TR3300 at maximum optical zoom and using a 1000Oaks 2+ solar filter. The other was a Canon T70 (SLR camera) with 200ASA slide film, attached to a Celestron C5 with the same type of solar filter.

I saw the image of Mercury perfectly well through the telescope assembly and camera viewfinder but the resulting pictures were unconvincing. I tried to persuade myself that the blob on the top half of the solar limb was Mercury and not a defect in the film - but I suspect the film was out-of-date.

With the camcorder, I experimented earlier with different apertures and shutter speeds, but the sun's image either overwhelmed the CCD or produced an ill-defined red disk at the appropriate settings. I elected to use 250 fps at an aperture of f8 (if I recall correctly!) but it was not enough to resolve the Mercury image on the day. It has to be remembered that a CCD is extremely sensetive to light, especially the low lux types. Any severe over-exposure would saturate the CCD elements and it would take a significant time for them to recover.

I have great expectations for the Venus transit now that I have discovered suitable attachments to my digital cameras (see web site). I am just wondering whether to invest in a digital video camera as well. Prospects for viewing the event in England next June look very good! Best wishes Richard

Beating the Black Drop

From: James Huddle To: solareclipsesSENL200310aula.com Date: Tue, 02 Sep 2003 19:08:18

Halley's method of measuring the parallax of Venus, thereby setting the scale of our solar system, involved measuring the times of the internal contacts of a transit of Venus. Since Venus's speed, in minutes of arc per minute of time, is known, the contact times give the length of a chord of the Sun's photosphere, in minutes of arc. From this chord, the distance of closest approach to the center of the Sun, also in minutes of arc, can be determined by using simple geometry. If the contact times are measured at two widely separated observing stations, the parallax of Venus can be measured simply by finding the difference between the distances of closest approach. Once one has the parallax of Venus, and the locations of the observing stations, one may calculate the distance between Earth and Venus. Then, application of Kepler's Laws allows one to determine absolute distances from the Sun to each of the planets. Experiments conducted during transits of Venus in the 17th, 18th, and 19th centuries showed that the chord could not be determined as accurately as Halley had hoped, principally because the "Black Drop" effect frustrated attempts to measure the contact times.

I propose a method to measure Venus's distance of closest approach to the center of the Sun in a way that avoids the Black Drop effect, and which may therefore yield a measurement of the parallax of Ve-

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nus nearly as precise as Halley had hoped. To take the data, one records a series of perhaps a dozen or more images of Venus in transit, noting the time each image is recorded. It is not necessary that the clock be set precisely to Universal Time, only that it keeps reasonably accurate intervals of time during the transit. Since all the images will show Venus well inside the photosphere, the Black Drop effect does not interfere.

After processing, the images are analyzed as follows. First the centers of the Sun's image and of Venus's silhouette must be located. Then the distance between these centers is measured with a ruler. Since the diameter of the Sun will be 31'31" on June 8, 2004, the distance between Venus and the Sun's center may be determined in minutes of arc. Let's call this distance , r. It is easy to show that r-squared is a quadratic function of time, that is, r^2 = A + B*t + C*t^2 (Equation 1). Furthermore, the three coefficients A, B and C are related to three quantities: (1) Venus's distance of closest approach, measured in minutes of arc; (2) her speed across the sky in minutes of arc per minute of time; and (3) her location at some arbitrary time called t=0. Hence, a fit of the data to Equation 1 allows a direct measurement of the distance of closest approach without the interference of the fascinating but troublesome Black Drop effect.

Certainly, there will be small errors made in locating the centers of the Sun and of Venus on each image. But with some care in making the measurements on the images, and with a sufficient number of data points, that is, images of Venus in transit, it may be possible to measure the distance of closest approach with a precision better than 1%. And with several observers all following the same procedure at each observing station, and with similar experiments performed at many stations, it may be possible to improve the precision further, and so determine the parallax of Venus to a precision almost as good as Halley had hoped. James R. Huddle

From: Jay.M.PasachoffSENL200310williams.edu

Prof. Huddle's measurements of the centroids of the images of Venus far from the Sun's limb is a good idea. I suggest that he test the accuracy of the method on images from the recent Mercury transit.

I have made a Website on the forthcoming transit of Venus, including links to images of the past Mercury transits, at www.transitofvenus.info. One of the links is to the paper by Glenn Schneider, Leon Golub (of the TRACE solar spacecraft) and me about explaining the black drop effect at the Mercury transits. The solar limb darkening turns out to be significant. We hope to observe the Venus transit next June with TRACE and from the ground in Europe, probably Greece. Jay Pasachoff

From: James Huddle

I like Jay's suggestion about how to test the method I described earlier for measuring a planet's distance of closest approach during a transit. I made a quick search on the web, but did not find suitable data. What I need is a set of perhaps a dozen images of Mercury in transit, all taken from the same location, and with the times at which the images were captured. There are a number of good sets of images, but the times age not given. For example, the image shown at http://gong.nso.edu/mercury_transit03/images/UDcomposit.jpg would work just fine, if I knew the times at which each image was captured. It is not necessary for all the images of the set be overlaid, as in the images I just referenced, indeed, I'd prefer to have separate images. But the important thing is that I need the times. Can anyone help? Jim Huddle

Photographs of Eclipses on Mars

From: Robert B Slobins To: "'SOLARECLIPSESSENL200310AULA.COM'" <SOLARECLIPSESSENL200310aula.com> Date: Fri, 12 Sep 2003 11:59:17

Original Message--From: Rybrks1SENL200310cs.com

The Sun never appears small enough (even at Mars aphelion - smallest apparent Sun) to be covered by Phobos (the closer larger moon). The website mentioned indicates this also by stating neither moon can totally cover the Sun. So those images must be annulars by Phobos. The largest magnitude (approx 0.75) would block 56% of the Sun.

Also..at aphelion, Mars is tilted towards the Sun (my northern chauvinism pardoned) so no solar eclipses whatsoever are occuring on Mars then. Raymond Brooks

P.S. I succeeded in viewing both moons last month on 7 attempts over 4 hours time one night. Half of my other attempts failed. One viewing allowed maintaining both moons visible simultaneously for over one full minute of time. I was using a 22 inch Dobsonian. Atmospheric seeing was the biggest problem. Powers of 550x to 1200x were needed. Lower magnifications were unsuccessful.

From: Rybrks1SENL200310cs.com

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From: Rybrks1SENL200310cs.com

Thank you, Jean, for the critique. ý(I just returned from our Mars tour in South America.) ýI mistakenly used the phrase "the approach of Deimos to the Sun would be kind of interesting for a given fixed location", I intended to use "for a given fixed longitude". ý

I did realize that an observer would need to travel from 130 miles on one side of the equator for transit #1, be on the equator for transit #2 and be about 130 miles on the opposite side of Mars' equator for transit #3 but I did not know (still do not know) whether Deimos' orbit inclination is positive or negative with respect to Mars' rotational tilt. ý(That is, if viewing Mars from the Sun wh ile at Mars equinox, Mars equator tilts 25.2 degrees. ýIs Deimos' inclination at 27 degrees or 23.4 degrees?) ýIt would slightly increase or decrease the (130 x 2) bandwidth.

Also, I did not realize Deimos had such a wide variation (0.9 to 2.7 degrees). ýWould that value go to 1.8 as it passes through the node? ý

Thanks again for your many clarifications to the AULA SEML. ýIt was a fun mental exercise as we "departed for Mars". Sincerely, Raymond Brooks

TSE-remote camera control

From: Mick Wolf To: SOLARECLIPSESSENL200310AULA.COM Date: Wed, 17 Sep 2003 14:29:54

Appeal to all eclipse photographers for suggestiobns and recommendation on the following subject: Remote camera speed control.
I would like to vary shutter speeds between 1/1000 - 1sec. on CanonT90 by remote control to eliminate.camera vibrations.
1) I made a control box which provides pulses between 1ms and 1sec.(using 555 timer) and when the camera is set to "bulb" it only operates on 1/2 sec. or longer. Why?
2) Various reports stated that people operated cameras by laptop computers and other controlers, but the question is how did they achieve the very short exposures?
3) Canon make radio control units L2 and L3, but the brief information on the internet does not state whether exposure changes are possible.Are they suitable?
4)Some people suggest to use Canon T70 instead T90 -what is the difference and what modificatoin is required? Local Canon repairemen say that it can not be made. If you are able to comment or provide answer to my problem,please, contact me directly. Thank you Mick Wolf.

From: Robert B Slobins

Mick: I have used intervalometers (the Nikon intervalometer for the F2 that I use is like your first item), motor drives and electronic switches on my cameras. The Nikon line from the F3 onward have intervalometer backs. However, such backs do not allow one to set up a program of shutter speeds.

I have some concerns:

1: If others are using the same radio transmitters, will there be interference? I gather that you need to be quite separate from others who may be using similar equipment, and also check to ensure that you are shielded or distant from competing radio sources.

