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22:19:20.6 Umbra leading edge lands on Earth. It takes an exceptionally long time for this umbra to fully land on Earth due to its glancing blow. Compare this to the same landing for the Feb 1998 TSE (gamma 0.23) which took only 1.5 minutes; this eclipse takes 7 minutes and 6 seconds!

22:23:25 South Pole (geographic  $\gamma$ 90.00 Latitude South)  
First contact 100 CCW f V, 20 deg alt, azimuth due north

22:24:49 Last contact Narrabeen, Australia Late morning  
75 deg CW f V, Sun 45 deg alt, az 86

22:26:22 Umbra fully on Earth

22:26:38 Earth back half, fictitious shadow would cross Kerguelen Islands for clear Earth looking 8 degrees below horizon, azimuth 134 one would see a fictitious total eclipse.  
Duration 1:23

22:32:00 First contact at Osculating Point. This is the location which experiences first contact at sunset (11.2 deg right of due south), continues setting, with max eclipse at local midnight 0.4 degrees below the south horizon, rises with last contact occurring at sunrise (11.2 degrees right of due south)

The point where the lines  $\gamma$ End at Sunrise $\gamma$  &  $\gamma$ Begin at Sunset $\gamma$  intersect

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22:36:00 Qantas Flight initiates straight line intercept.  
Shadow 240 miles behind plane, favoring right side

22:36:20 South magnetic pole, max eclipse 0.787, 3 deg CW f V, alt 332, azim 70

22:37:28 Last contact Melbourne, 83 cw f v, alt 42

22:40:00 Khlebnikov mid-eclipse  
Qantas Flight 130 miles ahead of shadow center

22:42:46.5 Qantas, C2, Totality begins

22:43:36 First contact, Vinson Massif, tallest mtn in Antarctica,  
CCW f V 102, alt 22, azim 277

22:44:00 Mid-eclipse Qantas flight  
Our orientation is 16.5 degrees from being perfectly  $\gamma$ upside down $\gamma$  relative to the ecliptic plane

22:45:20 Qantas, C3, Totality ends

-----  
The following 3 underlined\* events occur in Antarctica 500 miles inland from the Shackleton Ice Shelf

D \* 22:49:09 Maximum Duration only 0.002 seconds longer than G\*  
Shadow can encompass both sites G\* and D simultaneously.

M\* 22:49:15 Greatest Magnitude, greater ratio by only one part in 2 million  
occurs before shadow reaches bulge of Earth due to approaching Moon.  
Moon assumes largest size ratio relative to Sun

G \* 22:49:17 Latitude 72.66 South, Longitude 88.4 East Duration 1:57.1  
Instant of Greatest Eclipse, closest to Earth's center, umbra footprint is least elliptical (although for this eclipse it is always highly elliptical).  
Apex of umbra cone would extend 7349 miles (1.85 Earth radii) beyond center of Earth.  
Site: Vertical speed pos 84.7, Horiz speed neg 104.7 MPH

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Shadow: Vertical speed neg 208.9, Horiz speed neg 2299.9 MPH

Fictitious total eclipse out the back of Earth would be duration 1m13.5s, 15.5 degrees below horizon azimuth 154. Shadow 59.3 x 222.4 miles, path 221.2 miles wide.

Site: Vertical speed neg 19.2, Horiz speed neg 603.8 MPH

Shadow: Vertical speed neg 208.9, Horiz speed neg 2299.9 MPH

22:49:26 Prince Edward Islands could see a 0.966 magnitude partial eclipse through a clear Earth looking 20 degrees below horizon at azimuth 156.

22:50:55 Last contact Hobart, Tasmania, 78 CW f V, alt 45,

22:59:21 New Moon occurs; Sun and Moon at same ecliptic longitude

22:59:38 Lake Vostok (see above), max eclipse 0.95, 7 deg CCW f V, azim 90

23:10:24 First contact Elephant Island (Shackleton rescue),  
106CCW f V, 6 alt, azim 238

23:11:47 Umbra begins departing Earth. Long goodbye, over 7 minutes.

