

# SOLAR ECLIPSE NEWSLETTER

## HEADLINES

- Solar Eclipse Calendar December
- General Topics
- Max Waldmeier
- December 2001 eclipse
- Africa June 2001 eclipse
- Christmas eclipse

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### GENERAL TOPICS DISCUSSED THIS MONTH ON THE MAILING LIST

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## Solar Eclipse Mailing List

### Editor's words

Dear Eclipse Chasers

We hope you all enjoyed the new look newsletter of November. Just to remind everyone, you really need Acrobat to be able to receive the newsletter, before you download, this is free from Adobe, so don't delay, and download today!

In this month's issue you will find plenty to keep you interested. With December comes the partial eclipse of the east coast of America.

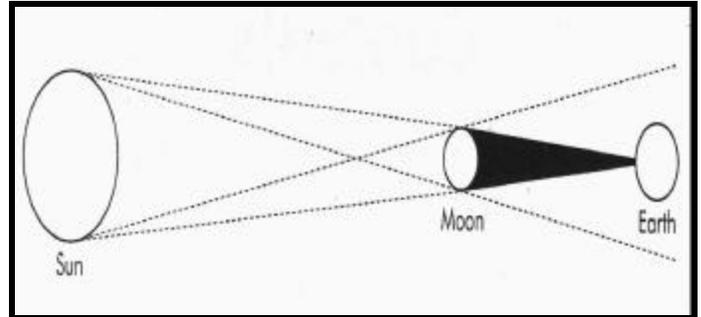
The eclipse will be an extra present for us all. Patrick and I expect a whole bunch of reports and pictures from anyone lucky enough to be in the right place at the right time. So if you can pull

yourself away from the roast turkey and mince pies, so get the telescopes out, take some pictures and send them to us.

This month there is a special feature concerning the sad loss of Max Waldmeier. His contribution towards solar physics can be read from page 13. Be sure not to miss it.

There isn't much left to say but enjoy this month's edition. Please send your contributions for next month. Next month's release date is around the 10th of January, delayed due to the holiday season.

Merry Christmas and a very happy New Year to everyone from Patrick & Joanne.



### 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 ([patrick\\_poitevin@hotmail.com](mailto:patrick_poitevin@hotmail.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 e-mail message to the list server [solareclipses@Aula.com](mailto:solareclipses@Aula.com), which will then forward your e-mail to all the subscribers on the list. Likewise, you'll receive e-mail messages that other subscribers send to the listserver. Only subscribers can send messages.

*Continued on back page.*

## SUBSCRIBING TO THE SOLAR ECLIPSE MAILING LIST

**THE SOLAR ECLIPSE MAILING LIST IS MAINTAINED BY THE LIST OWNER PATRICK POITEVIN AND WITH THE SUPPORT OF JAN VAN GESTEL**

### HOW TO SUBSCRIBE:

**IN THE BODY OF THE MESSAGE TO [listserv@Aula.com](mailto:listserv@Aula.com) SUBSCRIBE SOLARECLIPSES name, country.**

## ECLIPSE CALENDAR



# DECEMBER

Please find herewith solar eclipse calendar for December. If you have remarks or want to add events, please feel free to write me a message.



**December 01, 2206** There will be 3 eclipses in 2206: A Partial Solar Eclipse on December 01 and December 30 and a Total Lunar Eclipse on 16 December 2206. There were 3 eclipses in December 1880: A Partial Solar Eclipse on 2 December and 31 December and a Total Lunar Eclipse on 16 December. Ref. SEML 06/00

**December 02, 1989** Solar Max lost orbit and burned in Earth's atmosphere. Launched in 1980, Solar Max was repaired in the cargo bay of the Space Shuttle Challenger in 1984. Solar Max studied the Sun and discovered 10 comets skimming past or crashing into the Sun.

**December 02, 1995** The SOHO satellite was launched in a halo orbit around the L-1 Lagrangian point between the Sun and the Earth.

**December 04, 1983** A 1 percent magnitude partial eclipse was visible in Belgium. The eclipse was annular in Africa.

**December 05, 1879** Sir William Abney proposed to the Royal Society a photographic map of the solar spectra in infra red. He made photographic emulsions which were sensitive at a wave length of 12000 Angstrom. This could not be copied for many years. Ref. DD 11/99

**December 05, 1967** Launch of HEOS 1 (USA). Research of magnetic fields, solar wind and cosmic rays. Ref. DD11/99

**December 06, 1631** The first transit of Venus as predicted by Johannes Kepler was observed.

**December 06, 1695** Total solar eclipse visible on the Mount Everest (Chomolungma). At the same time as well on two other 8000 meter summits (14 in total): Lhose and Cho Oyu. Ref. PA 05/00

**December 10, 1974** Helios 1 was launched to observe the Sun and its solar wind. It was constructed in West Germany and launched by the US from Cape Canaveral in Florida. Because it was equipped with special heat-dispersal systems, the spacecraft were able to withstand extremely high temp's, which reached an estimated 700 F (370 C). It was the closest any spacecraft has approached the Sun (28 million miles from the Sun).

**December 10, 1997** Start of the Solar Eclipse Mailing List (Solar Eclipse List) on internet. This is the first worldwide Mailing List on Solar Eclipses. Jan Van Gestel from Belgium offers the server, Patrick Poitevin is the Solar Eclipse List Owner. After 3 years there are between 280 and 300 subscribers out of more than 35 different countries.

**December 12, 1871** Edward Walter Maunder mentioned an eclipse comet on December 12, 1871, observed by A.C. Ranyard. But he speaks " ... less convincing evidence ..." comparing with the eclipse comet of 1882 and 1893. On the drawing you can clearly see the dark lines visible in the corona.

**December 12, 1871** Pierre Jules Cesar Janssen (1824-1907, France) uses spectroscopy from an eclipse in India to propose that the corona consists of both hot gases and cooler particles and therefore is part of the Sun. Jules Janssen discovered dark lines in the solar corona spectrum. (ref Rc 1999)

**December 12, 1928** Jean Meeus birthday.

**December 13, 1967** Launch of Pioneer 8 (USA). Research of the sun. Ref DD 12/99

(Continued on page 3)

## ECLIPSE CALENDAR



**December 13, 1974** Last solar eclipse on a Friday the 13<sup>th</sup>. The next solar eclipse on a Friday 13<sup>th</sup> is in July 2018. Both are partial solar eclipses. There are 24 solar eclipses on a Friday the 13<sup>th</sup> between 0 and 3000. Of which 13 partial, 9 annular and 2 total solar eclipses. The most odd is the one of 13.03.313 which was an annular eclipse.

**December 14, 1546** Birth of Tycho Brahe, Danish astronomer. His interest in astronomy started due to the observation of a solar eclipse in 1560. He died in 1601. Ref. DD 12/99

**December 14, 1881** William R. Birt, English selenograph died. He founded the Selenographical Society and Selenographical Journal in 1878. He studied as well sunspots and the solar rotation. He was born in 1804. Ref DD 12/99

**December 15, 1859** Gustav R. Kirchhoff distilled from the sun spectra which elements are present in the sun. Ref. DD 12/99

**December 16, 1965** Pioneer 6 was launched to observe the Sun, orbiting between Earth and Venus in a 311-day orbit. The spacecraft is still functional to this day, and is the world's oldest surviving spacecraft.

**December 19, 1973** Skylab took its now famous photo of a giant solar prominence loop.

**December 20, 1876** Walter S. Adams, American astronomer was born. His spectroscopic research of sunspots and stars caused the discovery of a spectrometric method to detect the distances of stars. Died in 1956. Ref. DD 12/99

**December 21, 1998** Solar and Heliospheric Observatory (SOHO) positioned in a safe mode because the last gyroscope failed. Any orbit corrections would need too much energy. They used software to point the gyroscope. This was the first satellite successful in it. Ref. DD 12/99

**December 22, 0968** First clear description of the corona seen during a total eclipse, by a chronicler in Constantinople. The first mention of the corona may have been due to Plutarch, who lived from about AD 46 to 120. Plutarch's book 'On the Face in the Orb of the Moon' contains a reference to 'a certain splendour' round the eclipsed Sun which could well have been the corona.

**December 22, 1828** Death of William Hyde Wollaston (1766-1828), British Doctor and chemist. He saw in 1802 the Fraunhofer lines in the Solar spectrum but considered it as a limitation of colors. (Ref Rc 1999.)

**December 22, 1870** Jules César Pierre Jules Cesar Janssen (1824-1907, France) uses a balloon to escape the German siege of Paris to study the December 22 eclipse in Algeria. He reached Aran (or Wahran), Algeria, but the eclipse is clouded out.

**December 22, 1870** Photograph high level of sun spots in Eclipse/Bryan Brewer 1991 page 29 and sketch page 48. See also Young's description on the Fraunhofer lines in Total Eclipse of the Sun/J. Zirker 1995 p. 12+18.

**December 22, 1870** Spain: Numbers of scientific experiments. Charles A. Young (US) was successful in Spain and revealed that the chromosphere is responsible for producing both the flash spectrum and dark line spectrum observed in Sun's photosphere. Corona was bright and suspect on relation to activity.

**December 22, 1975** Launch of Prognoz 4 (former USSR). Research of the sun. Ref. DD 12/99

**December 23, 1907** Death of Pierre Jules Cesar Janssen (1824-1907, France). Studied the Sun. Co-discoverer of the lines of Helium in the Sun, that time on Earth not yet discovered. Observed solar eclipses of which one from Algeria when he escaped Paris with a balloon during the war. (ref Rc 1999)

**December 24, 1957** Very high Wolf number (sunspot number): 355. The next it was also 355. Ref. DD 12/99



(Continued on page 4)

## DECEMBER



**December 25, 2038** Partial Solar Eclipse with magnitude of 0.845 on Christmas Island. On December 26, 2019 there is a partial eclipse of magnitude 0.658 on the same island. At Christmas Creek, Western Australia, both partial eclipses: a magnitude of 0.798 and 0.297. Christmas Island will get a total solar eclipse on 22 July 2028 with almost 4 minutes of totality.