2: It sounds trivial, but many governments regulate the importation and/or use of radio transmitters quite strictly, and these may be included. Although I have heard of very little interference by government officials with eclipse chasers and equipment, there is a

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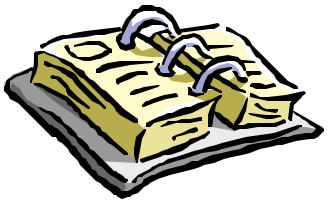
chance of trouble. cheers/rbs

From: Richard Monk

Mick You might like to see my article on PIC control of Canon SLRs on my web page at http://homepage.ntlworld.com/rimonk/index.htm. It might answer some of your basic questions. I think my T70 was just a simplified version of the T90, chosen because it was the only model I could find which was easy to modify and not as much of a loss had things gone wrong with the "alterations". My system did not need to use the "bulb" setting (as it really just holds the shutter open for long exposures). Using the output from your 555 timer circuit to fire on bulb you would need to allow for some mechanical "setup" time so you might be pushed to get exposures less than ýsec anyway. With 200 or 400 ASA film, 2sec is more than enough to over-expose during totality so I found that the whole Canon speed range (from 1/2000sec to 2 secs) was perfectly adequate. Check out some of my pictures from 2001 (couldn't make Oz last year!)

Come back to me directly if you need more "ideas".Richard



From: Glenn Schneider

Mick Wolf wrote: Appeal to all eclipse photographers for suggestiobns and recommendation....

Let me point you to: http://balder.prohosting.com/stouch/UMBRAPHILE.html

which describes in detail the system I developed and have used successfully for several TSE's, most recently for TSEs 2002 and 2003 which you can see on:

http://nicmosis.as.arizona.edu:8000/ECLIPSE_WEB/ECLIPSE_02/TSE2002.html

http://nicmosis.as.arizona.edu:8000/ECLIPSE_WEB/ECLIPSE_01/ECLIPSE_2001_REPORT.html

A few comments, numbered by your questions:

0) The "solenoid" interface with UMBRAPHILE can get you down to 1/100th second with many cameras, but I can not say for Cannons as I use Nikons. For less deep exposures you would need to use slower film, or stop down the lens.

1) This seems to be a "common" problem with a wide variety of electronic cameras, but manifests itself in different ways. I believe this stems from the fact that that many mechanical shutters have pulse filtered "debounce" circuitry, the intent of which is to protect against an accidental mis-firing if the "shutter button" is depressed for a "short" period of time. When you are using a fixed shutter speed that is not a problem, as the duration of the "fire" pulse (or short to ground) is irrelevant, but not so for "bulb". The threshold at which this becomes a problem (1/2 second as you report is the longest by far that I have heard about). This is one reason I have stuck to the mechanical coupling approach of a fast response linear solenoid.

2) As noted on the referenced UMBRAPHILE page, I do this by use of a linear actuator (solenoid), mechanically activating the "shutter button". It looks like a kludge (is that an expression also in Oz?), for example see:

http://nicmosis.as.arizona.edu:8000/ECLIPSE_WEB/ECLIPSE_02/OZCAM/OZCAM#.jpg where # is 1 2 3 or 4 (i.e., OZCAM1.jpg), but it works.

A number of people I know, including Joel Moskowitz, Jay Friedland, and Dan McGlaun (www.mcglaun.con, but not on SEML) have used UMBRAPHILE with electronic interfaces to different cameras and I know several others on SEML have experimented with others as well. Dan found that with his camera is he "pre-pulsed" the desired exposure he could then get it to respond to the second, closely following pulse of desired duration, i.e., a few ms pulse to which the shutter did not respond, but a second a few or tens of ms later of desired duration which it did. This somehow "fooled" the debounce circuitry in the camera (maybe charging a capacitor?), in any event, try that. Joel and Jay, and others may have other suggestions. Though I developed the control S/W my actual use of it has been limited to the actuator interface, but others have succeeded with using it with electronic interfaces - but then only for

(Continued on page 17)

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some cameras, and I don't know if the Canon T90 is among them.

3) Richard Monk has an independently developed system, using a simple H/W controller (not using a laptop) and a Canon T70 camera which he describes on: http://homepage.ntlworld.com/rimonk/index.htm Perhaps there is a difference between the T70 and T90, but I suggest you query him. (For one thing, it is less expensive).

From: Jay Friedland

Hi Mick, Definitely take a look at Glenn Schneider's Umbraphile program. It is a really powerful piece of software which goes way beyond just camera control.

I have built Glenn Schneider's circuit (and Dan McGlaun's too) and I know they work (with the help of various test equipment) but they won't drive my Canon T70s at faster than 1/8 sec. It turns out that there is some kind of debounce circuit inside which prevents either manual or electronic triggering in "bulb" mode at faster than about .11 seconds! This stops the solenoid from firing as well at the electronic interface.

I have been looking for a camera setup which I can drive faster in the future - and so far I can drive a Pentax Zx-5N up to about 1/125 sec (after pulsing it once to initialize). I've also been looking at the Canon EOS RT which has a shutter delay of only 8 msec (vs about 130ms for a T70 and about 90ms for a T90).

One solution might be to modify either a) the camera (like Nick Quinn did see http://www.shadowchaser.demon.co.uk/autoeclipsecamera.html) or b) a flash unit (which has access to the shutter timing) to move the shutter speed up and down. I'm also looking at hacking into the T70s to eliminate the debounce circuitry, but this is a long term project. Good luck and keep us posted. - Jay

p.s. I love the Canon T70 for meteor photography - the Command Back 70 is a complete intervalometer so it will allow all kinds of stacking and control of the camera(s). Check out: http://www.delpsurf.cistron.nl/haas_array.html (I actually used a 5 camera setup like this for last year's Leonids - it really works!)

From: Fred Bruenjes

Mick, I don't "do" film cameras anymore (digital is so much more convenient), so I use a stock Canon D60 or 10D DSLR with a modified BG-ED3 battery grip. The DSLR has a standard remote control socket, which I drive with two relays: one for half-press, the other for full press of the shutter button. The battery grip is modified to access the exposure wheel signals. Two relays can then control exposure via the grip, by firing in the right sequence. The camera just thinks someone is turning the exposure wheel.

With this setup I can dial in any exposure, because I'm using the normal 1/1000, 1/60, etc. settings and not the bulb mode. In Australia I did a sequence from 1/4000 to 8 sec, with the relays controlled by my laptop's printer port and some software. It worked *really* well.

For Antarctica (I'm on the Novo land trip), I'm building a more sophisticated PIC microcontroller based setup, so that I don't have to lug a laptop down there. It will have extra relays for multiple cameras, and some other bells and whistles. I plan to up a web page about this new controller but am not quite ready yet. Fred Bruenjes http://www.moonglow.net/eclipse/eclipses.html

From: Glenn Schneider

As it now seems to be a general topic (again) for discussion, I am appening an off-line email earlier to Mick which might be of broader interest. -GS-

From: Glenn Schneider

Glenn Schneider wrote: > successfully for several TSE's, most recently for TSEs 2002 and 2003

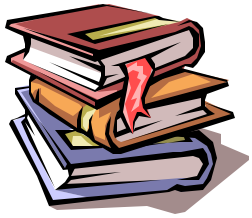
I obvioulsy meant 2001 and 2002. Getting a bit ahead of myself! -GS-

Thanks

From: David Bell To: SOLARECLIPSESSENL200310AULA.COM Date: Fri, 03 Oct 2003 19:03:07

If I may beg the indulgence of the group, I just want to take this opportunity to thank Fred Espenak for his visit to our annual Whirlpool Star Party in Ireland, and for his magnificent presentation. The synergy between himself, Kelly Beatty and David Levy was truly memorable, and I doubt if we will ever be able to repeat it.

Many Thanks, Fred, and I hope we meet again. David Bell Secretary, Shannonside Astronomy Club Chair, Irish Federation of Astronomical Societies



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Travelling Birds Movie

From: Stig Linander To: solareclipsesSENL200310aula.com Date: Thu, 18 Sep 2003 22:52:21

Wed, 13 Aug 2003 06:54:53, Joseph Cali wrote ... There is a movie currently screening in Australia [...] called "Travelling Birds - an Adventure in Flight." It is 90 minutes of amazing nature photography.

I've just seen it, however in Europe it's called "Winged Migration" http://www.sonyclassics.com/wingedmigration/

> In the middle of the movie, there are a few seconds of footage of the 2001 TSE. The eclipse clip is OK but not stunning.

I noticed a detached prominence to the right of the limb, so I think it was the 1999 TSE. Compare with e.g. Niels and Daniel Foldager's photo: http://www.nf.suite.dk/astro/eclipse/img0012.jpg I don't recall detached prominences at the 2001 TSE.

BTW, a litte later in the movie a PLE is shown.

> The movie however is worth seeing for the spectacular nature photography alone.