23:18:00 South Pole (geographic, -90.0 Latitude) max eclipse, 0.882 magnitude  
17 deg CCW f V, altitude unchanged at 20.4deg (slightly higher if one includes half arc-minute declination change)

23:18:53 Umbra completely off Earth

23:20:15 Geocentric conjunction of Moon/Sun. For a total solar eclipse this normally occurs during totality, not after the umbra has departed Earth. It indicates the time when mid-eclipse is at local noon or local midnight. For this eclipse, like the annular eclipse last May in Iceland, the umbra (or antumbra) loses contact with Earth before it crossed the axis of Earth's rotation (North/South Poles) So this eclipse misses being a local midnight total eclipse by 1 minute 17 seconds. The next eclipse in this saros does have local midnight totality (crosses the axis) because it is less gamma and the South Pole presents itself to the Sun more closely aligned to the vertical centerline of Earth.

The maximum obscured local midnight for this eclipse presents Sun at mag 0.993 due south azimuth, latitude  $\gamma$ 69.6 South, 6.6 East. (Ignoring refraction.) At that instant along the meridian toward the South Pole, over it and along the opposing meridian, 173.4 West, is a less and less covered Sun.

23:23:32 Moon at Perigee, only 0.354 miles closer to Earth's center than at greatest eclipse.

23:33:07 Khlebnikov last contact

23:35:20 Last contact, south magnetic pole, 75 CW f V, 37 alt, 54 azim

23:37:31 Vinson Massif, max eclipse mag 0.742, 28 CCW f V, azim 263

23:54:58 Lake Vostok, last contact, 79 CW f V, alt 24

24:07:47 Last contact at Osculating Point. (See UT 22:32:00 above)

24:12:30 South Pole (geographic  $\gamma$ 90.0 latitude) last contact  
65 CW f V, 20.4 alt, Sun is always due north)

24:21:00 Sun sets Elephant Island, mag 0.49

24:29:18 Northern Limit of Penumbra ends in Pacific 600 miles off Chilean coast

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24:29:18 North penumbral limit ends  
(Should be listed as N2, not S1, in NASA TP Table 2.2)

24:30:17 Last contact Vinson Massif, 47 CW f V, alt 17, azim 251

24:43:12 Last contact Antarctica Peninsula, Capt Arturo Prat  
Sun alt 0.6 deg, azim 222, 36 CW f V

P4 24:52:15 Very last contact on Earth in Pacific,  
Sunset azimuth 236, 180 miles west of south Chilean coast.

P1 minus P4 = 4hrs 6min 10sec: life span of eclipse

All times calculated by Raymond Brooks, Star Engineering  
Events rounded to nearest full second or minute, unless shown more detailed.  
Permission is freely granted to copy or use this summary. Please make appropriate acknowledgements of the source.

From: Fraser Farrell

Once again an excellent summary from Ray. For the benefit of the Australian-based readers I will add the relevant local times to his notes below.

This is a partial eclipse for Australia, occurring on the morning of November -24- local time. Because it's summer the local time zones will be a mess:

- (1) UT + 8 hours, for Western Australia (Perth, Albany etc).
- (2) UT + 9 hours 30 minutes, for Northern Territory (Alice Springs, Ayres rock etc).
- (3) UT + 10 hours, for Queensland
- (4) UT + 10 hours 30 minutes, for South Australia (and the city of Broken Hill)
- (5) UT + 11 hours, for Tasmania, Victoria and New South Wales. This zone of course includes all the folks flying from Melbourne.

> November 23 15:00 approx Croydon flight departs Melbourne

About 2:00 am on the 24th, local time. Fortunately you are unlikely to be delayed by road traffic getting to the airport at that time of night :-)

> P1 20:46:05 20.15 S Lat, 127.25 E Long. Center of Moon 5,151 miles left of Earth

>

> 400 miles NW of Alice Springs, Australia. First opportunity on Earth to see partially eclipsed sun - moon bites top of sun at local sunrise. This can actually be seen almost a degree west (about 61 miles northwest) of the site indicated in the NASA TP (for a standard atmosphere) due to refraction.