**December 25, 1581** Due to the de lunation period (29,5 days), over 2 following years, no phase of the moon can be on the same day. In fact neither a solar eclipse. Though, there was a solar eclipse on 25 December 1581 and a solar eclipse on 25 December 1582. The first visible in South America and the second in the south of Asia and in Australia. It was only possible because of the change from Julian to Gregorian calendar. In October 1582, there were 10 days eliminated. (ref. H 5/88)

**December 26, 1886** Prof. Theodor Ritter Oppolzer (1841-1886), professor in astronomy in Vienna and author of the monumental Canon der Finsternisse died in Vienna. He started his work October 22, 1885 and it was published spring 1887 after his death.

**December 27, 1571** Birth of Johannes Kepler, German mathematician and astronomer. He predicted for the first a transit of Mercury. Died in 1630. Ref. DD 12/99

**December 28, 1882** Birth of Arthur S. Eddington, British astro physician. In 1912 he was leading an expedition to a solar eclipse in Brazil. Eddington confirmed his observations (that light bends when it passes a heavy mass) at the solar eclipse of 1919, together with Sir Frank Dyson. He had organized for this , special an expedition to the island Principe. He died in 1944. Ref. DD 12/99

**December 30, 1777** Eclipse observed by Captain James Cook (1728-1779), actual date December 29, during his 3<sup>rd</sup> travel. Observation at Eclipse Island but currently called Cook Island (at the entrance of the lagoon surrounded by Christmas Island in the Pacific). It was a partial eclipse of max. 30% and at about 59 degrees altitude. (Ref. ENB 8)

**December 31, 1719** Death of John Flamsteed (1646-1719) who observed the 1715 solar eclipse from Greenwich. (Ref. Rc 1999)

**December 31, 1842** Annular eclipse on New Years eve. December 31, 1880 Partial solar eclipse on New years eve. December 31, 2195 Partial Solar Eclipse on New Years eve. December 31, 2233 Total Solar Eclipse of December 31, 2233 will be visible on New Years day, January 1, 2234 for the West Pacific. December 31, 2252 Total Solar Eclipse of December 31, 2252 will be visible on New Years day, January 1, 2253 for the West Pacific.

Best regards, Patrick Poitevin



## GENERAL TOPICS

### ECLIPSE REFERENCES

From: Michael Gill  
<eclipsechaser@yahoo.com>  
T o :  
<SOLARECLIPSES@AUL  
A.COM> Sent: Tuesday, Oc-  
tober 31, 2000 6:03 PM Sub-  
ject: [SE] Eclipse References

Eclipse References.

Total solar eclipses of long duration in the British Isles by Peter Macdonald. Journal of the British Astronomical Association, Vol. 110 No. 5, pages 266-270

Eclipse: Voyage to Darkness and Light by David H. Levy. ISBN 074340727X <http://images-eu.amazon.com/images/P/074340727X.01.LZZZZZZZ.jpg>

Michael Gill.

From: Carton, WHC <Wil.Carton@corusgroup.com>

Sir, That article spans five pages. Is it possible to make it digitized (Optical Character

Recognition) and to e-mail it to the Solar Eclipse Mailing List? Wil Carton.

From: Michael Gill  
<eclipsechaser@yahoo.com>

Maybe others have the necessary tools? After a time lag, JBAA articles end up on the Astrophysics Data System (ADS). Michael Gill.

From: Bob Morris  
<morris@sce.carleton.ca>

I'm sure that few of you know that David Levy, co-discoverer of comet Shoemaker-Levy, that hit Jupiter - - this solar system's "random" event of the century, chartered a boat to see the August 11 eclipse from near the sunrise point in the Atlantic.

Against all odds, he had perfect weather, and the photo of the totally eclipsed sun low over the Atlantic waves which appeared in a Canadian astronomy mag and (I

think) in Sky & Tel is magnificent. I'd never seen anything like it.

I'm looking forward to his book, and have ordered it. Levy is a very good writer. Bob Morris

From: Bob Morris  
<morris@sce.carleton.ca>

> > Hello Bob, Thanks for your message - can you be a bit more specific about where the photo(s) can be found? Is it anywhere on the web?? Kind regards, Francis Podmore

See January 2000 Sky & TEL, pp. 90-92. The photo is actually of the diamond ring but the corona is visible all around.

Strangley, the photo is credited to "the ship's photographer" with no name given. Bob Morris

### SYNCHRONICITY

From: Jean Marc Larivière  
<j e a n m a r c .  
lariviere@sympatico.ca> To:  
E c l i p s e L i s t S e r v e r  
<solareclipses@aula.com>  
Sent: Monday, October 30,  
2000 5:55 PM Subject: [SE]  
Synchronicity

I came upon this interesting work by Marcel Duchamp in his rotorelief series titled ECLIPSE TOTALE while doing research for a totally

unrelated film project. Enjoy.  
[http://www.aqualoop.com/aqua\\_sound/delia/d\\_spirale.html](http://www.aqualoop.com/aqua_sound/delia/d_spirale.html)

Jean Marc

### ANNULAR ECLIPSE 2001 COSTA RICA

From: FRED ESPENAK  
<u32fe@lepvox.gsfc.nasa.gov> To:  
<SOLARECLIPSES@AULA.COM> Sent: Monday, November 13, 2000 10:29 PM  
Subject: [SE] Annular Eclipse 2001 in Costa Rica  
Dear Eclipse Friends - The details for my Costa Rican Annular Eclipse Expedition are now available via Spears Travel. It will be a four day trip which will include some

sight seeing and will climax with the annular eclipse (2001 Dec 14) from our observing site on a beach overlooking the Pacific Ocean. We will probably limit the group to forty people, so sign up early if you are interested.

For full details, itinerary and cost, see: [http://www.spearstravel.com/costa\\_rica\\_2001.htm](http://www.spearstravel.com/costa_rica_2001.htm) Thanks, Fred Espenak

## GENERAL TOPICS

### DELTA T

From: Jean Meeus  
<JMeeus@compuserve.com>  
To: Solar Eclipses  
<solareclipses@aula.com>  
Sent: Saturday, November  
11, 2000 4:47 PM Subject:  
[SE] Delta T

On 2000 October 1 the quantity Delta T was equal to 64.01 seconds. Jean Meeus

### SKY & TELESCOPE

From: Patrick Poitevin  
<patrick\_poitevin@hotmail.com> To: SE Mailing List  
<SOLARECLIPSES@AUL  
A.COM> Sent: Tuesday,  
November 07, 2000 11:16  
PM Subject: [SE] Sky and  
Telescope December 2000

Hi, For those whom do not have Sky and Telescope. Please check the December

2000 issue:

Artistry Solar Eclipses by Eli Maor (page 40 to 42)  
Noticing the Eclipse by Ed Krupp (page 94 to 96)  
North America's Christmas Eclipse by Roger Sinnott (page 109 to 113)  
Gallery: Picture of Partial Sunrise by Oddleiv Skilbrevi (page 146)

## AN ENIGMATIC ANCIENT ECLIPSE RECORD

From: Ayman M. Ibrahim  
<aymoib@mailier.scu.eun.eg> To: <eclipse@hydra.carleton.ca> Sent: Wednesday, October 25, 2000 6:20 AM Subject: [eclipse] An Enigmatic Ancient Eclipse Record!

Dear Colleagues, An eclipse record made in Year 10 of the Hittite King Mursilis II enabled me recently to extract an absolute Hittite chronology in which Year 10 of King Musilis II is 1312 BC. This is quite consistent with my eclipse-based chronology of the New Kingdom. This also enabled me to estimate exact lengths of the reigns of some pharaohs. For decades, the eclipse text has always defied a satisfactory dating and led to serious errors in the determination of the Hittite chronology which were inconsistent with the well-developed chronology of the New Kingdom. It is my eclipse-based Egyptian chronology that made it possible to provide the correct interpretation of the text and extract the first

absolute date in Hittite chronology. This in turn may lead to the establishment of an absolute Babylonian chronology, since it is related to the Hittite records. The dates of the ancient Near East is becoming more firm. The study is coming soon. Best Regards, Aymen M Ibrahim

From: Ayman M. Ibrahim  
<aymoib@mailier.scu.eun.eg>

A Study in Archaeoastronomy by astronomer Aymen Ibrahim An Eclipse-Based Hittite Chronology

Abstract: The author proves that the eclipse that was recorded in Year 10 of King Mursilis II occurred on 06/24/1312 BC (Julian).

The author introduces an absolute eclipse-based Hittite chronology in which Year 10 of King Mursilis II was 1312 BC.

The author proves that an entire Hittite myth was inspired by the total solar eclipse.



The author explains why did the Hittites believe the Sun to rise from the sea, and why was the solar God depicted with fish on his head.

The author checks his eclipse-based Hittite chronology against his eclipse-based Egyptian chronology and the earlier Sothic datings.

The author uses his Hittite chronology to show that:

Year 8 of King Ramesses II was 1270 BC.

King Tutankhamun died in 1327 BC.

The reign of King Akhenaten was 18 years long (max), including the co-regency with

King Amenhotep III. The reign of King Smenkhkare was 2 years long (min), with possibly a co-regency with King Akhenaten of under a year. The reign of King Horemheb was 27 years long (max). The Hittite chronology may be used to derive an absolute Babylonian chronology. Through the 'Amarna Letters' absolute dates can be derived for the contemporary Near Eastern nations. The dates in the ancient Near East are becoming more firm. Copy rights: Aymen Ibrahim, 2000.