I agree. Best regards, Stig.

From: DribalzSENL200310aol.com

I saw winged migration 4 times on my flights to and from Japan. I just bought the DVD off of eBay. It's been a week and the darned thing isn't here yet. A great "movie" to see. Andrew

The Moon

From: KidinVSSENL200310aol.com To: SOLARECLIPSESSENL200310aula.com Date: Wed, 17 Sep 2003

Scientists have shown that the moon is moving away at a tiny, although measurable distance from the earth every year.

If you do the math, you can calculate that 85 million years ago the moon was orbiting the earth at a distance of about 35 feet from the earth's surface.

This would explain the death of the dinosaurs. The tallest ones, anyway.

From: Govert Schilling

Nonsense. The current drift of the moon is about 1.5 cm per year. So 85 million years ago, the average distance would have been 384400 - (85000000 x 0.000015) = 383125 km. --Govert

From: Richard Monk

I think he meant 35 miles - so it looks like the dinosaurs escaped!

Hey! Good luck to those intrepids in the Southern Ocean next months. Even if I could afford the ý18000, I don't think I would want to risk such a voyage after my whale watching experiences in Iceland last May/June.

I will be looking out for webcasts though - any addresses known yet? Richard

Venus Section at BAA

Subject: [BAA 00116] BAA: Director of Mercury and Venus Section From: BAA mailing list To: baalist1SENL200310saturn.astronet Date: Sat, 13 Sep 2003 16:50:19

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BAA electronic circular No. 00116 http://www.britastro.org/

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I am delighted to inform you that Council, at their meeting on September 3, elected Mario Frassati as the new director of the Association's Mercury and Venus Section. We wish him well in his new role and give below his contact details:

Postal address: MARIO FRASSATI Viale IX Martiri, 9 - 13044 Crescentino (VC) ITALY Phone number: +39 0161 834337 E-mail: mfrassaSENL200310tin.it

I would like to take this opportunity to offer our sincere thanks to Edward Ellis who has served as Acting Director for the last few months and who so ably arranged the section's display at the June Exhibition meeting. Sadly I have learnt that Edward has been unwell in recent weeks and has just entered hospital for an operation. We wish him a speedy and full recovery. Kind regards, Guy M Hurst BAA President

SETalk

Draconitic month

From: John M. McMahon To: HASTRO-L@LISTSERV.WVU.EDU Date: Mon, 29 Sep 2003 13:36:48

Herbert Prinz wrote: Dear all, I am having trouble locating an authoritative source that describes the myth about the dragon swallowing the moon at eclipses.

I don't have the material below to hand, so I can't look into it at the moment; but I can offer the following that might lead you to some additional info:

Severus Sebokht (c. 575-c.666/7 CE) writes on the phases of the moon and on eclipses, in one case explaining lunar eclipses scientifically to dispel the popular idea that a dragon (Ataliý) was responsible for such events.

For his explanation of eclipses see F. N. Nau, "Notes d'Astronomie Syrienne," Journal Asiatique 16 (1910): 209-28, esp. 219-24. John McMahon Classics Le Moyne College

From: Stephen Tonkin

Not directly helpful, but M Barlow Pepin's article, _When Rahu Devoured the Sun_ (S&T, March 1996) triggered some correspondence on this *somewhere*, but I can't for the life of me remember where. Perhaps this mention may jog someone else's memory? Stephen Tonkin

From: LARRY KLAES

These Web pages might be of use:

http://members.tripod.com/~rajkumarparashari/eclipse/mythology.htm

http://earthstar.htmlplanet.com/farside_culture.htm

http://www.asiaweek.com/asiaweek/95/1020/feat3.html

3d pix of eclipse

From: Klipsi To: SOLARECLIPSESSENL200310AULA.COM Date: Mon, 29 Sep 2003 17:03:36

> I've long said that the best way of conveying to non-observers what a total solar eclipse is like is with an audio recording (or the audio track of a videotape). Eclipse photos and videos don't come close to capturing the awesome nature of an eclipse, but the excitement of the crowd is easily demonstrated by an audio tape. I have an audio recording of the minutes leading up to, during, and after the 11 July 1991 eclipse in San Jose del Cabo. Every time I listed to it I get tears in my eyes. I also have a 16x20 S&T photo and an even larger poster of that eclipse hanging in my bathroom, but they never bring tears to my eyes (unless the air is particularly fetid <g>). -- EVAN

So true. And one main reason is because we see the real eclipse in 3D, while a photo remains 2D. Unless you do 3D photos or fake 3D technology (stereoscopy) , such as I have played with on http://eclipse.span.ch/3d.htm
.
Nice, isn't it ? Now I have only played with "stereoscopy" on some of my own photos, but imagine applying 3D enhancement to the best eclipse photos of Wendy Carlos or Fred Espenak ! Then, add the sound, the heat, the wind, the mosquito bites , the sweat... and there you are ! Almost. Klipsi

Audio recordings

From: Evan Zucker To: SOLARECLIPSESSENL200310AULA.COM Date: Mon, 29 Sep 2003 16:20:42

At 04:12 AM 9/29/2003, Chris wrote: So, does anyone have their own personal favorite audio recording?

I've long said that the best way of conveying to non-observers what a total solar eclipse is like is with an audio recording (or the audio track of a videotape). Eclipse photos and videos don't come close to capturing the awesome nature of an eclipse, but the excitement of the crowd is easily demonstrated by an audio tape.

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From: Klipsi

Yes , Chris, how true . the "eclipse sound" is fascinating indeed.

An easy way to record it is simply with a video camera, while you film the eclipse you also record the sound of yourself and others. So you get both, video and audio. I certainly prefer video over photo, because it includes audio (and also it allows for quality-acceptable video stills for web publishing).

I remember in 1995 in Thailand there was so much noise (the locals tried to chase away Rahu by making lots of noise, fireworks, casseroles banged, etc.) that it made me think we could measure and compare totality in decibels instead of minutes . ;-)

SETalk

On the soundtrack of my first total , Brazil 1994, I can clearly hear me yell, then whisper, 4 times "Oh, my God!).
1998 has great soundtrack also, in Aruba. Hundreds of voices yell, roar, shout, scream.
1999, clouded out in Stuttgart Germany: we can hear someone offering great discount on eclipse shades , just a few minutes before totality under clouds ;-) hehe. And you can also hear me ask : "where is the emergency exit?" (to flee the angry crowd of people who followed me to Stuttgart and were disappointed to be under clouds ;-).
1998 annular Malaysia : everybody yells in joy as annularity occurs, and a few seconds later you can hear me yell "Allah Akbar" (Malaysia is a muslim country).
1999 annular Australia, you can hear me search for and find Mercury just as annularity arrived.
2001 annular Costa Rica, "oohhh, Baily's beads - fantastic image !"
2002 total. sorry, couldn't help it, the f.... word escaped my lips. ;-(.
29 seconds of totality is really too short...

Now, if you really have nothing else to do, have a look - err... have a ear to these pages here :
http://eclipse.s pan.ch/sounds.htm
(as embeded background sound, best heard with MS I. E., wave format.). Listen also to Leonids and a double occultation, and more).
some more sounds can be heard on my videos, such as
http://eclipse.span.ch/video.htm (potpourri of eclipses and noneclipse stuff)
http://eclipse.span.ch/2k2tsevdo.htm (2002 tse in Australia).
http://eclipse.span.ch/wx03video.htm (tornadochasing 2003)

Enjoy !

Now, this leads me to ask : do blind people go chase eclipses ? Does anyone here know of a blind person who went to hear a total eclipse ? I have a friend in Geneva who is blind but very positive and uptimistic, and I could certainly imagine him travelling some day with me to come hear a total eclipse. Maybe in 2006... Klipsi

P.S. maybe I should NOT have posted these sound bites... Some of them may scare you, and I hope this will not make you try to avoid me ;-) Olivier "Klipsi" Staiger

From: Robert B Slobins

If I recall, I have three tapes of the flash spectrum: 1998, 1999, and 2001. Of course, I did not have the sound off, as I was trying to record the WWV time signal from a portable shoret wave radio.

So I have three such tapes. The 2001 tape has my wife playing science correspondent to our Lusaka tour escort. Regrettably, she called Jupiter Venus.

I also have a VHS tape of six totality video records from 1991. Ken Bertin, IIRC, spliced them together. Fred Espenak is featured in this anthology. On this tape is an exquisite record of totality consisting of the eclipse with WWV sound track. The videographer passed different color filters in front of the lens. I still run this tape. cheers/rbs

From: Glenn Schneider

I do - Feb 26, 1979 - from our mountain foothill countryside not far from Roy, Montana. Unfortunately, because of the "R-rated" nature of the tape, but mostly only due to uninformed interpretation, I have always been extremely hesitant to play it in public after I had first done so twenty-four years ago. Shortly after returning from Montana to Gainesville, Florida (where I was a graduate student at the time), I was retelling of the eclipse to some of my friends and fellow students at 1AM in the morning at "Jerry's restaurant" where we were enjoying their world famous Hot Fudge Cakes (I can still savor the taste in my mouth).