Local time 06:16:05. May be a tad difficult to get to because (a) it's in the Tanami Desert and (b) Wet Season has just started. Very few of the tracks there may be passable even with 4 wheel drive.

But P1 is not too far from The Granites gold mine. Which did have a reasonably good dirt road leading to it. If my memory is correct, you should get excellent views of sunrise from the waste rock-piles there.

> 20:47:02 First contact Alice Springs Australia, top of Sun. Sun 7 deg high in SE Six seconds later first contact Ayers Rock basically same apparition

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06:17:02 for the Alice. May be hidden from certain locations within the town because of nearby hills to the SE.

> 20:51:23 First contact Stuart Hiway, where we viewed TSE Dec 4, 2002.

07:21:23 local time. No problem with viewing obstructions here... ;-)

For Adelaide, first contact at 07:25:11 local (altitude ~16 degrees), mideclipse 08:11, fourth contact 09:00:16.

> 20:56:48 Last place in Australia to witness C1 at sunrise, Albany (SW corner Aust)

04:56:48 local time. No "daylight saving" here.

> 21:00:37 First contact Melbourne, 23 deg CCW v F, alt 23

08:00:37 local time. Monday morning rush hour already well underway by now!

> 21:01:05 First contact Narrabeen Bay (Remember 'Surfin' USA' by the Beach Boys? 'You'll catch 'em surfin' at (inside, outside USA)) Australia's

Narrabeen...bah...most of 'em will be tourists or expatriate New Zealanders!

08:01:05 local time.

> 21:07:40 First contact Hobart, Tasmania, 31 CCW f V, 26 alt

08:07:40 local time.

> 21:24:02 Max eclipse Alice Springs, 0.288 magnitude Sun up 15 deg in SE.

>

> 21:26:44 Max eclipse Ayers Rock, 0.352 magnitude Sun up 14 deg in SE

06:54:02 and 06:56:44 local time.

> 21:32:30 Last place in Australia to witness sunrise, North West Cape, mag 0.430

05:32:30 local time.

> 21:34:49 Max eclipse Stuart Hiway, mag 0.4, CW f V in ESE

08:04:49 local time.

> 21:42:18 Max eclipse Narrabeen, NSW Australia

08:42:18 local time.

> 21:47:22 Max eclipse Melbourne, 30CW v F, alt 32, azim 92, mag 0.41

08:47:22 local time.

> 21:57:31 Max eclipse Hobart, Tasmania, 25 ccw f v, 36 alt, 85 az, mag 0.458

08:57:31 local time.

> 22:03:08 Last contact Alice Springs. On right side of Sun, Sun 24 deg high

>

> 22:08:50 Last contact Ayers Rock at 3 o'clock spot, Sun up 23 deg in SE

(Continued on page 55)

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07:33:08 and 07:38:50 local time.

> 22:24:49 Last contact Narrabeen, Australia Late morning  
> 75 deg CW f V, Sun 45 deg alt, az 86

09:24:49 local time. **Batteries for Cold Weather applications**

From: James Huddle To: solareclipsesSen1200312aula.com Date: Thu, 13 Nov 2003 21:17:40

My student, Andrew Tingley, and I have evaluated some batteries for use in cold weather. We will file a more detailed report later, but we wanted to get this information out in time that it might benefit some Antarctic eclipse observers. We regret that we did not obtain these results in time for those traveling on the Kapitan Khlebnikov.

We built a simple series circuit with a resistor and a 3-Volt flashlight bulb driven by two new AA-size batteries. We measured the battery terminal voltage and the voltage drop across the resistor once every two minutes until the batteries were discharged. (We also measured the temperature of the batteries at the same interval.) Since the resistor is known, the current drawn from the batteries can be determined from the voltage drop across it, and the power being drawn can be determined as the terminal voltage times the current. We estimated the energy drawn from the batteries during two-minute intervals from the power, and then added up all the energy increments to obtain the total energy drawn from the two batteries while they discharged.