## GENERAL TOPICS

## PROPHECIES

From: Jean Meeus  
<JMeeus@compuserve.com>  
To: Solar Eclipses  
<solareclipses@aula.com>  
Sent: Monday, November 06,  
2000 12:01 PM Subject:  
[SE] Prophecies?

Now and then I receive a rather odd question. Today there was a letter from a person in Ohio, USA. He asked if I know something about the total solar eclipse of May 18, 1920 -- how long it lasted, where it was visible (especially if it covered part of Europe), or anything else special about it. On that day, he said, our current pope was born in Poland.

That person added that he was reading a book about a set of prophecies made about 1595 concerning all future popes, and for the current pope the book says : "John Paul II : he was born on the day of a total eclipse".

Unfortunately for that person and for the prophecy, the eclipse of 1920 May 18 was NOT total. It was even not visible from Europe. It was a partial eclipse visible only from the southern Indian Ocean, Australia, and a small part of Antarctica. Jean Meeus

From: Michel Andre Levy  
<malevy@sinopia.fr>

If I remember well, in the list of the so-called prophecies of Saint Malachies, the one about John Paul II is : " De labore solis". I don't think "He was born on the day of a

total eclipse" could pretend to be a perfect translation, but there is something to do with the sun ... Saint Malachie was born in 1094 and dead in 1148, but the "prophecies of Saint Malachie" were most probably written during the sixteenth century. Michel-André Lévy

From: Francis Graham  
<francisgraham@rocketmail.com>

Dear List Jean Meeus gives us an interesting subject for discussion, although of no scientific value (except in refuting 16th century prophecies) . Was anyone on the list born during an eclipse? Under an eclipse? What famous people were? Here is a subject perhaps for an icebreaker at eclipse chaser get-togethers. Francis Graham

From: Jean-Paul GODARD  
<jpgodard@cybercable.fr>

Dear List I'm not born during an eclipse! But starting from this interesting topic, I ask myself (and to the list) if eclipses are equally distributed over the days of the calendar during a century, a millenium? Are some periods less or more favorable ? Can we modelize distribution with orbital characteristics of the earth around the sun? Cordiale ment Jean-paul.godard@cybercable.fr

From: Crocker, Tony (FSA)  
< T o n y .  
Crocker@transamerica.com>

Distribution of Solar

Eclipses, 0-3000

By Month Annular Hybrid  
Total By Month Annular Hybrid Total

January	242	23	130	January	10.0%	8.0%	6.7%
February	214	23	124	February	8.9%	8.0%	6.4%
March	196	30	165	March	8.1%	10.5%	8.6%
April	180	26	174	April	7.5%	9.1%	9.0%
May	182	22	189	May	7.6%	7.7%	9.8%
June	169	17	186	June	7.0%	5.9%	9.7%
July	179	18	193	July	7.4%	6.3%	10.0%
August	175	19	194	August	7.3%	6.6%	10.1%
September	198	24	156	September	8.2%	8.4%	8.1%
October	215	34	147	October	8.9%	11.8%	7.6%
November	223	27	133	November	9.3%	9.4%	6.9%
December	236	24	136	December	9.8%	8.4%	7.1%

2409 287 1927 100% 100%  
100%

Over a long period like this, the expected May-August bias of TSE's and November-February bias of annulars is evident. A one century sample is totally distorted by the currently active Saros cycles. Current TSE's are clustered in March/April, late June-August and November/December.

Re: births on an eclipse day;  
Does a 50th birthday on 4 Dec. 2002 count? Probably not for much as I live in California.

Was  
anyone on  
the list  
born  
during an  
eclipse?

## GENERAL TOPICS

## SIR ARTHUR STANLEY EDDINGTON

From: Osher Doctorow <osher@IX.NETCOM.COM> To: <HASTRO-L@WVNVM.WVNET.EDU> Sent: Friday, November 10, 2000 10:41 PM Subject: Sir Arthur Stanley Eddington - Doctorow

From: Osher Doctorow, Ph.D. osher@ix.netcom.com, Fri. Nov. 10, 2000 2:37PM I have taken every opportunity that I can to bring the creative genius of the late Sir Arthur Stanley Eddington to the attention of the scientific and historical and even computed-related humanities communities ranging from students to professors/professionals. Some 48 abstracts of papers of my work is abstracted on <http://www.logic.univie.ac.at>, Institute for Logic of the University of Vienna (select ABSTRACT, then select BY AUTHOR, then select my name). However, a large number of internet discussion groups as well as some of my other over papers contain reference to Eddington. In my opinion, his creative genius was as great as if not greater than his associate Albert Einstein, whose prediction on the perihelion of Mercury in general relativity was confirmed by Eddington's eclipse expedition. His grasp of advanced mathematics was probably better than that of Einstein himself. Einstein had to ask his geometry friend Marcel Grossman before finding out that he could use tensor analysis of Ricci and Levi-Civita in Italy for his general theory of relativity, whereas Eddington (who wrote the first mathematical book on general relativity) actually went beyond Einstein's papers and his later book *The Meaning of Relativity* mathematically (including H. Weyl's important group theory) and philosophically. This is not to detract from Einstein's own genius. An interesting further link is between Eddington and Nobel Laureate Paul Dirac. Dirac either ties or almost ties with Nobel Laureate Steven Weinberg as the most creative and influential and open-minded pioneer in quantum theory for the last 30-40 years, although their opinions differed considerably on external matters such as

religion. Dirac and Eddington both came from (and at least Dirac taught at) Cambridge University, England, which along with Oxford and London University is one of the three greatest mathematics/physics universities in the world. Both men were also interested in dimensional analysis, which was long thought to be only a mathematical curiosity and in physics a "slight help" until Bluman and Kumei in 1989 revolutionized the theory of partial and ordinary differential equations (central to most mathematics and physics) with the help of Lie groups/algebras which generalized dimensional analysis. Astronomy and astrophysics have long benefitted from dimensional analysis, as I pointed out long ago in one of my papers (see the above website). Yours truly, Osher Doctorow

From: Matthew Stanley <matt\_stanley\_2002@YAHOO.COM>

Dr. Doctorow- I am a graduate student in the History of Science at Harvard University, and I am currently beginning work on my dissertation, which will focus on Eddington. I would be very interested in seeing your work on him, but I was unable to find your abstracts on the web page address you included with your post to HASTRO. Is there a more specific address? Thank you, Matt Stanley

From: Peter Skiff <skiff@BARD.EDU> To: <HASTRO-L@WVNVM.WVNET.EDU> Sent: Thursday, November 16, 2000 3:38 PM Subject: Einstein Query

Dear List In Dennis Overbye's new (and awesome) book "Einstein in Love," he dredges up some of the prevailing astronomy counting against Eddington's 1919 Eclipse results, particularly of Curtis at Lick and St. John

at Mt. Wilson. I recall an article somewhere (perhaps by Stephen Brush) to the effect that those confusion of results on the Einstein shift and deflection experiments muddled the astronomical support for the gravitational theory, and it was rather the retrodiction of the orbit of Mercury that was the effective result that established Einstein's plausibility. Did anyone see such an article and can they direct me to it? -Peter Skiff -Bard College

From: JAMES HUNT <HUNTJC@PG.CC.MD.US>

Peter, The article you are thinking about is probably "Prediction and Theory Evaluation: The Case of Light Bending", *Science* 246 (1989) 1124-29. A more recent explication on the reception of relativity by Brush is "Why Was Relativity Accepted?", *Physics in Perspective* 1 (1999), 184-214. Chris Hunt

From: Marvin Bolt <Marvin.P.Bolt.1@ND.EDU>

Pinch and Collins also have an interesting discussion on this episode in one of their chapters in *\*The Golem\** (CUP, 1993).

## GENERAL TOPICS

### MYLAR IS DANGEROUS AND UNSAFE

From: Sheridan Williams  
<sheridan@clock-tower.com> To:  
<solareclipses@aula.com> Sent:  
Monday, November 13, 2000 8:40  
PM Subject: Fwd: Mylar is danger-  
ous and unsafe Re: [SE] Solar Eclip-  
segoggles-Business Opportunity

Have any of the Solar Eclipse group  
you seen this?

>Dear Sirs. You will be aware that  
Mylar was proven to be unsafe and  
not acceptable for use in solar eclipse  
viewers this information is widely  
available on the internet. Mylar is a  
packaging for crisps used in the food  
industry and not a product produced  
specialy for solar eclipse viewers.  
Mylar is a sandwich of two rolls of  
film and has holes, the holes are not  
large holes visible to the naked eye  
but they are there and they pose a  
health risk. There are other ways to  
view the eclipse safely using non My-  
lar material.

>>Dear friends, All of you must be  
preparing to welcome this millen-  
nium's greatest celestial event, the  
Total Solar Eclipse. This is more spe-  
cial being the first of this millennium.  
We Indians are lucky to have wit-  
nessed two eclipses in last decade. I  
had seen both of them using Solar fil-  
ters manufactured by us. Not me  
alone, but me and my team have  
helped over one million people to  
watch this great event safely using our  
safe solar filters. We, Third Wave  
Scientific Products Pvt. Ltd., are an  
India based company working for sci-  
ence popularisation among children  
through our wide range of Science  
based experimentation kits and sci-  
ence toys since 1993. We designed,  
thoroughly tested and delivered gog-  
gles using neutral mylar film. These  
goggles were tested for their transmit-  
tance of UV, IR and visible spectrum  
of the Sun. they do not transmit UV

and IR rays. Intensity of Visible spec-  
trum is reduced by 67,000 times so that  
the Sun look like the Moon. We also  
tested them medically for eye safety.  
They are absolutely safe to observe the  
Sun. We can supply these goggles to  
you so that you can promote them in  
Zimbabwe. This can be the great one  
time business opportunity. We sold  
these goggles and mylar film through

1. New Papers and periodicals as their  
scheme
2. Govt. Institutions (Deptt. of Science  
& Tech.)
3. Educational Institutions
4. Private Coaching classes
5. Opticians
6. Stationers, etc.