To try to convey the depth of emotion which can overtake eclipse viewers to those who have not been so blessed, I began to play back (at admittedly too high a volume for a public venue) the tape I had made from our field in Montana. During the eclipse, observing right next and my audio take recorder, was my then very close friend Susan Howard. Also nearby was one of my cameras, this one with a particularly noisy autowinder.

Moments prior to totality the pitch, tenor, and temper in Susan's voice rose to an unparalleled level of excitement which some have described as "pre-orgasmic". At the onset of second contact the camera and autowinder began to fire away with a background sound on the tape which others have likened to sounding exactly like "rusty bed springs". That with alternating muted breaths and high volume shrieks of "Yes!, Oh Yes!, Oh, God, Ahhh! Do it, Do it, Do it..." and other non-articulate verbilizations, grunts, and utterings coming from Susan as captured on the tape.

During the eclipse, I had paid no heed to this, as it obviously was the rapture of Totality for this "first timer". When I played this back at Jerry's, with this continuance of what sounded like unfettered utterances of corporeal delight for our 4m06s of emmersion in the umbra, our table was meet with glarey and ghastly stares from other patrons of the restaurant. It didn't help that sometime soon after the start of totality the tape captured in the background, but distinctly audible nonetheless, someone uttering over and over again "Oh S**T, I can't believe it" in a cadence like a monastic chant. (I never did identify that voice. I always had a suspicion it was Evan Zucker, but now Ill give him a public opportunity to confirm or deny ;-)).

SETalk

At any event, this was the first and only time in my life I have ever been approached by a restaurant manager and asked to leave. It took some doing to unravel the misconception - but with photos of Totality an my "Blackout '79" tee-shirt with an artistically liberal rendering of the diamond ring phase of the eclipse - he was persuaded that we had not turned his establishment into an "adult's only" facility. Though we did agree to keep the volume down.

So be careful, the next time you recall with audio augmentation when you stood at the brink of celestial intercourse as the Moon's shadow thrusted and penetrated deeply into of the Earth, or you too may have to forgo a hot fudge cake - which is almost as bad as being clouded of totality (well, not really, but they sure were good). -GS-

From: Evan Zucker

I'm happy to deny that it was me. I'm quite certain of that because at the time I was about 2,000 miles away in Durham, NC. I had wanted to observe the 1979 eclipse, but I was a poor graduate student and couldn't afford it. -- EVAN

From: Stig Linander

Mon, 29 Sep 2003 12:12:06 +0100, Chris O'Byrne wrote ...

> So, does anyone have their own personal favorite audio recording?

http://www.hjemmebedst.dk/teindex.html

It's the soundtrack of a video of TSE'99 recorded by Erik Klausen at Alsýýrs, Lake Balaton, Hungary.

A 194 second .wav file - 952 Kbytes zipped. Second contact (at 32 seconds) and third contact (at 174 seconds) are marked with a beep. In the foreground voices from Danes are heard, in the background other Danes and Hungarians are heard. A few seconds after third contact you can hear me: "Was that 2 minutes 20 seconds?"

My wife made a video of TSE'01 and TSE'02. I've been thinking about putting the sound track from '01 on my home page but I haven't done it - yet. The sound track from '02 is of minor interest as we were clouded out and no one is crying or yelling. Best regards, Stig.

From: Brian Garrett

LOL! I was chatting about TSE's once with some folks in a meteorology-related chat room, and described the experience of totality as "better than sex". One of them (obviously an eclipse virgin) responded "Then you're not doing it right".

Your story sounds like a real-life version of the restaurant scene in the movie "When Harry Met Sally". That scene was hilarious enough as fiction, but to think that a group of eclipse chasers brought it gloriously to life just rocks my world! "I'll have what they're having." Brian

From: Brian Garrett

Have no fear. This is the 21st century, and superstitious fear of a total Klipsi is a thing of the past. Sure, you may find the odd newbie who might try scaring Klipsi away with fireworks, tin pans and the like, but once knowledge reaches the masses that a Klipsi is nothing to be afraid of, they actually learn to enjoy the experience. (With proper eye protection, of course.) :) Brian

From: Daniel Lynch

One of the few locals who was with our small group for Zimbabwe 2001 was blind. Miraculously he had survived a car-jacking, where a shot to the head had left him blind. He enjoyed the gasps and (unfortunate) groans of pleasure that emminated from the crowds. Being the main culprit of the groans, anytime I've played back the video for friends or family, I've had to ensure that the sound is very firmly off!

(Continued on page 22)

SETalk

Perhaps I can control myself a little better for the Quantas flight.

I was at the same conference and concur that the most impressive aspect of Fred's videos were the vocal reactions. The video from a plane in Finland '92 showed the moon's shadow swooping across in a most dramatic fashion. Mightily impressive. Keep posting the sound byte links. Regards, Daniel Lynch

From Joel Moscowitz:

There is a very famous recording made by the late Roger Tuthill at the 1991 eclipse that has his wife yelling and stating "Oh Roger, it's SO BIG!". Those who have heard the tape (yours truly included) have given other interpretations to the exclamations!

Klipsi wrote: 4 times "Oh, my God!).

That's exactly what I said at my first eclipse, 1991, although it was probably a magnitude greater than 4 times. Glenn is witness to that, and it is on many recordings from that day. Joel M. Moskowitz, M.D. 8 (total)solar eclipses and counting

From: Darren Osborne

There is a great audio recording online from the Australian Broadcasting Corporation of the Ceduna eclipse 2002.

Visit http://www.abc.net.au/brisbane/stories/s741855.htm Darren Osborne

From: Joseph Cali

I've inadvertently switched off my cassette recorder in 1999 and 2001. Each time I missed recording "the silence" instead ending up wioth silent recordings.

In 1999 in Bucharest thousands of Romanian locals were gathered around this small lake 10km west of the city. I was in the grounds of a hotel on an island in the middle of that lake. As all the first timers saw the corona appear there were screams then thousands of people went absolutely silent. All those people were around the lake shore many facing us. The effect was very dramatic. I "heard" the silence again in Kapini village Zambia in 2001 with Bengt Alfredsson when local women, ululating at the eclipsing sun suddenly stoped. On each occasion something went wrong with the recorder.

Joel or Jay do you have Glenn's commentary on your video from Lindon? My very probably flawed recollection, is"Oh my God, Oh my God, it's rising, it is rising over our heads! Incredible!" Joe Cali

From: Chris O'Byrne

Or maybe the screams and the ululating just made you temporarily deaf? :)

I've certainly observed the noise level to drop when people get over the initial shock of seeing the corona, but I've never observed it to go totally silent...

The other interesting auditory phenomenon is the applause that greets third contact - now that I'm in a dry spell regarding visits to the umbra, I imagine that unconsolable grief would have been a better response to third contact than applause! :) Chris.

From: solareclipsewebpagesSENL200310btopenworld.com

Dear All, Maybe rather boring for some, but I have been taping all the solar eclipses so far I have seen or observed. The taping is mainly for the information I want to recorder on the dictaphone. The shape of the corona, the location of the streamers, prominences, etc. appearances of the planets or stars.

The dictaphone is running before and after totality and rather handy to make your report after or to verify timings. While we travel mostly on our own, we do not have big whoos and whaas on the pape. Cheers, PP

From: Jay Friedland

Hi all, Joe is right, it just so happens that I have the video of our TSE2002 experience up on the web with audio. (yes the video could be a bit better exposed!) So if you want to hear Glenn Scheneider's lack of enthusiasm after 23! eclipses, listen here (hear):

http://shark.vdbs.com/albums/album71/TSE2002.mov

By the way - I did cut short the next outburst (from me) which was "Oh Shit!" when I realized one of my four Umbraphile cameras was out of focus :-(Hearing it again is a great reminder of the fun! Jay

From: Peter Tiedt

Wow All these audio recordings have been just awesome.

I have a bit of time on my hands right now, so am offering to collate these recordings and burn them on to a CD, which I can them make available for distribution.

What I am suggesting is that these be mailed to me in .wav, .ra or similar common universal format, and I will then sort them by eclipse and recorder.

SETalk

If there is enough response this could be a real fun project!

Please do not just send files - let me know in advance the size of the file, and I may sugggest a different email address for the sending of the file (the bandwidth at the office is just so much bigger) and I can then transport the files home on a USB flash drive. Let's hear it (literally) from the group. Peter Tiedt rigelSENL200310stars.co.za Visit my Website at: http://www.eclipse.za.net

Nikon Photo Secretary and Eclipse Photography

From: Jay Friedland To: "SOLARECLIPSESSENL200310AULA.COM" <SOLARECLIPSESSENL200310aula.com> Date: Wed, 01 Oct 2003 05:25:47

Hi, Has anyone on this list used the Nikon Photo Secretary software on either Mac or PC to drive an exposure sequence for eclipse photography? If so, please feel free to contact me on or off list with your experience.