We performed this experiment four times. We ran Energizer Max standard alkaline and Energizer e2 Lithium batteries, with the batteries at first at room temperature and then with new set in the freezing compartment of a standard refrigerator, where the average temperature was about -15 Celsius = +5 Fahrenheit. The results are summarized in the following table:

Battery Type	Temperature	Energy per AA Battery
Energizer Max	Room Temp	7692 Joules
Energizer Max	In Freezer	1610 J (=21% of capacity at room temp)
Energizer Lithium	Room Temp	12975 J
Energizer Lithium	In Freezer	11077 J (=85% of capacity at room temp)

As you can see, the lithium batteries performed much better in the cold, losing only about 15 percent of their energy capacity, while the standard alkalines lost nearly 80%. And the lithium batteries had more energy stored in them to begin with.

The Energizer e2 Lithium batteries are also much lighter than standard alkaline batteries: One lithium AA cell weighs about 14.5 grams, as opposed to about 24.5 grams for the Energizer Max. Of course there is a downside: The lithium batteries cost about four times as much as the standard alkaline batteries. The best price I found was at the chain store Office Depot, where I got an 8-pack of lithium batteries for US\$ 17.99, plus tax. The lithium batteries are not available in AAA size at this time. Jim Huddle Physics Department U. S. Naval Academy

From: Mike Simmons

Energizer Lithium e2 AA Batteries are available by mail order from Thomas Distributing for \$8.97 for a pack of four (\$8.57 when 3 or more packs are ordered). <http://www.thomas-distributing.com/enr-191bp-4.htm>

This company handles many types of batteries, focusing primarily on rechargeable NiMH of all kinds, chargers and accessories. They're a great source for batteries and chargers for digital camera users. I highly recommend them. <http://www.thomas-distributing.com/> Mike Simmons

> 22:37:28 Last contact Melbourne, 83 cw f v, alt 42

09:37:28 local time.

> 22:50:55 Last contact Hobart, Tasmania, 78 CW f V, alt 45,

09:50:55 local time.

cheers, Fraser Farrell

(Continued on page 56)

From: eclipseclatSenl200312comcast.net

A few typographical (keyboardgraphical?) errors on my summary

The shadow speed listed as 2299.9 mph neg is really positive. It was input to the formulae correctly so durations are correct.  
Ray Brooks

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### Batteries for Cold Weather applications

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Jim Huddle Physics Department U. S. Naval Academy

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<http://www.thomas-distributing.com/enr-l91bp-4.htm>

This company handles many types of batteries, focusing primarily on rechargeable NiMH of all kinds, chargers and accessories. They're a great source for batteries and chargers for digital camera users. I highly recommend them. <http://www.thomas-distributing.com/> Mike Simmons

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**Antarctic Eclipse News**

From: Jen Winter - ICSTARS Astronomy To: SOLARECLIPSESenl200312aula.com Date: Fri, 14 Nov 2003 01:25:21

Many eclipse chasers have been privately aware that we (Vic & Jen Winter) were expecting a baby (Vic's first) whose due-date was November 23rd.

Dozens of folks even suggested that we try to time the arrival onto the ice in order to achieve a native borne Antarctic - or a child born during totality. Try explaining that to your mother-in-law... Naturally, we just didn't think we could accomplish this task logistically and safely. There was one unwilling participant in the plan who could make or break such a monumentally difficult undertaking. It wasn't going to happen.

Meanwhile, the wee one decided to arrive appropriately between total lunar and total solar eclipses and was born on November 10th. Her name is "Ms. Shadow Lynn Winter"

(Ray Brooks now owes us \$20.00 from a game of "I'll bet I can guess the baby's name" )

In response to inquiries from many curious minds....

While young Shadow will not be attending this eclipse, Vic and Jen are both scheduled to lead the Midnight Eclipse Expedition to Novolazarevskaya!

We have been working with a number of news sources about coverage of the events of both the Khlebnikov and Novo expeditions. Two news sources that plan to cover the event are: National Geographic News - <http://news.nationalgeographic.com/> Discovery Channel Canada - [www.exn.ca/dailyplanet](http://www.exn.ca/dailyplanet)

- (Discovery Channel Canada plans to run a live video lead covering the eclipse from the Novo base)

10 days to Totality! Clear Skies, jen

From: tedSenl200312saker-law.com

Congratulations, Jen & Vic!