You may think of similar outfits to  
make excellent business out of this  
event. We will forward more details to  
you about this business opportunity the  
moment we hear from you. Kindly act  
on this mail fast. Regards, Suyash  
Dake

F r o m : M a r k  
<rainbowsymphony@rainbowsymphon  
y.com>

There has been a lot of hub-bubb and  
controversy about the use of alumin-  
ized mylar or polyester over the years.  
All our the solar viewing materials  
have been checked and rechecked for  
IR, UV and Visible Light Transmission  
as well they should. There are compa-  
nies like Rainbow Symphony, Inc. who  
use these materials originated for solar  
viewing only. This goes for our double  
laminated aluminized polyesters and  
our black polymer materials. We have  
safe aluminized polyesters and the  
black polymer material is optically su-  
perior.

This being said, we feel it is important  
to know the source of the materials and  
where they originate. Have they been

tested? Does the manufacturer have  
transmission data? There are compa-  
nies who coat polyester for other ap-  
plications like candy and Pop Tart  
wrappers that are not suitable for solar  
viewing. This became apparent when  
many companies threw their hat in the  
ring and started making solar viewers  
from all kinds of materials for Eclipse  
1999 in Europe. There was a lot of  
controversy in the UK about mylar  
viewers having pin-holes in the coat-  
ings and the French government re-  
jected millions of viewers they pro-  
duced in Columbia, SA because they  
did not pass their own criteria for CE.  
Additionally, most of the mylar vie-  
wers we examined had terrible optical  
quality. I think it is worth it to go with  
reputable sources for safety and view-  
ing quality. You miss all the visual  
nuances in any solar eclipse if the  
viewing quality is not there.

We are happy to answer any questions  
about our solar viewing products and  
can be contacted. Mark S. Margolis  
Rainbow Symphony, Inc. <http://www.rainbowsymphony.com>  
[rainbowsymphony@rainbowsymphony.com](mailto:rainbowsymphony@rainbowsymphony.com)  
Ph#818-708-8400 Fax# 818-708-  
8470

## GENERAL TOPICS

### VIDEO ABOUT 1954 ECLIPSE

From: Patrick Poitevin <patrick\_poitevin@hotmail.com> To: SE Mailing List <SOLARECLIPSES@AULA.COM> Sent: Friday, November 03, 2000 9:32 PM Subject: [SE] Video about 1954 eclipse

From Michael Gill:

The National Film Board of Canada has a film title on its portfolio about the 1954 total solar eclipse.

The NFB website has the following abstract about this 11-minute film...

"Operation Eclipse II

This account of the June 1954 solar eclipse shows the scientific team being flown

by Royal Canadian Air Force airplane along the path of the eclipse. This allowed for prolonged and unobscured observation as the eclipse passed over the Labrador coast."

Jean Marc Larivière has done some investigation and found that the title only exists on 16mm film at present.

To get a high quality copy PAL version costs 106.51 Cnd - very expensive for an 11-minute film! Each additional PAL VHS cassette will cost 10.20 Cnd. So for two copies the unit price is 58.36, for five it's 29.46 and for ten it's 19.83. You can see how a combined purchase would produce a lower price  $(106.51 + (10.20 * n)/n+1$

where n is the number of extra copies).

If anybody is interested in obtaining a VHS PAL copy of this film, please e-mail me PRIVATELY (to avoid clogging up this list).

Once we have established how much interest there is in the title, an order can be placed with NFB. It might be helpful to state the maximum amount you'd be willing to pay for this title.

At current exchange rates 1 Cnd = 0.6531 Usd = 0.7606 Euro

Michael Gill, [eclipsechaser@yahoo.com](mailto:eclipsechaser@yahoo.com)

If anybody is interested in obtaining a VHS PAL copy of this film, please e-mail me PRIVATELY (to avoid clogging up this list).

### EMAPWIN + 6000 YEAR BESSELIAN ELEMENTS

From: Carton, WHC <Wil.Carton@corusgroup.com> To: <SOLARECLIPSES@AULA.COM> Sent: Monday, November 13, 2000 11:02 AM Subject: [SE] Emapwin + 6000 year Besselian Elements

Eclipsfans, Does somebody know, how and from what source the Takesako eclipssoftware EMAPWIN, its documentation, its Besselian Elements for six thousand years, and its assumptions for the longterm behaviour of "Delta T" can be obtained?

The previously mentioned internet-address [www2c.biglobe.ne.jp/~takesako](http://www2c.biglobe.ne.jp/~takesako) is not found by me and the first half of it looks like an internet-shop but has many untranslatable characters.

Answers please to my private mail-address [wil\\_carton@hotmail.com](mailto:wil_carton@hotmail.com) and attention for the underscore \_ in it, that is not a hyphen.

From: Stig Linander <[linander@worldonline.dk](mailto:linander@worldonline.dk)>

Try: [http://www2c.biglobe.ne.jp/~takesako/cal/emapwin\\_eng\\_1.21.htm](http://www2c.biglobe.ne.jp/~takesako/cal/emapwin_eng_1.21.htm) instead. Best regards, Stig.

From: Moszowski Wasyl <[wasy1@belgacom.net](mailto:wasy1@belgacom.net)>

hi, I searched for EMAPWIN on [www.hotbot.com](http://www.hotbot.com) search engine and found a site ready for downloading : [www.zdnet.co.uk](http://www.zdnet.co.uk) I did a download myself, but did not check the program yet. best regards, Wasyl Moszowski Brussels, Belgium

## GENERAL TOPICS

### OPERATION ECLIPSE II—1954 ECLIPSE VIDEO

From: Michael Gill  
<eclipsechaser@yahoo.com>  
To:  
<100667.475@compuserve.com>  
Sent: Friday, November 17, 2000 6:58 PM  
Subject: 'Operation Eclipse II' - 1954 Eclipse Video

All, Apologies for this standard, impersonal e-mail. You all responded to my message posted by Patrick Poitevin on the SEML about 'Operation Eclipse II' - an 11-minute film about the 1954 eclipse that crossed Canada.

This is a progress report so far. I have had the following responses... Three US based people responded. A preference for NTSC was (not suprisingly) expressed. There were six requests for VHS-PAL copies. However, this is not a high enough response to bring the cost beneath some people's spending limit.

Therefore, to obtain three NTSC copies we are looking at a cost of 42.30 Cnd plus shipping. For six VHS-PAL copies the cost will be 26.25 Cnd plus shipping. However if, as seems possible, some people drop out then this figure will rise. At the moment these figures are provisional - Jean Marc Larivière has written to his contact at the NFB to get confirmation of the price setting mechanism for orders in VHS-PAL and NTSC. He has also requested some clarification about the way we would go about placing the final order and paying for it. If these costs are ok

with you all, please e-mail me as soon as possible and we'll take the matter further. If you wish to drop out please also let me know, as this will effect the price others pay. Michael Gill.

From: Jean Marc Larivière  
To: Michael Gill ; EclipseListServer  
Sent: Thursday, November 23, 2000 8:43 PM  
Subject: [SE] Operation Eclipse II

Dear Michael, Since an initial message about this 1955 eclipse film shot from a Canadian military airplane appeared on the list allow me to save everyone some time and bandwidth.

I'm afraid I have very bad news. My contact at the National Film Board of Canada has just informed me that Operation Eclipse II is in fact NOT available at this time. The explanation is this : the film should not have been in the NFB's Web catalogue in the first place since the NFB does not own the rights to the material - it would appear the film was originally commissioned by the Department of National Defense. One must remember that at its origin the NFB was essentially a propaganda service for the Canadian government, especially during WWII. Nowithstanding that the film most certainly circulated freely and publicly in 16mm upon its completion, as its presence in the catalogue attests, the NFB is now unwilling to release the material for sale unless it has written authorization

from DND, task it is generously delegating to the eventual purchaser! Unfortunately, they have no leads as to whom or where one can obtain such authorization!\*

So, needless to say, do not expect the cassette to be under the Christmas tree this year - or maybe next, if ever. Now this type of bureaucratic silliness - the film Brazil comes to mind - just riles me to the point that I am willing to undertake to get the footage released if it's the last thing I do. I doubt that I'll have any time to devote to this Kafkasque enterprise before Christmas, since I'm presently completing a feature script whilst cutting a 52 minutes version of Shadow Chasers, but I'll keep you posted. Perhaps this would be an opportune time to start a pool : how many of the ten or so people who expressed interest in purchasing a cassette will be alive by the time it finally becomes available. Place your bets! :>) Jean Marc

So, needless to say, do not expect the cassette to be under the Christmas tree this year - or maybe next, if ever.

## GENERAL TOPICS

## SIMPSONS

From: Crocker, Tony (FSA) <Tony.Crocker@transamerica.com> To: <SOLARECLIPSES@AULA.COM> Sent: Monday, November 13, 2000 Subject: RE: [SE] The Simpsons

Did anyone else see last night's new episode of "The Simpsons"? One night Homer Simpson and Krusty the Clown were trying to sneak into a Mafia compound to retrieve a violin Krusty lost in a poker game. They climbed on top of a wall and started hand-walking a cable toward the main building. Halfway to the building the cable sagged and Homer and Krusty's feet were just inches above the heads of two Mafia guards.

Guard #1: "I hear there's a lunar

eclipse tonight. Should we look up?"

Guard #2: "Nah, I only look at solar eclipses."

Homer and Krusty then continued along the cable into the building.