My big question is whether or not it will do exposure sequences (or can be scripted to do so). It looks like it will control an N90S, F100, or F5 from a computer, but so far it looks like single exposures only (from the docs I've found online). Thanks, - Jay

From: Jen Winter - ICSTARS Astronomy

Jay, We have been looking into Nikon Photo Secretary with limited success in answers to these kind of questions ourselves. - plus the availability seems to come and go. We just now found something made by Cocoon Creations called Softalk. It seems to have the whole package wrapped together with the dongle, cable, etc.. http://www.cocoon-creations.com/COCOON-Home.shtml

We just found it 2 days ago and are very hopeful about learning more information about the tool. Besides, they reference its use by a client during the '99 eclipse from Turkey....

The outfit is in South Africa (the Cape Town area, actually) but we have not had time to complete contact with the Mfr for further details or to check availability. We would love to hear what anyone has to say about this SOFTALK 2000 Software too. Clear Skies, Vic & Jen Winter

From: Robert B Slobins

Since 1991, I have used a Nikon MT-1 intervalometer that is designed for the F2 and the MD/MB series of compatible motor drives. These do not control exposures, and the intervalometer boxes are very rare. I also use Canon TM-1 intervalometers on the Canon F-1 and AE-1's I carry along. These too, are rare.

I gave the website a quick look. I have the normal questions as to reliability.

Now I have one question: How do you set up a backup in case the computer crashes? Windoze is not the type of operating system you can trust during totality.

Also, would it work with or be necessary with digital cameras like the Fuji S2?

And another question while I am at it: I have been doing Mars imaging with a Philips ToUcam and RegiStax, and some of the results have been quite nice. In fact, the QCUIAG people are doing amazing things with it. (Sorry Glen, it is a Windoze world for this!) I wonder if we are able to do similar work during totality with the large-scale CCD chips that these 6+ megapixel SLR's contain? It would be great to get hi-res details of the inner corona by cancelling out the turbulence that afflicts daytime observing.

I do believe that we would be stretching the capabilities of current PC technology and data communication gear. The bandwidth has to be broad enough and the AVI files would be HUGE! One needs to maximise the memory and have enough disk space to contain the movie. The other alternative is the use of high-quality digital videocams and recording the eclipse on tape. (For an idea of scale,

(Continued on page 24)

SETalk

a 30-second AVI of a 320X240 frame is 100K, making a 40GB hard disk tiny!)

I am going to record my flash spectrum images fromtape to AVI format and will try running RegiStax on the result. cheers/rbs

From: Jay Friedland

Hey - not so fast!

It turns out that while I have been using Registax on my PC (yes I admit to having a Windoze machine - pains me to use it!) a good friend of mine just told me that Keiths Image Stacker version 3 is out, and it WORKS!!

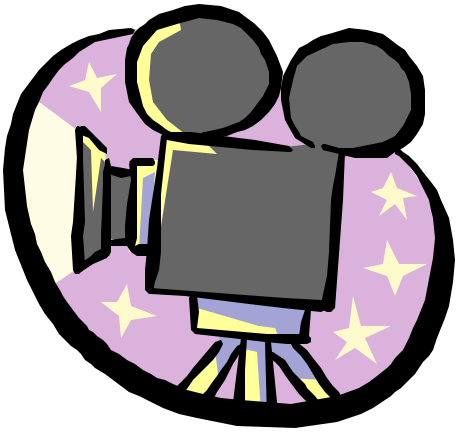
His website with download button etc. is noted below. He requests a $10 donation, which is a bargain. He then will notify us of updates. (I am sending him $20, for my two Mac's.)

http://www.unm.edu/~keithw/keithsImageStacker.html

His illustrated documentation with download is lengthy, and quite different from Registax 2 (for Windows,)

The advantage I see with Keith's Stacker is that the images can be subsamp led early on in the process, yielding bigger (smoother) final products. Also, RG&B can be SEPARATED and stacked AUTOMATICALLY, to correct for atmospheric refraction etc. Final processing seems less convenient than in Regis tax, but Photoshop can take over, once there.

Keith's Image Stacker accepts movies or stills, as Registax 2 does. Allocate lots of memory in Classic. Viva la Mac! - Jay



TSE 2003

Good film in Port Elizabeth ?

From: klipsiSENL200310bluewin.ch To: SOLARECLIPSES-SENL200310AULA.COM Date: Sat, 13 Sep 2003 08:31:07

can I buy good slide film in Port Elizabeth South Africa ? Fuji Provia and Velvia ?

and is there a good store in Hobart Tasmania that processes slides in a day ? thanks Klipsi

QANTAS Eclipse Flight, Film & Security

From: Glenn Schneider To: SOLARECLIPSES-SENL200310AULA.COM Date: Fri, 12 Sep 2003 07:58:15

I had requested that Croydon send the following to all participants of the QANTAS eclipse flight, but many are subscribers to SEML, so I am doing so directly in that way. I beg indulgence from others. If you receive this and know of someone who is participating as an eclipse observer on that flight but not on SEML, please do fporeard this along. Thanks...

==========

Dear Fellow Eclipse Chasers, Many of you using photographic films, including high speed and scientific films, to photograph the upcoming eclipse from the QANTAS/Croydon 23 Nov 2003 eclipse flight have contacted me about your concerns likelihood of security screening personnel demanding that such hand-carry films be X-ray screened before you are permitted to board. This is indeed a valid concern as such films can suffer degradation to X-ray exposure, and that is highly contra-indicated for so rare a photographic opportunity. This is generally not a concern in the U.S., where it is the policy of TSA to hand inspect films upon request. But the situation in Australia is different, as many of us learned to our distress of the intransigence of security screeners in Sydney and Melborune when trying to return home hand-carrying exposed, but unprocessed films from the 04 December 2002 eclipse.

Many of you have also expressed to me, the conduction of a photographic program of the eclipse is of paramount importance, and indeed the concept of unnecessary, but possibly requisite X-ray screening of your films is to put it mildly - troubling. I have raised this issue through the appropriate channels, and it is now in the hands of Mr. Trevor Jones, Manager Security Policy, Planning & Compliance for QANTAS Airlines. He has received relevant technical information from me and fully understands our concerns. He assures me that QANTAS will levy no screening requirements above and beyond what is required by governmental regulation, but QANTAS has no control over what the regulations which may be in place on the day of our flight may be. He has acted on our behalf by submitting requested exemption from any prohibitions against hand

TSE 2003

search of films, and also to permit the placement on board of a small number of tools to permit the assembly of instrumentation and equipment to be used to record the eclipse, to the relevant government agencies. So I do not mis-state anything he has said to me, I replicate the relevant sections of his last email to me here verbatim, which I do with his permission:

"Dear Dr. Schneider, Thank you for you e-mail. A request for a number of exemptions against the current security requirements to allow for the hand search of film and specialized equipment as well for Qantas to load and control small scientific tools has been sought from the Australian Government. As soon as a response is received, I will advise you and Capt. Dennis of the outcome. I will do all I can to assist this project within the bounds of the law. Qantas will not be imposing any additional requirements over and above those of the TSA unless a last minute change to threat or risk requires such a change. This cannot be predicted with any certainty, however if all goes well between now and your travel, no additional requirements will be in place. As I do not control the x-ray screening of checked baggage and cannot guarantee x-ray output, it maybe advisable to carry all high speed film into the cabin of Qantas aircraft.

Please advise how many passengers may require special handling for their film and/or equipment?

I will be in contact as soon as information is received back from the Australian regulator.

Regards, Trevor Jones Manager Security Policy, Planning & Compliance"

Regarding his specific request for a count of the number of passengers requiring special handling for films and/or equipment, he later wrote to me: "The more accurate the number the better for us and the regulator."

Hence,if you require such "special handling", i.e., will request hand inspection of high speed or special purpose films, or require special small hand tools to assemble equipment, send me an email to that effect over the next few days. I will compile an accounting and forward that to Mr. Jones. I do not need any details, just a simple "yes" to get a proper head count so personnel resources can be made available if this is approved. No reply will be presumed to be a "no". Please do NOT ask for this capriciously. X-ray scans for HAND INSPECTION (unlike for checked baggage) have extremely low risk factors for slower films. If you are using, for example, ISO 400 or slower films - which have not been subject to multiple exposures at other airport screening stations - this should not be a concern. I do suspect, however, that many (if not most) will be using higher speed films, given the platform stability issues in photographing from an aircraft.