May I suggest a slight change to the newborn's middle name?

I propose: Shadow LIMB Winter

I'll take the \$20 now, or you can give me free passage to the next SSSP (with the optional side trip to Machu Pichu). I don't ask for much, do I? <G>

From: Fraser Farrell

> Her name is "Ms. Shadow Lynn Winter"

>

> (Ray Brooks now owes us \$20.00 from a game of "I'll bet I can guess the baby's name" )

Ray, the game was rigged. Her real name is Alice... :-)

The SOHO website reports today that the active regions (10)486 and (10)488 - which produced the recent massive flares & aurorae - are still visible on their solar farside images. Several big Coronal Mass Ejections have also been observed from the solar farside this week; presumably from 486 / 488. If they don't disintegrate during the next few days, then these active regions will reappear on the solar limb on Nov 21 or 22. So the corona could be very interesting for this TSE!

And if you're still in the southern hemisphere on Dec 5-6 you can see an eclipse of a different kind. A primary eclipse of Delta Velorum. This will take about 12 hours, centred on Dec 5 15:43 UT, and drop the visual magnitude from 1.95 to 2.46. Yes it's brighter than the famous Algol...

(Continued on page 58)

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See [http://ar.geocities.com/varsao/delta\\_Velorum.htm](http://ar.geocities.com/varsao/delta_Velorum.htm) and <http://www.konkoly.hu/cgi-bin/IBVS?4999> for more details. cheers,

From: Glenn Schneider

Jen, Mazel Tov and warmest congratulations to you and Vic.

A most appropriate name, perhaps it will be her future legacy and she will top all of us someday on Sheridan William's list.

Shadow was quite not to make her emmersion in Antarctica. Do you have an umbraphillic birth announcement? My daughter's (Maia, one of the Pleides stars\* wrapped in gossimer nebulosity, now 9 years old) had a number of my relatives a bit confused:

[http://nicmosis.as.arizona.edu:8000/MAIA\\_BA.GIF](http://nicmosis.as.arizona.edu:8000/MAIA_BA.GIF)

but my astronomer friends "got it".

\* 20 Tauri, in the Pleadies, V=3.86, sp=B7III

"...and queenly Maia...by the will of Zeus illustrious... ", Aratus, 3 B.C.

FYI: NG contacted me as well - but I only JUST saw their email which came a few days ago. I'll try to respond before I leave. Which is tomorrow!

BEST OF LUCK - With both the newly arrived Shadow and the one to come in a week. Glenn Schneider

### QF 2901 - Antarctic Eclipse Flight

From: Glenn Schneider To: SOLARECLIPSESenl200312AULA.COM Date: Fri, 14 Nov 2003 18:50:46

TSE 2003 drays ever closer. Many umbraphiles and SEML subscribers are already in route to the White Continent toward their viewing venues on land, sea, and air. I, myself, leave tomorrow morning - a day anticiaped since watching the shadow last receed on 4 Dec 2002 as it lifted off the Earth from eastern Australia. It seems fitting to return to the same airport to "hop off" to intercept the shadow, from where I closed out my last umbral rendezvous.

I will be traveling to Oz on QF 94 departing tomorrow night from LAX. If there are others here who are on this list who are on that flight please let me know, and your seat numbers if we haven't meet so I can stop by and say hello.

While in Melbourne (from the 17th to the 25th) I will be staying at the Holiday Inn on Flinders Lane; phone +61 3 962 94111 should anyone need or want to reach me before the flight. I would welcome the opportunity to meet any and all before than as time permits, and perhaps we can arrange for a pre-eclipse get together and/or a post-eclipse celebration back on the ground. Otherwise, I'll see those on QF 2901 as we head off to our intercept with the axis of the lunar umbral cone.

Those on ground, sea, ane elsewhere in the air... GOOD LUCK! Please re-email me your satellite phone numbers to confirm what I had earlier is still correct - or if that has changed.