From: Mel Bartels <mbartels@efn.org>

Yes, I saw The Simpsons episode last night too, and caught the lunar vs solar eclipse joke. I thought it was very funny, but rather an inside joke! Mel Bartels  
From: Michael Simmons <msimm@ucla.edu>

I saw it and even thought of this list during that scene!

Guard #2 then added: "For me it's solar or nothing."

Mike

From: B Yen <byen00@earthlink.net>

I knew Don Trombino, of Florida. Well known solar observer <http://www.uni-sw.gwdg.de/~reinsch/eclipse99/proceedings/voelker.html> "He directed or participated in 13 solar eclipse expeditions."

Me: Aren't you going to the total solar eclipse in xxxx?

Don: Nah. Seen one..seen'em all [ Don has been going to

eclipses in early 70's. He told me he was the one who got Virginia Roth (Sky Publishing's eclipse company) into eclipses ]

Don: I wouldn't walk across the street..to see an annular eclipse! [ I wouldn't go across the world for this. I might go across the street ]



## LAST WORDS—SOLAR ECLIPSE NEWSLETTER NOW ONLINE

From: FRED ESPENAK <u32fe@lepvox.gsfc.nasa.gov> To: <SOLARECLIPSES@AULA.COM> Sent: Friday, November 17, 2000 3:45 PM Subject: [SE] SENL November 2000 NOW ONLINE!

After spending a long hard year organizing the very successful Solar Eclipse Conference in Antwerp, Belgium last October, Patrick and Joanne are back at work preparing the SENL (Solar Eclipse Newsletter). The November 2000 issue of the SENL is now online and it is bigger and better than ever.

Patrick and Joanne have decided to work in pdf format

and the November 2000 issue is their first effort. It contains graphics, photos and illustrations as well as all the latest communications from the SENL. The layout is fantastic and I urge you to take a look. You can download this 1.3 MByte file from the SENL index page on my MrEclipse.com web site. The URL address of the index page is: <http://www.mreclipse.com/SENL/SENLinde.htm>

Patrick and Joanne promise to work on getting past issues of the SENL into pdf format soon. When they do, the issues will be available from the above index page.

Please note that you will need Adobe Acrobat Reader to read and/or print pdf format files. However, Acrobat Reader is readily available and can be downloaded free from Adobe's web site (<http://www.adobe.com/>). - Fred Espenak

From: Joanne Edmonds <joanne\_edmonds@hotmail.com>

Dear All We are now compiling the December issue of the SENL, if you have any contributions in the form of pictures, graphs, reports, book reviews, any articles of interest, that you cannot send to the mailing list in the form of attachments, they can, and

must now be sent direct to me at [joanne\\_edmonds@hotmail.com](mailto:joanne_edmonds@hotmail.com). (underline between the names). Please do not send this information to the mailing list. They all must be solar eclipse related of course. However, please note that I do not intend to download any articles from the internet.

You can send the item in any format, but please remember that I will need to transfer the files into the microsoft publisher. We hope that you enjoyed the November issue, if anyone has any suggestions or suggestions with regard to lay out I would be happy to take them on board. Best regards, Joanne

SPECIAL FEATURE

WALDMEIER & SOLAR ECLIPSES



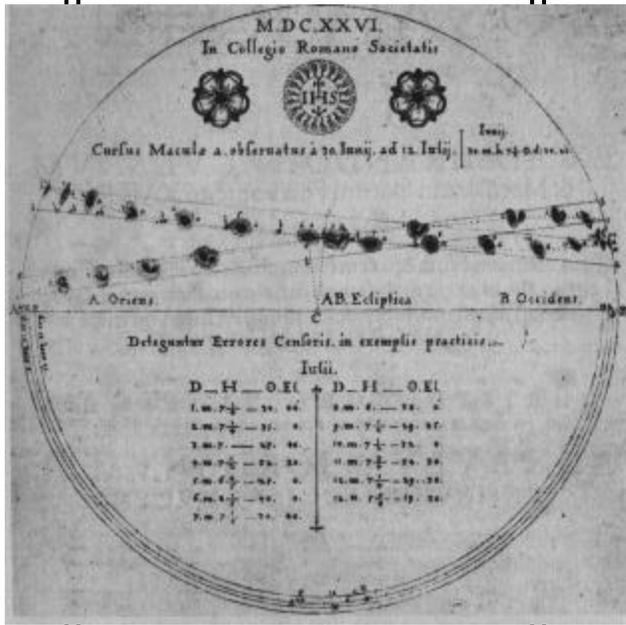
Max Waldmeier: died aged 88

OBITUARY

>From "Prof. Jan Olof Stenflo" <stenflo@astro.phys.ethz.ch> 18 Oct 2000 Max Waldmeier, one of the leading personalities in solar physics of the 20th century, died in Zurich on 26 September 2000 at the age of 88. He graduated from ETH Zurich in 1935 at the age of 23 and got his PhD there two years later on a thesis about the laws that govern the sunspot activity. He was professor at ETH Zurich and at the University of Zurich during 34 years, 1945 - 1979. During these

years he also served as Director of the Eidgenössische Sternwarte (Swiss Federal Observatory) in Zurich. In 1948 he organized in Zurich the first General Assembly of the International Astronomical Union that took place after World War II. He served as a member of the Editorial Board of Solar Physics from 1968 to 1977. Waldmeier founded the Astrophysical Observatory Arosa in 1939, a mountain station where he could carry out his observations of the Sun's corona. This was one of the first coronagraphic stations since Lyot's invention of the coronagraph. In 1951 he built a solar tower telescope in Zurich and in 1957 the Specola Solare in Locarno, a solar station on the southern side of the Alps, where the weather is usually complementary to that in Zurich. He carried out more than 20 expeditions to study the corona at solar eclipses. Only few years after his retirement he suffered in 1985 a stroke, which left his health, and in particular his speech, severely impaired for the remaining 15 years of his life. The Swiss Federal Observatory under the direction of Waldmeier served as the World data Center for Sunspots

and was responsible for the IAU publication Quarterly Bulletin on Solar Activity. More than 30 observatories around the world sent their sunspot observations to Zurich, where they were reduced together with the Swiss observations (in Zurich and Locarno) to form the Zurich Sunspot Number, carefully calibrated to a common scale. This continuous record of relative sunspot numbers was initiated in 1855 by the first Director of the Swiss Federal Observatory, Rudolf Wolf, and was continued by his successors Alfred Wolfer, William Brunner, and Max Waldmeier. In connection with the reorganization of astrophysics at the ETH in 1980 the responsibility for the continuation of the Zurich sunspot number, calibrated to the same scale as before, was transferred to Observatoire Royal de Bruxelles. Waldmeier's systematic observations of various aspects of solar activity, from the photosphere to the corona, spanned several decades and have provided the foundation for much of our current knowledge about the Sun's activity cycle. Much of what we take for granted today can actually be traced back to pioneering work by Waldmeier. Among contributions that date back to 1938 the following examples can be given: Waldmeier introduced a widely used evolutionary classification of sunspot groups in nine classes A-J. He determined the relative umbral and penumbral diameters and their solar cycle variations. He discovered bright rings around sunspots and found a decrease in their contrast towards the limb, which indicated a deep-seated origin. He discovered that photo-



(Continued on page 14)

## SUNSPOT RESEARCH



spheric faculae have a granular structure and determined the life time of the facular granules. He found that flares and sunspots have nearly identical latitude distributions and that therefore flares have a magnetic origin. He first described prominence-induced flarings, triggered by a "disparition brusque". He pointed out that coronal observations could be used to forecast geomag-

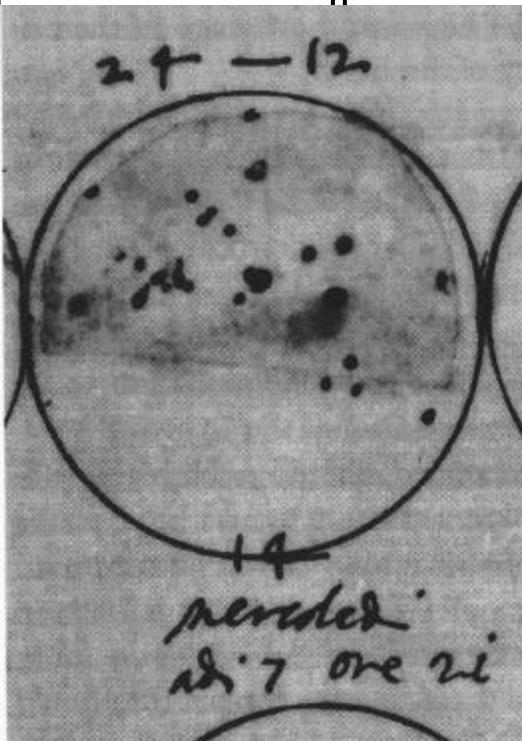
netic storms. Waldmeier's influential monograph from 1955 was a milestone in the exploration of solar activity and describes many of his contributions. He found that sunspot groups are inclined (the preceding part being closer to the equator), that the inclination angle increases with latitude, from about 5-6 degrees at latitude 10-14 degrees, and that it decreases during the initial

development of the group. He characterized the cyclic variation of the sunspot number, found a relation between the shape of the sunspot curve and the height of its maximum, and established an empirical formula for the sunspot number 5 years



after maximum. He thereby lay a foundation for the forecasting of solar activity. He determined the latitude drift of the sunspot zones and found that there is an approximate overlap of two years between successive cycles. He determined the pattern of sunspot proper motions after emergence and throughout the group lifetime. Waldmeier further developed a technique to use the intensities of molecular lines to determine the temperature of sunspots, and introduced a spectroscopic classification to characterize the state of the solar plasma, in particular to distinguish between active prominences

and limb flares. He modeled coronal condensations and determined the density contrast in coronal polar plumes. He determined how the flare activity depends on the stage of development of a sunspot group, and illustrated how flares often tend to recur at the same position in a spot group. During the Waldmeier era Zurich was an internationally well recognized center for solar physics. In spite of the reorganization of astronomy in Zurich in 1980, whereby the Swiss Federal Observatory was replaced by the Institute of Astronomy, the long Zurich tradition in solar physics could continue. It has since focused on solar



## SUNSPOT RESEARCH—CONTINUED

### SPECIAL CONTRIBUTION TO THE LOSS OF MAX WALDMEIER

magnetism as the physical origin of the various phenomena of solar activity, which were so thoroughly explored by Waldmeier. In this sense and through his extensive scientific contributions Max Waldmeier has left us a foundation and a legacy that is

enduring.  
<patrick\_poitevin@hotmail.com>

The pictures right show the solar observatory used by Waldmeier.