QANTAS has been most attentive and helpful in this matter, but I would ask you not to contact Mr. Jones directly as this issue is being worked and lots of individual "pings" would not likely be to our mutual benefit. I will keep you advised and appraised of the situation. Sincerely, Glenn Schneider

From: Jay.M.PasachoffSENL200310williams.edu

Please put me on the list for hand film inspections. But let's have a discussion over grain vs. speed. Jay

From: Joseph Cali

Dear eclipse chasers, Last December, security paranoia was on extra high in the leadup to the agression against Iraq. I suspect that was more to blame for the problems experienced in Decemberthan anything else.

I went to Brisbane two weeks ago (domestic flight) and had no trouble getting my film hand inspected at Canberra and Brisbane airports following a polite request. They gave me the little lecture about how safe their scanner was as they were hand inspecting it. For my part, I didn't argue with them since they were obliging with a hand inspection.

The xray scanners used in Australia are safe for single passes. I passed one Fuji 800ASA C41 film(NPZ) through the scanner in my luggage as a test. Could not see any fogging in the images.

You are coming to Australia. We are not your typical 3rd world country. Our government leaves a lot to be desired but at least we have we have fresh film and professional labs here. I suggest purchasing your film in Melbourne and processing in Melbourne post

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eclipse. Melbourne has lots of well stocked camera stores all over the city that can sell you nice fresh film.

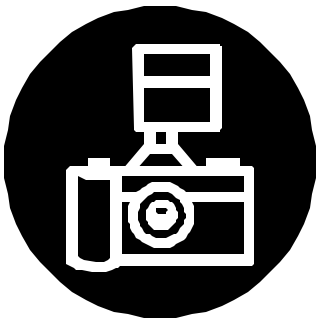
Then it only has one x-ray scan to pass and it really does not matter one way or the other whether airport security scans the film or agrees to hand inspect.

NULAB professional imaging in Melbourne is an excellent pro-lab located in Melbourne. Many regard them as the best lab in the country. Suggest you contact them and find out what their turnaround time might be if they were suddenly hit with a hundred or more E6/C41 eclipse films on November 24th, 2003.

If everybody wants to use them, they might arrange to send order forms & envelopes on the flight and have a courier pickup at the airport as the plane disembarks and have your film processed by the time you wake up from your post eclipse flight slumber. You might have had to fill out order forms & have the film bagged in flight ready to give to the courier. If you are leaving Australia 5 minutes after disembarking, they can probably send your film to you. They mail order work for professionals all over Australia and internbationally.

they are :

NULAB professional imaging
8-12 Venture Way, Braeside
Melbourne, Australia 3195



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Local: 1300-303-340
International: +61-3-9588 2599

Email: customerserviceSENL200310nulab.com.au
http://www.nulab.com.au/whats_nu/index.htm

I have cc'd this email to them. If their customer service dept wants to reply to me, I'll post the reply to the mail list. Cheers Joe Cali

From: Glenn Schneider

I very much appreciate Joe's commentary on his even more recent experience with film screening in Australia. He is, of course, quite correct in his suggestions to minimize X-ray exposure by procuring films locally AND getting them processed in Melbourne if your schedule permits or can use a courier service. The ONLY real issue which remains is the possibility of X-ray screening of high speed films on boarding the eclipse flight. While Joe notes that he was accommodated with a hand search ,there is no such policy in place upon which you could rely. It is for this reason that QANTAS security is trying to assist us, if possible, in this matter. To assist them in helping us, please do let me know if you have a requirement in this regard as they requested. I do hope Joe's recent experience is the order of the day for the eclipse flight, but best not to leave that to chance. Cheers, and thanks for the tip on the local lab! -GS-

From: Glenn Schneider

Jay.M.PasachoffSENL200310williams.edu wrote: Please put me on the list for hand film inspections.

Already had done so in anticipation.

> But let's have a discussion over grain vs. speed. Jay

(Continued on page 27)

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I'll reply through SEML as some of my comments here are likely germane to experiences of others who may wish to comment.

We certainly can and should do that, but I suspect that question cannot come to closure until we have a handle on how well a gyro/{VR} augmented platform will really work. We cannot assess that until it is built and tested. I was not considering a gyro rental for more than a month because of the cost - so the decision on "what films" would be precluded until a week or two before departure. I do not see that as a problem, though, as we fully understand the trade space. I think we need to adopt some metric as to what is "acceptable" in terms of RMS or N-sigma line-of-site jitter (image smear) for the focal lengths/f-ratios to be used. The gyro performance then set the maximum exposure time. With that, of course, we can assess what speed films would be needed.

Obviously, the slower the better as far as granularity - but of course image stability vs. image depth will be the driver.

I should say, I was exceptionally pleased - beyond my expectation - how well Fuji NPZ 800 pushed to ISO 3200 worked when I stacked multiple images to beat down the grain in individual images. There are obvious limitations on this due to lunar motion w.r.t. the sun - but for the innermost radii I suspect a slower film and longer focal length camera/film combination would be appropriate.

Just as an example see: http://nicmosis.as.arizona.edu:8000/ECLIPSE_WEB/ECLIPSE_02/TSE2002_TOTALITY_IMAGES.html
compared to: http://nicmosis.as.arizona.edu:8000/ECLIPSE_WEB/ECLIPSE_02/TOTALITY_MOSAIC_25.jpg
The output image was simply a signal-to-noise weighted median combination of the "middle seven" individual exposures (after color separation, and recombination after mediating the R, G, B planes separately). That was done to improve the sampling resolution by beating down the film grain. Indeed, in the regions which were not photon starved (film grain is like read noise) the "flatness" did improve by very close to sqrt(7) -so this works! The output image was not radially filtered or any such "tricks" to boost radial dynamic range or image contrast in that "usual" manner, but of course additional detail and radial extent emerges in the numerically treated image combination as I have done it.

Given that line-of-site image stability AND aircraft window quality will certainly be the two tall poles to overcome, I would lean toward doing something very much like this for TSE2003 as well.

Keep in mind that these images ftom TSE2002 were for the sun only 2 degrees above the horizon - and we won't have those issues of very large effective air mass to deal with at 35,000 ft even though the eclipse is only 15 degrees up. As an interesting metric, the integrated airpath at our altitude to at 15 degree elevation is almost exactly the same as looking up at the zenith from sea level. But, we will have much lower atmospheric particulates and looking through much less turbidity, so we are far better off. -GS-

From: Dale Ireland

Hello You might want to seriously consider video as a source of high quality still images rather than film. You can set your video camcorder to take short exposure images, say 1/1000, to help over come vibrations on the plane and then use stacking software, like the free Registax, to stack multiple video frames, like 150 frames from a 5 second recording, to produce photographic film quality images. Lots of people are doing this currently for the Mars apparition. I just started myself and as an experiment ran some of my old eclipse video through Registax with very good results. Just as we have stacked a few photo images "by hand" in the past, we can now stack hundreds of video frames to produce a result that may be well suited for the airplane cabin shooting environment. Dale

From: Jean-Paul GODARD

Hello all.... Considering "image improvement" for video taken from an airplane you may consider different things...

<<... to be discussed and completed by list-experts>>

- Vibrations is a part of the problem, and image staking may be a part of the solution
- Avoid Zooming (will surely enlarge vibrations effect)
- Airplane movements may be handled by pilot, Gyro Plateforms, and even numerically with post production "tracking" of the center of the sun on the movie... (Yes you have different solutions to "stabilize" a DV movie with dancing sun: Using virtualdub(freeware) or Adobe premiere (a bit expensive))

More difficult might be window quality....

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You may have to consider distortions, aberrations, scratches, dust, and even ice cristals growing during the flight....
At the moment I have no solution, eventually (free) advices to discuss:
- Prepare for the worst! I got it
- Have onboard something to clean one of the four sides of the window
- Ask flight organisator to request outside window cleaning before lift off ??? (you may ask!!)
- ???put some "silicate" bag if front of the little hole to avoid ice/snow growing between the two windows...
- Avoid breathing in front of "the little hole" (you or the guy before you, who paid to see something eslse)
- Make "reference" pictures through your window to be used as "flat fields" for image processing
- put your lens close (but not in contact: vibrations) to the window..
- Put and keep your Focus on "MANUAL to infinity" (to avoid autofocus on the nearest scratch)

<<... to be discussed and completed by list-experts>>

[Starting (iced) humour section] The best position is surely sitting outside on the wings.... http://mapage.noos.fr/eclipses/990811/envol.htm [Closing humour section] Cordialement, Martine & Jean-Paul

From: Gerard M Foley

Original Message --From: "Jean-Paul GODARD"

Hello all.... Considering "image improvement" for video taken from an airplane you may consider different things...

<<... to be discussed and completed by list-experts>>

- Vibrations is a part of the problem, and image staking may be a part of the solution
- Avoid Zooming (will surely enlarge vibrations effect)
- Airplane movements may be handled by pilot, Gyro Plateforms, and even numerically with post production "tracking" of the center of the sun on the movie... (Yes you have different solutions to "stabilize" a DV movie with dancing sun: Using virtualdub(freeware) or Adobe premiere (a bit expensive))

More difficult might be window quality.... You may have to consider distortions, aberrations, scratches, dust, and even ice cristals growing during the flight....