One more email check tonight... the OFF THE AIR! Cheers and Clear Skies! Dr. Glenn Schneider, Ph. D. Associate Astronomer and NICMOS Project Instrument Scientist Steward Observatory, University of Arizona Tucson, Arizona 85721

**Novo eclipse website** From: Fred Bruenjes To: SOLARECLIPSESenl200312AULA.COM Date: Sat, 15 Nov 2003 20:09:17  
Hi Folks, I leave for Novolazarevskaya Antarctica tomorrow. In the event that I have internet access while staying in Cape Town, I have set up a website to display photos from the trip. I don't know when or how often I will update it during the trip, so I just want to let folks know that it's out there. <http://www.moonglow.net/eclipse/2003nov23/updates.html>

I also have a webpage with some background information at: <http://www.moonglow.net/eclipse/2003nov23/index.html> Fred Bruenjes Ramona, California

**Live Webcams ??**

From: Sylvain Rivaud To: SOLARECLIPSESSen1200312aula.com Date: Sun, 16 Nov 2003 11:14:51

Hi ! And what about LIVE webcams in Antartica for the next TSE ? I've no URL to see this eclipse from my computer screen in France !

Thank you in advance if someone have some links ! And clear skies for all observers of this far and cold TSE ! Sylvain.

**We are in Australia**

From: Joel Moskowitz To: SOLARECLIPSESSen1200312AULA.COM Date: Tue, 18 Nov 2003 02:27:14

To all, Just to let you know, I arrived safely in Australia. Sharing a room with my good friend and fellow crazy umbraphile, Glenn Schneider. We have already assembled and tested equipment and everything survived the trip. Now for some touring... Joel M. Moskowitz, M.D. 8 (total)solar eclipses and counting...soon to be 9

From: Craig Small

Joe, I am writing this for Craig, who is at work. he leaves tomorrow night. Leave word for Carter Roberts that Craig will be rooming with him. Also, let the hotel know that he may be getting a package and to hold it for him even though he is not registered. Maybe you can ck for it each day. Have fun and regards to Glenn. Clear skies and a good flight!!! Wish I were there. Robyn

From: Craig Small

Hi Iguess I didn't type the l in Joel. Sorry R

From: "Christiaan" <christiaanSen1200312krizzz.nl>

Hello all, Just to let you know I made it to Melbourne. I'm in a hostel on Flinders Lane right now. Regards, Christiaan.

**Eclipse Flights**

From: Glenn Schneider To: SOLARECLIPSESSen1200312AULA.COM Date: Fri, 21 Nov 2003 12:54:52

Jay Pasachoff called this to my attention:

<http://uanews.org/cgi-bin/WebObjects/UANews.woa/5/wa/MainStoryDetails?ArticleID=8246>

Guess you never know what they will say about you after you leave the country...

And, separately, umbraphiles are crawling up out of the wood work in Melbourne. Michael Gill, Jay Friedland, Jay Pasachoff, Joel Moskowitz, Carter Roberts, John Beattie have made their appearnce at "Eclipse Central" at the Holiday Inn on Flinders Lane. Croydon and QANTAS both confirm all is looking good for the 23 Nov UT flight. Cheers -GS-

**Space.com article on Antarctic eclipse by Joe Rao**

From: Mike Simmons To: solareclipsesSen1200312Aula.com Date: Fri, 21 Nov 2003 22:19:27

There are also links to timings and webcasts. And the author discusses the passion of his umbraphile friend, SEML member Glenn Schneider.

[http://www.space.com/spacewatch/solar\\_eclipse\\_031121.html](http://www.space.com/spacewatch/solar_eclipse_031121.html) Mike Simmons

**Observing program of LIVE-ECLIPSE 2003**

From: F.Podmore To: Solar Eclipses Mailing List <solareclipsesSenl200312aula.com> Date: Sat, 22 Nov 2003 15:58:05

Can anyone help please?

I've accessed the website [www.live-eclipse.org](http://www.live-eclipse.org) and seen the diary of the Japanese expedition.

1. Are they planning a live webcast from within the totality track?
2. If so, when will the webcast start and the webcam be operating? [At present, clicking on the link LIVE PROGRAM gives nothing informative.]
3. Will there be some mirror sites, because I can imagine the demand on that webcam will be tremendous tomorrow night?
4. Exactly where are the team planning to get to for their observations?
5. Are there going to be other webcams in the totality track? If so what are the websites, and what is their schedule of broadcasts?