From: Patrick Poitevin  
<patrick\_poitevin@hotmail.com>

Dear all, A few weeks ago, I posted the obituary of Max Waldmeier. Wondering why the Sunspot Data Centre stopped in Zurich, I posed the question to Waldmeier's predecessor Prof. Stenflo for some explanation. Prof. Stenflo gave me the permission to publish our correspondence on this SEML:

Dear Prof. Stenflo, I read the obituary of Max Waldmeier. Thank you very much for letting us know. May I ask you a question. I was wondering why the Sunspot Data Centre

stopped in Zurich so many years ago. I thought you might know the answer while that time you took over from Waldmeier.

I am looking forward to your reply.

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His reply the day after:

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Dear Patrick, Thanks for your message and your inquiry. Let me try to respond: The mission of ETH (Swiss Federal Institute of Technology) is teaching and research, but over the years the activity of determining the Zurich sunspot number had become a purely routine service (to the international community) which was tying

up 4  
p o -

sitions. When Waldmeier retired the ETH administration wished to use the opportunity to refocus these resources to its prime mission (teaching and research). There were sound reasons for this, it was strongly wanted by the physics department, and I agreed myself with that position. As the successor of Waldmeier I therefore saw it as my first important task to find another organization who could take over the responsibility for the continuation of the Zurich Sunspot Number, to guarantee continued service without any discontinuity to the international community. There were a few organizations willing to do this, but we decided that the observatory in Brussels was most suitable for this. I visited Brussels during the first month (April 1980) after taking office in Zurich. The rest of 1980 was used to phase Brussels in while Zurich was phased out, so that Brussels was on its own from the beginning of 1981. The solar station in Locarno in southern Switzerland could be taken over by a private foundation (Fondazione Specola Solare) so that the previous observer there could continue the sunspot observations. I believe that the major input to Brussels for the determination of the International Sunspot Number still comes from Locarno. Best regards, Jan Stenflo

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I thought it might be interesting sharing this information. Best regards, Patrick



The trial of Galileo

## SOLAR ECLIPSE CONFERENCE 2000

From: Barrie W. Jones <b.w.jones@open.ac.uk> To: SOLARECLIPSES <SOLARECLIPSES@AULA.COM> Sent: Sunday, November 05, 2000 11:33 AM Subject: [SE] Request for copies of my OHTs

At the recent excellent eclipse meeting in Antwerp, someone came up to me after my talk on atmospheric effects of solar eclipses and asked for copies of some of my transparencies for an article they were writing. I recently emailed the person I thought it as, but they have replied to say it was not them! If it was you please email me. Barrie W Jones

From: Marc Weihrach <marc.weihrach@student.

uni-halle.de>

Hello Barrie, It wasn't me, but I'd be interested, too... if it's no trouble to you.

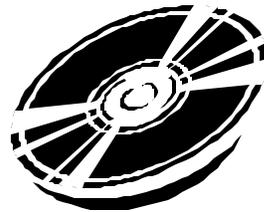
Generally, I'd be glad about some detailed material from the conference, wether in the web, on CD-ROM or printed. But I think, Patrick, you're going to publish something, right? Best regards Marc

From: Patrick Poitevin <patrick\_poitevin@hotmail.com>

Dear all, Indeed, some of you might have received a personal message. Others still to do (160 mails for 160 attendees on the conference!).

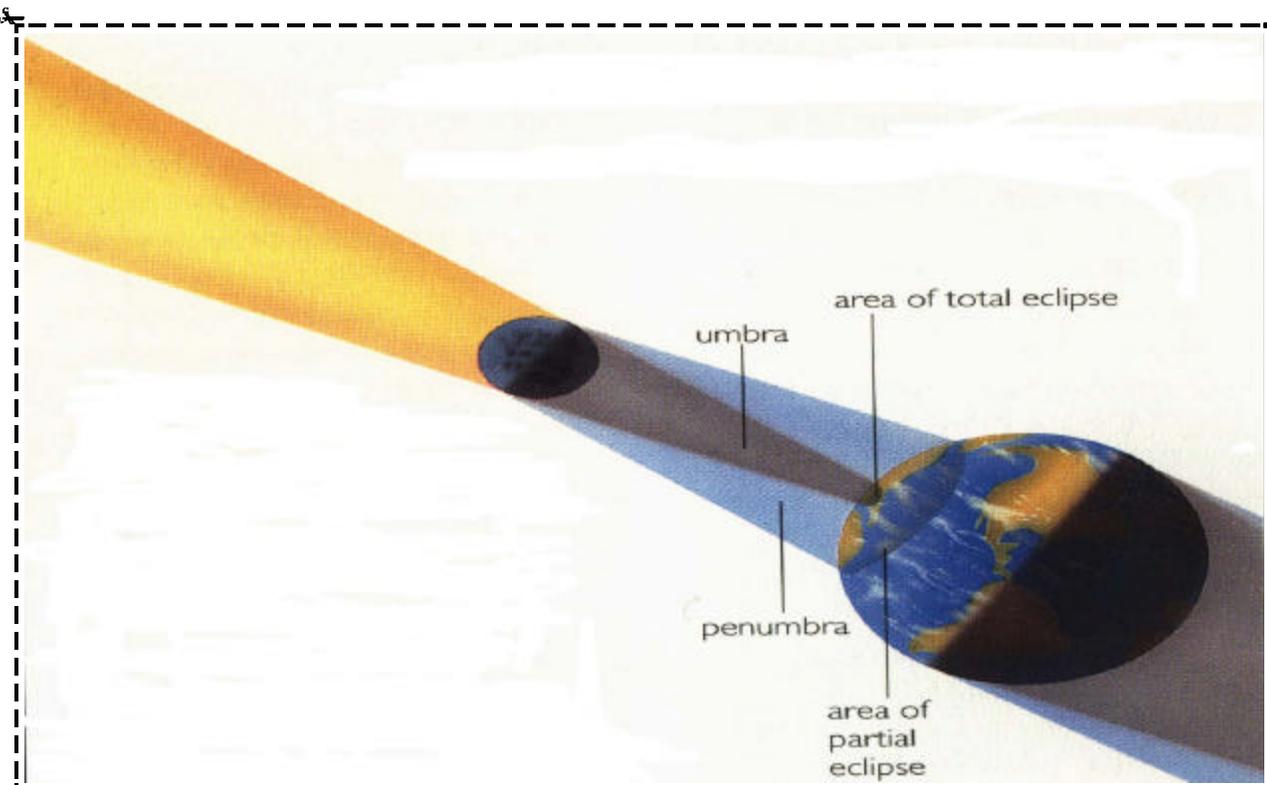
The proceedings of the con-

ference will be published in CD-ROM style with high resolution publications. If you have photo's or presentations you want on the CD-ROM, please send them to patrick\_poitevin@cotyinc.com. Please keep them smaller then 5MG. They CD-ROM will be send to all attendees free of charge but



will be for sale for all others\). Costs will be published on the SEML in a while. Best regards, Patrick

Generally, I'd be glad about some detailed material from the conference, wether in the web, on CD-ROM or printed.



# AFRICA 2001

## WWW.AFRICA UPDATE



At last ..... My presentation to SEC2000 has been uploaded. <http://www.eclipse.za.net/html/pix/TourismOpportunitiesinSAVer1.1.ppt> or click on the link

[html/safari.html](http://www.eclipse.za.net/html/safari.html) Full details in a downloadable MS-Word document. Some updates to the 2002 page - I am starting to receive details of tours for 2002. First one is by Albatros Tours and takes in the Kruger National Park as eclipse viewing spot, with a side trip to Cape Town after the eclipse. see [www.eclipse.za.net/html/2002.html](http://www.eclipse.za.net/html/2002.html) Full details in a downloadable MS-Word document as well. Or - roll your own 2002 tour - just visit the Kruger National Park website - look for the link on the 2002 page above. Regards Peter

From: Rigel (Peter Tiedt) <[rigel@stars.co.za](mailto:rigel@stars.co.za)> To: Solar Eclipse Mailing List <[SOLARECLIPSES@AULA.COM](mailto:SOLARECLIPSES@AULA.COM)> Sent: Saturday, November 04, 2000 9:04 PM Subject: [SE] Africlipse Website Update

on [www.eclipse.za.net/html/links.html](http://www.eclipse.za.net/html/links.html) Download is approx 750KB Also - a new index page And - a Zimbabwean farm - Siyalima Farm - 150 km NE of Harare (in totality) with lots of room for visitors - look on the Safari page [www.eclipse.za.net/](http://www.eclipse.za.net/)

## LOOKING FOR A TRIP

From: Jean -Paul GODARD <[jpgodard@cybercable.fr](mailto:jpgodard@cybercable.fr)> To: <[solARECLIPSES@AULA.COM](mailto:solARECLIPSES@AULA.COM)> Sent: Sunday, November 05, 2000 4:52 PM Subject: [SE] Eclipse tour starting Johannesburg