I say: Airplane windows aren't as bad as you might think: http://foley.ultinet.net/~gerry/aerial/aerial.html

and the first few images in http://foley.ultinet.net/~gerry/gc/gc.html

I don't have any experience with really long focus lenses (telescopes, for instance) out of aircraft windows, but I have never felt the need for image magnification in looking at an eclipse. Some of the images on the pages referred to were taken with an Olympus C2100UZi at fairly long zoom settings. The maximum for this camera is equivalent to 380 mm. fl on 35 mm film. I hope everyone enjoys the flights. I won't be along (;-((Gerry

From: Carter Roberts

Last year I decided to not worry about my film. It all went through the X-ray machines without protection. Two rolls of 400 speed negative film were processed in Melbourne after at least 3 X-ray exposures in Australia (2 in the US) and showed no evidence of fogging. I never used the one roll of 800 speed film I carried with me on the entire trip so don't know whether it was affected.

I haven't yet decided which film to use in my film camera. I'm planning some tests on a flight next week to see how well an image stabilized lens might work. I think the real limiting factor will be window quality. Clear Skies, Carter Roberts

TSE 2003

TSE 2003 - Coronal Polarimetry

From: Glenn Schneider To: SOLARECLIPSESSENL200310AULA.COM Date: Tue, 23 Sep 2003 00:10:19

Is anyone on the Khleb or Nobo expeditions planning any coronal polarimetric imaging? It's a pretty easy experiment to do (but not suitable though an uncalibrated aircraft window). For a very brief description of what is needed for data (basically colornal imaging at fixed exposure times while rotating a polaroid 60 degrees between images) see: http://nicmosis.as.arizona.edu:8000/ECLIPSE_WEB/ECLIPSE_01/ECLIPSE_2001_REPORT.html at the bottom of the page.

If anyone is planning to do something similar, pleas let me know. I would be happy to reduce the image data and do the polarimetric analysis, That would likely mean your needing to send me your polarizer after the fact so I can calibrate it, but that, I don't think, should be a problem. Cheers, -GS-

From: Jay.M.PasachoffSENL200310williams.edu

We were thinking of polarization here, Glenn, but we ruled it out last week because of the polarization introduced by the windows. Also, we did polarization in Ceduna but were limited in radial range by the rapid falloff in intensity, and one can't use a radial filter on an airplane because of guidance problems.

From: James Huddle

Should we expect the same problem - rapid falloff in intensity - in Antarctica due to the fact that the sun will be so low on the horizon? A student and I played with this idea in Aruba in 1998 (boy! that seems a long time ago!) but we were not really satisfied with the results. We used a HI-8 camcorder with a polaroid filter over the objective. I think our images were overexposed, but you can definitely see a difference when the filter is rotated. Jim Huddle

From: Jen Winter - ICSTARS Astronomy

Jim,

>>>>Should we expect the same problem - rapid falloff in intensity ?

I don't think the light falloff in intensity will be as marked as one might expect.

In February, during my site inspection to Novo, I observed and photographed the sun at the same altitude that it will be during totality this November. I calculated the time on February 08 to be 20:24 UT - and the sun was at approximately 1.6 degrees. I had reviewed the images and exposure times from Australian observers at the path limit in 2002 and noted the chromatic aberration and fall-off issues. We also ran some low altitude near-sunset tests here in the midwest prior to the trip (in the winter we expected the haze and atmospheric debris to be lower) to adapt exposure times.

- However... on arrival, we were grossly off in our calculations of Very Low Altitude exposure settings. Whereas at home, an exposure of ASA 800 F/11 1/250th or 1/1000th would capture a good sunset photo... In Antarctica, the exposures were off the meter at ASA100, F/22 and 1/4000 sec. As a result, we stacked 2 neutral density filters and 3 pair of sunglasses over the lens to crudely image the disc relative to the horizon. I don't study the atmosphere, but I can say that the clarity of color and brightness of the disc were absolutely NOTHING like what observers photographed in Australia near the path limit. I hope that nobody visiting Novo or Myrny underestimates brightness for photographing. Bring adequate solar filters! This is not like a sunset in your backyard.

An explanation of this problem and issue can be seen in more detail at: http://www.astronomicaltours.net/Antarctica2/EclipseSite.html

I will also note that if anyone scheduled to visit Novo wants to do more advanced investigations, we should be prepared to provide logistical support just fine. As it stands now, we have a support building for basic needs like heat, warm drinks, bathrooms etc... but we also have organized a special electrical service station with "charging platforms" for teams to plug-in rechargeable batteries for

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cameras, laptops, camcorders, etc. We expect this will be more efficient than trying to drag electrical service all around the compound, with devices possibly left to charge on the ground in the cold. Those who prefer live power will need to bring extension chords to span any distance away from the charging tent as desired. Electrical current will be 220v - with huge South African style plugs. Jen Winter - Owner

From: Glenn Schneider

Jim, I do not know the details of the camera, but I can tell you it is quite likely you were hindered by instrumental polarization. Commercial grade CCDs used in camcorders in this general class are almost always front-side illuminated devices. The polysilicate gates on the surface of the devices have very high specular reflections resulting in internal polarizations. The coronal, in places, is so highly polarized that I am not surprised you can see a difference signal when you rotate the polarizer axis - but sorting out the intrinsic from instrumental polarizations can be really tough, and indeed also depends upon the geometry of illumination.

If you still have the camera you likely could calibrate it, but if you do it again, I really suggest a film camera for that purpose. -GS-

More observations from Antarctica

From: Klipsi To: SOLARECLIPSESSENL200310AULA.COM Date: Fri, 26 Sep 2003 20:37:06

Dear friends, I just found out that the german icebreaker POLARSTERN will leave Capetown on November 17 to sail to resupply the German station Neumayer , which is not too far from Novo / Maitri. Maybe they will try to see it on the way down ? Could they reach Maitri in 6.5 days from Capetown ? I have written them to know if they plan to see the eclipse "en passant" .

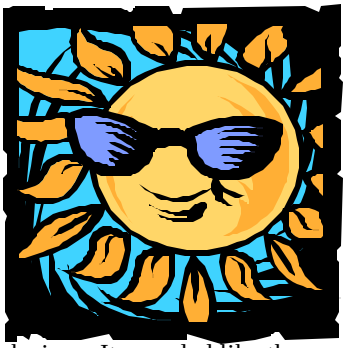
source : see http://www.awi-bremerhaven.de/php/ResearchPlatform/Display.php?year=2003&name=polarstern&type=ship and check the voyage at the bottom of the page

so, after the australian "Aurora Australis" to resupply Davis station in November, now the "Polarstern" to sail to Neumayer ! Of course ! November is springtime, and this is when all resupply icebreakers of the world sail to their respective stations. so, Are there more icebreakers going there ? what about the south african station SANAE ?

In other news: if anyone on this mailing list receives the japanese TV station NHK (via satellite or else), then get ready to tape record their program. I learned that they plan to do live broadcast from 3 locations in Antarctica. I think one of them is Novo station . Another one was a plane {don't know which one, must be Qantas or LANChile). But the most interesting, I think , is DOME FUJI STATION. I found out that NHK TV has installed the necessary hardware and equipment to do HDTV quality broadcasting from there . Wow ! Coordinates are 39.7 E, 77.3 S. Elevation 3810m above sealevel.... that is going to be really cold up there ! But what a sight for totality !

anyway, do we have friends in Japan who could record the NHK show ? Or maybe someone receives it in Hawaii or the U.S. westcoast, or in Hong Kong or elsewhere ? best regards,

Olivier "Klipsi" Staiger
Paparazzo del cielo
Satigny-Geneva Switzerland
tel +41.79.449 4630
http://eclipse.span.ch
klipsiSENL200310bluewin.ch
DANCES WITH PENGUINS
http://eclipse.span.ch/antarctica2003.htm



From: Glenn Schneider

The NHK people contacted me about this, and I wrote them back, but have not heard back since. It sounded like they were interestd in the QANTAS flight, and put them onto Phil Asker to make arrangements. I don't know what, if anything, is happening with that. -

TSE 2003

GS-

From: Jen Winter - ICSTARS Astronomy

Klipsi, We are working with associates from the NHK group in the US. One of their teams will be operating at the Novo site with a large group. I will ask for a production copy of the broadcast from the US source. jen

From: Jen Winter - ICSTARS Astronomy

Hey gang, I would like to ask that if anyone on the list learns of any news regarding teams of observers (scientific or private) who are discussing observations of the eclipse at any of the following stations, that you please contact me off-group. Please don't assume that because a program is associated with any authority that "they already have everything wrapped-up".