Hi dear eclipse chasers, We (2) are looking for a tour starting from south africa to see the next TSE on June 21st. Did some of you heard about such a possibility? Thanks for your response in private or on the list if of interest for others. Martine et Jean-Paul [Jean-paul.godard@cybercable.fr](mailto:Jean-paul.godard@cybercable.fr) Martine. [tlouzeau@cybercable.fr](mailto:tlouzeau@cybercable.fr)

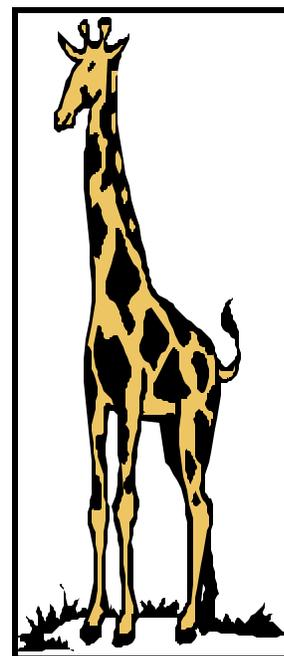
From: Sheridan Williams <[sheridan@clocktower.com](mailto:sheridan@clocktower.com)>

Try Unusual Destinations email: [unusdest@global.co.za](mailto:unusdest@global.co.za)

## 50 PLACES ON TRIP

From: <[Kidinvs@aol.com](mailto:Kidinvs@aol.com)> To: <[SOLARECLIPSES@aula.com](mailto:SOLARECLIPSES@aula.com)> Sent: Thursday, November 02, 2000 4:15 PM Subject: [SE] Zimbabwe/Zambia...

All though I have sold out my space for the 2001 eclipse trip, I have been able to secure additional airline seats and rooms to accommodate an additional 50 people to Zimbabwe/Zambia. I am telling everyone this because at the Solar Eclipse Conference, I was asked if I had any space left, and I did not. This new group would arrive in Zambia on June 20th, and depart from Vic Falls on June 27. Anyone with interest can email me directly. All the best, Eric Brown





### AFRICA 2001 WITH ESPENAK

From: FRED ESPENAK <u32fe@lepvax.gsfc.nasa.gov> To: <SOLARECLIPSES@AULA.COM> Sent: Friday, November 17, 2000 6:25 PM Subject: [SE] Africa 2001 with Espenak

I'm leading a tour to Africa for the 2001 June 21 eclipse. The nine day package will take us to Johannesburg, Victoria Falls, and Hwange Game Park (for animal safari). Last March, I traveled to Zambia to select our observing site. It's directly on the center line some 35 km north of Lusaka. It offers a clear view of the horizon in all directions and is a secure site on private property. Duration of totality is expected

to last 3 min 35 sec with the Sun at 31 degrees. We will spend two nights at the observing site so there will be plenty of time for southern sky observing and preparing for the eclipse.

This will be a small group (75 max) which already includes many old friends from past expeditions. Spears Travel tells me that we still have about 10 spots left. If you or someone you know is interested in joining our group, please see the itinerary details and registration online at: <http://www.spearstravel.com/Africa01.htm> Thanks! - Fred Espenak

### URANIA

From: Didier Van Hellemont <dvh@urania.be> To: SOLARECLIPSES@AULA.COM Sent: Sunday, November 12, 2000 3:47 PM Subject: [SE] Information on upcoming eclipse trips



Volkssterrenwacht Urania is organising four different trips to the June 2001 eclipse in Zimbabwe and Zambia. On Saturday, November 25, we'll be holding an information session at the Observatory about those trips and the eclipse in general. Start is at 20:00 and entrance is free, although we'd appreciate if those who attend would confirm this in advance. This meeting will be held at the Urania Public Observatory, Hove (near Antwerp), Belgium (for more info: see <http://www.urania.be>). If you cannot attend but still want more information about these trips, contact me directly at [dvh@urania.be](mailto:dvh@urania.be). Best regards! Didier Van Hellemont

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### Aligning GPS

From: Rigel (Peter Tiedt) <rigel@stars.co.za> To: Solar Eclipse Mailing List <SOLARECLIPSES@AULA.COM> Sent: Saturday, November 11, 2000 6:52 PM Subject: [SE] Aligning to the SCP

For those making the pilgrimage to the unfamiliar skies in the southern Hemisphere (which are lacking a Polaris), the following link describes an excellent method of alignment to the SCP. The article is from the latest issue of canopus, the journal of the Astronomical Society of Southern Africa. [http://www.aqua.co.za/assa\\_jhb/Canopus/c00bSCP.htm](http://www.aqua.co.za/assa_jhb/Canopus/c00bSCP.htm) Regards Peter

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- From: Rigel (Peter Tiedt) <rigel@stars.co.za> To: Solar Eclipse Mailing List <SOLARECLIPSES@AULA.COM> Sent: Saturday, November 25, 2000 6:54 PM Subject: [SE] African Solar, Lunar and Starlore
- The link below should get those visiting Africa next year up to speed with indigineous superstition and folklore.
- <http://www.sao.ac.za/starlore/legends.html>
- Peter
- • • • • • • • • •

### From Vienna

From: Marc Weihrauch <marc.weihrauch@student.uni-halle.de> To: Finsternisliste <solareclipses@aula.com> Sent: Wednesday, November 15, 2000 8:36 PM Subject: [SE] Europeans interested in TSE01? Hello, this is not supposed to be an advert; I hope it's alright. The WAA, an association of amateur astronomers from Vienna is organizing a tour to the total solar eclipse next year in Africa. It will include a tour through the region of Southern Africa, watching the Southern skies and, most important, the TSE (from Zambia). Since it's organized by a Austrian / German team it's quite affordable for Europeans despite the dollar rate : Basically all the tour was booked out, but now one of the participants withdrew. So there's one place left, and if anybody is interested, please contact me. Best regards Marc



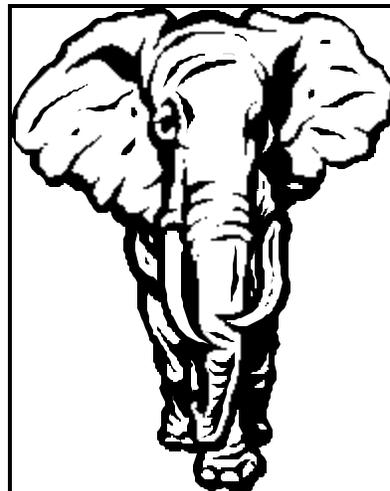
# AFRICA 2001

## LODGING NEEDED IN ZAMBIA

From: Harvey Wasserman <onsite@gate.net> To: <SOLARECLIPSES@AULA.COM> Sent: Sunday, November 12, 2000 8:15 PM Subject: [SE] lodging needed in Zambia

A change of plans has necessitated looking for lodging in or around Lusaka for the 21st of June - one night. Does anybody know of anything available? I really can't do the \$200 pnp being asked at the camps, and of course all hotels on line or that travel agents know about are booked.

There are two of us in need - my girlfriend and me. We don't need anything terribly fancy - really just a place to sleep. We will be travelling by private plane and could perhaps offer a flight to anybody able to help. Thanks all, Harvey Wasserman



## MALARIA IN AFRICA

From: <Kidinvs@aol.com> To: Patrick Poitevin <patrick\_poitevin@hotmail.com> Sent: Monday, November 06, 2000 3:15 PM Subject: Malaria in Africa....

All though this is not directly eclipse related, I feel as though it is important to pass on this research that I have done over the past few weeks. I have sent this letter to Patrick, and have asked him to review it. If the list is reading this, it is because Patrick has felt it is worthy to pass on. As you know, I am leading a fairly large group to see the eclipse from Zimbabwe and Zambia. The most often asked question as been one regarding Malaria. I am also taking my wife and 2 daughters to Kenya in Feb. for a safari. I have visited all 3 of these countries, and I have taken LARIUM on all occasions, with success... meaning that I did not contract malaria, and I had no ill effects from the Larium. HOWEVER, there has been quite a lot of talk about the side effects of Larium,

to the point that I am nervous about telling my family to take it, and I am worried about suggesting to my eclipse guests to take it as well. I AM NOT IN THE MEDICAL FIELD, and I make no representation to be an expert on this. You can find a recent article about Larium at the following website...

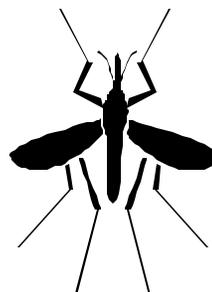
<http://washingtonpost.com/wp-dyn/articles/A38465-2000Oct9.html>

At the solar eclipse conference, I spoke to a number of people that live in these areas, and NONE of them take Larium to prevent malaria. The drug that they all seem to take is a combination of PALLUDRINE, and CHLORAQUIN. I began to ask my doctor and pharmacist about Palludrine, and neither one of them ever heard of it. I found out the drug is manufactured by Zeneca, so I called them. They told me that it was made by them long ago but no longer. I then found a drug, made my GLAXO, called MALARONE. This drug uses the

same active ingredient as "Palludrine" (proguanil hydrochloride) and is also combined with ATOVAQUONE, which has the same effect as Choloquin. Further information is available at ...

<http://www.glaxowellcome.co.uk/>

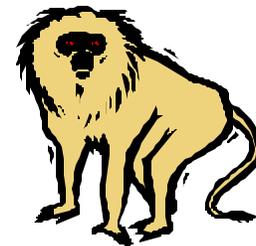
I am simply passing this info on to you, so you can make a more educated decision as to the method you choose to deal with Malaria. PLEASE... if you are familiar with the above drugs, pass on the info to group. Eric Brown [www.eclipsesafaris.com](http://www.eclipsesafaris.com)



At the solar eclipse conference, I spoke to a number of people that live in these areas, and NONE of them take Larium to prevent malaria.



# AFRICA 2001



## ECLIPSE TOUR STARTING IN JO'BURG

From: Jean-Paul GODARD  
<jpgodard@cybercable.fr>  
To:  
<solARECLIPSES@AULA.COM>  
Sent: Sunday, November 05, 2000 4:52 PM  
Subject: [SE] Eclipse tour starting Johannesburg

Hi dear eclipse chasers, We (2) are looking for a tour starting from south africa to see the next TSE on June 21st. Did some of you heard

about such a possibility? Thanks for your response in private or on the list if of interest for others. Martine et Jean-Paul Jean-paul. godard@cybercable.fr Martine.tlouzeau@cybercable.fr

From: Sheridan Williams  
<sheridan@clock-tower.com>

Try Unusual Destinations  
email: unusdest@global.co.za



## PARTIAL SOLAR ECLIPSE DECEMBER 25TH

I've just finished some major upgrades to my web page for the partial solar eclipse of 2000 December 25:

<http://sunearth.gsfc.nasa.gov/eclipse/extra/PSE2000Dec25.html>

I've expanded the city tables to include the local times of the start, maximum and end of the eclipse for hundreds of locations in the USA, Canada, Mexico Central America, and the Caribbean. The eclipse circumstances are broken down into three tables:

1) USA::

<http://sunearth.gsfc.nasa.gov/eclipse/extra/PSE2000Dec25city1/PSE2000D ec25city1.html>

2) Canada:

<http://sunearth.gsfc.nasa.gov/eclipse/extra/PSE2000Dec25city2/PSE2000D ec25city2.html>

[ec25city2.html](http://sunearth.gsfc.nasa.gov/eclipse/extra/PSE2000Dec25city3/PSE2000D ec25city3.html)

3) Mexico, Central America, the Caribbean and Atlantic:  
<http://sunearth.gsfc.nasa.gov/eclipse/extra/PSE2000Dec25city3/PSE2000D ec25city3.html>

Each city in these tables is a link to a graphic which shows the times (in local time) along with a drawing of the eclipse phase at maximum. I've corrected the local times in Canada by using the appropriate time zone for each city.

If anyone knows the URL of any live webcams planned for the Dec. 25 eclipse, please forward them to me so that I can add them to my list at the bottom of the Dec. 25 eclipse web page.

Seasons greetings!

- Fred Espenak

Name: Fred Espenak Planetary Systems Branch, Code 693  
e-mail: [u32fe@lepvax.gsfc.nasa.gov](mailto:u32fe@lepvax.gsfc.nasa.gov)  
NASA/Goddard Space Flight Center  
Voice: 301-286-5333 Greenbelt, MD 20771  
FAX: 301-286-0212 USA

Eclipse Home Page - <http://sunearth.gsfc.nasa.gov/eclipse/eclipse.html>  
Eclipses in 2000 - <http://sunearth.gsfc.nasa.gov/eclipse/OH/OH2000.html>  
2001 Total Eclipse - <http://sunearth.gsfc.nasa.gov/eclipse/TSE2001/TSE2001.html>

**FOR ALL THE STAMP COLLECTORS**

**PHILATELIST AWARE!**

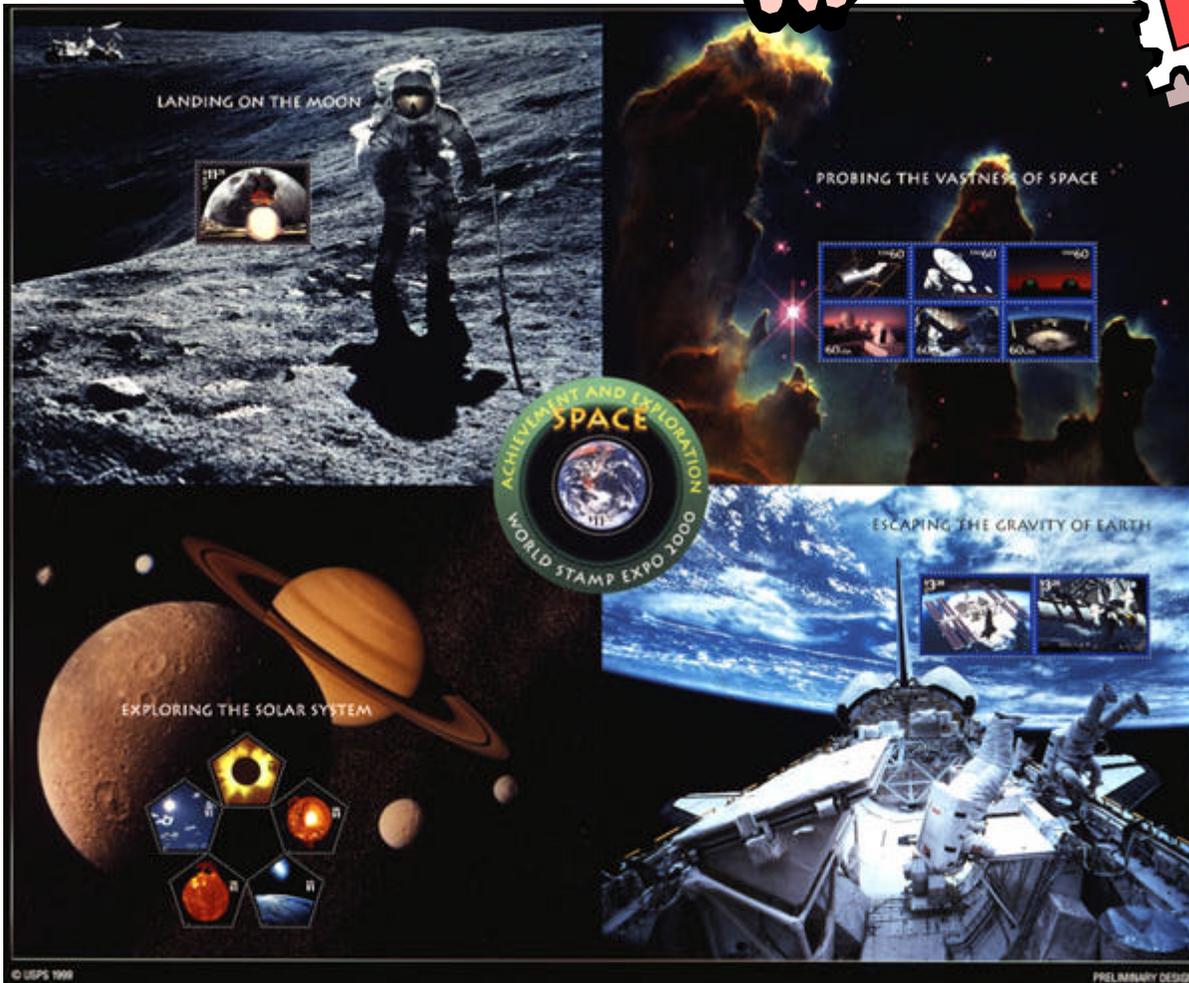
At the World Stamp Exhibition the stamp shown below was released. The stamp is available from The Postal Store and was issued on the 7th July.

The stamp is called SPACE ACHIEVEMENT AND EXPLORATION

These \$1 stamps present the following views of the sun: an image of a solar eclipse from a satellite, an illustrated cutaway view, a digitally restored NASA image of sun-

rise from space, an image of a solar eruption taken by Skylab on Dec. 19, 1973, and a photo from Earth of the sun in a partly cloudy sky. The souvenir sheet depicts a montage of Saturn and several of its moons, imaged by Voyager 1 in November 1980.

The Postal Store.htm



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PRELIMINARY DESIGN

## BOOKS

### FORTHCOMING PUBLICATIONS

From: Michael Gill  
<eclipsechaser@yahoo.com>  
To:  
<SOLARECLIPSES@AULA.COM> Sent: Wednesday, November 15, 2000 4:10 PM Subject: [SE] Eclipse References

Forthcoming eclipse publications...

Spheres of Interest: Solar Eclipse Expeditions and Victorian Society Alex Soojung-Kim Pang Stanford University Press.

Online sample... <http://www.stanford.edu/~apang/spheres/index.html>

Glorious Eclipses : Their Past, Present and Future Serge Brunier, Jean-Pierre Luminet, Storm Dunlop (Translator) ISBN 0521791480 <http://images-eu.amazon.com/images/P/0521791480.02.LZZZZZZZ.jpg>

Michael Gill.



### BOOK REVIEW

Any graphs, pictures, bookreviews to publish?

Please send it to  
joanne\_edmonds  
@hotmail.com

Next issue a  
bookreview  
"Einstein and  
the Total  
Eclipse"

Download  
Now



Joanne & Patrick

*Solar Eclipse Mailing List*



**VISION STATEMENT**

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

**LATE NEWS: IMAGING OF THE SUN**

From: Geert Vandenbulcke <geert.vdb@online.be> To: Patrick Poitevin <Patrick\_Poitevin@hotmail.com> Sent: Friday, November 17, 2000 2:11 PM Subject: Fw: [AUDE-L] [HS] Traitement images éclipse soleil

From: christian viladrich <viladric@club-internet.fr> (Translated by PP, the picture was also seen in the lecture of Serge Koutchmy at the SEC2000 in Antwerp) Hello to everybody. Please have a look on my website for techniques on imaging for the eclipse of 26 February 1998.

<http://perso.club-internet.fr/viladric/>

The image results in viewing earthshine together with the total eclipse and star back-



grounds of magnitude 8.5. It gives an idea for those who want to capture the next eclipse on CCD or photo. Best regards, Christian Viladrich