Maitri (India)
Novo - Novolazarevskaya (Russian)
the Blue Ice Runway
Neumeyer (Germany)
SANAE (South Africa)
or any other location in Droning Maud Land

We have recently learned of 3 separate teams who quietly had private plans to observe from one of the stations and expected logistical support to be there... or didn't think about logistical support at-all. All logistical support is through the same source for all bases and whose system is currently already maxed-out. Because logistics, fuel, vehicles and manpower cannot be hired-in last minute, it is obviously important that ALL parties are able to coordinate together in advance.

We don't want anyone left out in the cold, stranded anywhere or worse... to miss the eclipse. Yours, Vic & Jen Winter - Owners

Eclipse painting contest

From: Klipsi To: SOLARECLIPSESSENL200310AULA.COM Date: Tue, 30 Sep 2003 07:18:52

dear friends, Have you seen that we are holding a painting contest for the Antarctica eclipse ?

I would like to invite kids and folks of all ages to participate in our painting contest, to paint an eclipse and penguins, on the computer. Or to create an animation with penguins and the eclipse.

see http://eclipse.span.ch/antarctica2003.htm and click on thumbnails on top and top right. thanks for participating. Olivier "Klipsi" Staiger

Who has Iridium satelite phone in Antarctica ?

From: Klipsi To: SOLARECLIPSESSENL200310AULA.COM Date: Wed, 01 Oct 2003 08:35:52

dear friends, Does anybody on this list have an iridium satellite phone ? whether you go to Antarctica or not, if you have an iridium phone, it would be nice to exchange all numbers so we can call each other when we are in Antarctica or on our way.

you can send me your number off-list, to klipsiSENL200310bluewin.ch .

My own iridium number is + 8816 3141 4050 . (+ is for international access. >From U.S., it is 011 8816 3141 4050 . from most European countries it is 00 8816 3141 4050

You can reach me also with free paging service over http://messaging.iridium.com .

TSE 2003

in that interface, type the number without international access code and without spaces. just 881631414050

To Patrick : I haven't heard from you some time. What are YOUR plans for November 23rd ? Which of the trips will you be on ? Croydon/Qantas ? Klipsi

Antarctica webcams

From: Klipsi To: SOLARECLIPSESSENL200310AULA.COM Date: Tue, 30 Sep 2003 07:13:37

dear friends, just a short reminder that on november 23 around 23h00 UT , those who are home and online should please try to see and save the images from the webcams on Antarctica, specially from McMurdo station.

McMurdo station webcam is robotic remote controllable, zoomable, rotating 360 degrees. The Sun can be pointed at and zoomed into. There will be a partial eclipse in McMurdo. If we are lucky and there are some thin clouds they might work as solar filter and we might capture a good image of the partial eclipse there. http://live7.truelook.com/face/newface.jsp?name=/nasa/mcmurdo

Davis station, the camera is not robotic. image is uploaded normally every hour (right now it seems to be down for a few days). It wont probably show the deep partial eclipse there but images are worth saving around eclipse time. They might show curious light, slight darkening, etc. The camera is not remote controllable, but the local staff are occasionnally changing position or zoom factor to show specific sights. On November 21 maybe the camera will show our icebreaker the Kapitan Khlebnikov ? It may show 2 ice-breakers, as the australian Aurora Australis will also be there. Maybe we will have time to pose in front of the webcam and you might then see Fred, Klipsi and all the group. http://www.aad.gov.au/asset/webcams/davis/default.asp

from the Davis webcam site you also have links to Casey and Mawson webcams. There too, the deep partial eclipse may show weird light on landscape views . Worth saving. around 26 november our icebreaker should be near Casey station, maybe you will see it ?

Neumayer station, deep partial eclipse, http://www.awi-bremerhaven.de/NM_WebCam/

southpole http://www.phys.unsw.edu.au/southpolediaries/webcam.html camera seems to be temporarily down ?

and of course, as the eclipse is a partial eclipse all over Australia at that moment , there will possibly be webcasts of partial eclipse views from Australia.

right now there is wonderful blue sky at McMurdo, ideal eclipse weather. Neumayer has rain/snow on the camera lens ! Davis is cloudy overcast. Casey is sunny clear. Olivier "Klipsi" Staiger

From: Darren Osborne

Chris (and list) I'm currently chatting with the Australian Antarctic Division about turning their three cameras towards the Sun (with filters) on the day.

They will be linked from our as yet updated website at www.csiro.au/eclipse/

The cameras are currently at:
http://www.aad.gov.au/asset/webcams/davis/default.asp
http://www.aad.gov.au/asset/webcams/mawson/default.asp
http://www.aad.gov.au/asset/webcams/casey/default.asp

I must 'pull my finger out' as it's getting close. Darren Osborne

Original Message --From: "Chris O'Byrne" <obyrneSENL200310iol.ie>

(Continued on page 33)

TSE 2003

> > southpole http://www.phys.unsw.edu.au/southpolediaries/webcam.html camera seems to be temporarily down ?
>
> http://www.cmdl.noaa.gov/obop/spo/images/cmdlfullsize.jpg contains an image taken a few hundred metres from the South Pole when their Internet connectivity allows.
>
> At present, due to the low angle of the sun, they keep pointing it at the ground! However, it is usually pointed in the direction of the new South Pole Base.
>
> Given their aversion to even inadvertently taking pictures of the sun with it, it is highly unlikely that we will see anything on eclipse day. Chris.

TSE 2006

Website TSE2006

From: solareclipsewebpagesSENL200310btopenworld.com To: SOLARECLIPSESSENL200310aula.com Date: Mon, 08 Sep 2003 12:56:51

>From Ahmet Kosar: Dear group, Friendly greetings from sunny Istanbul, I have made a web site for solar eclipse 2006 you can visit it at http://www.sofi2006.com please feel free to make critics and I need help for more information.. You can add news, links & make new topics at the forums best regards Ahmet KOSAR PERFORMANS TRAVEL - Istanbul

have you been visited my web site ?? I'm waiting for your critics.. best regards Ahmet KOSAR

From: Peter Tiedt

Tried the link, but the menu page never finishes loading, even after about 40 min ... Seems to be a java error on the page - Oh for good ole plain vanilla html pages ..... Peter Tiedt

From: Gerard M Foley

Comes through ok on my server and browser (IE6). Gerry

From: Geoff

and mine too (Netscape 7)

From: solareclipsewebpagesSENL200310btopenworld.com

Once more, the SEML is NOT the media to communicate about function and non function of webpages or e-mail addresses. Please communicate this privately or via myself. Thank you.

See the SEML rules on our webpages and on which you, as a subscriber, do agree to. Patrick

Explorers

from: Brian McGee <Brian@explorers.co.uk> date: Tue, 30 Sep 2003 17:05:35 to: solareclipsewebpages@btopenworld.com

Hi Patrick, I just noticed the link you have to our astro page is out of date. It should be http://www.explorers.co.uk/astro/astro_home.htm

Joanne & Patrick

The sole Newsletter dedicated to Solar Eclipses

WE'RE ON THE WEB AT
http://www.Mr.Eclipse.com/SENL/SENLinde.htm
and
http://solareclipsewebpages.users.btopenworld.com

THE SOLAR ECLIPSE NEWSLETTER IS A MONTHLY NEWSLETTER ABOUT SOLAR ECLIPSES EDITED BY PATRICK POITEVIN & JOANNE EDMONDS. FINANCIAL SUPPORT FROM THE RAINBOW SYMPHONY.

THE ELECTRONIC VERSION OF THE SOLAR ECLIPSE NEWSLETTER IS AVAILABLE ON THE WEB PAGE OF FRED ESPENAK.

THE SOLAR ECLIPSE NEWSLETTER IS FREE OF CHARGE, BUT IS NOT AVAILABLE IN HARD COPY.

We have the Venus transit trip set up now, it looks like it is going to be a very good party!

I am trying to get a trip organised for Libya 2006 - do you know where I can get good weather data? I know we need to go inland away from the coast, but I am not sure how far we need to go into the desert to be sure of clear skies. Regards, Brian McGee Explorers Tours

SUBSCRIBING TO THE SOLAR ECLIPSE MAILING LIST

The Solar Eclipse Mailing List

The Solar Eclipse Mailing List (SEML) is an electronic newsgroup dedicated to Solar Eclipses. Published by eclipse chaser Patrick Poitevin.

solareclipsewebpages@btopenworld.com

It is a forum for discussing anything and everything about eclipses.

Thanks to the voluntary efforts of Jan Van Gestel of Geel, Belgium, the Solar Eclipse Mailing List (listserver) has been in operation since 10 December 1997. This is the first mailing list devoted solely to topic of solar eclipses on the internet.

You can send an email message to the list server solareclipses@Aula.com, which will then forward your e-mail to all the subscribers on the list. Likewise, you'll receive email messages that other subscribers send to the listserver. Only subscribers can send messages.

HOW TO SUBSCRIBE:

IN THE BODY OF THE MESSAGE TO listserv@Aula.com SUBSCRIBE SOLARECLIPSES name, country.