[Too bad I cannot receive the Discovery channel live telecast, but thanks Chris for the info] Thanks in advance. Francis

**Headed out to Antarctica**

From: homeSenl200312icstars.com To: solareclipsesSenl200312aula.com Date: Sat, 22 Nov 2003 15:58:30

Folks, We are a few hours away from our Antarctic flight with David Levy and a few dozen of our close friends. We were delayed by 24 hours, planning originally to leave last night... however, a storm prevented us from lifting-off as scheduled. The storm pinned-down the camp with temperatures at -28c and winds at 100km/hr - the eclipse observing site with its tents and outhouses were BLOWN AWAY.. and thusly, we would not have been permitted to land and would have been turned-back... Instead, we chose to wait for the storm to clear and fly-in in the window following. Beyond this storm, we expect 48-72 hours of good, clear weather.

You can check our guest, Fred Bruenjes' website with updates at: <http://www.moonglow.net/eclipse/2003nov23/updates.html> Clear Skies, Vic & Jen OK to GO!!!!!!

**2003 expeditions TRanslators please**

From: F.Podmore To: Solar Eclipses Mailing List <solareclipsesSenl200312aula.com> Date: Sat, 22 Nov 2003 16:21:50

Hello again - sorry if I'm asking a lot of questions, but if I don't ask, I won't find answers is time...

I've found two other expedition sites, reporting daily progress.

[www.shadow-chasers.net/news19.asp](http://www.shadow-chasers.net/news19.asp)

[www.shelios.com/sh2003](http://www.shelios.com/sh2003)

But the first is in Persian, and the second in Spanish, I think. But I cannot read either =- are there any translations into English available for these two? Francis

From: F.Podmore

Hello - I don't think the reply below was sent out generally to SEML, so here it is for others who may want to look at translations - Thanks very much Judy for a prompt response (-:-) Francis

*(Continued on page 61)*

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----- Forwarded message --Date: Sat, 22 Nov 2003 12:18:54 -0600 From: Judy Anderson <iceclipsesSenl200312comcast.net> To: podmoreSenl200312science.uz.ac.zw Subject: 2003 Solar Eclipse/Translators Please

Dr. Podmore, For a general translator of the more popular languages, I use: <http://babelfish.altavista.digital.com> Go to this web site and enter the web page you wish to translate; then choose the appropriate "to and from languages" from the list. Good luck. I appreciate all of the eclipse sites that you have shared with the SEML list for those of us who could not make the trip to this eclipse. Keep looking up, Judy Anderson Mobile, AL USA

#### Antarctic webcams

From: F.Podmore To: Solar Eclipses Mailing List <solareclipsesSenl200312aula.com> Date: Wed, 19 Nov 2003 12:51:35

Could someone PLEASE post a list of the webcams that should be broadcasting the TSE on Sunday. Fred's TSE2003 page promises a list ('in November 2003') but there's nothing there.

Jay/Sheridan/Michael/Fred - can you, or anyone else, help??? Many thanks. Francis

From: F.Podmore

>From GOOGLE I can partially answer my own question (-:-))

I found [www.eclipse-reisen.de/2003/web.htm](http://www.eclipse-reisen.de/2003/web.htm) which has a list of 11 Antarctic webcams, with times of start,max and end of eclipse at each site. Does that mean they will all be observing it at those times? Are they all operating all the time?

The page is in German, but if you locate it using Google, there is the option to do an automatic translation.

The page [www.eclipse-reisen.de/2003/links.htm](http://www.eclipse-reisen.de/2003/links.htm) (also in German but translatable) gives lots of links to articles on the TSE, and a link to the McMurdo webcam(1) as [www.evanzucker.com/mcmurdo/1500PST.jpg](http://www.evanzucker.com/mcmurdo/1500PST.jpg)

but when I tried it, I was directed to the same link Klipsi gave in his SEML message of 30 Septembr 2003, and what I got said the image was 421 days old, and the onscreen calendar I got could not be reset.

Evan, can you (or anyone else) assist/clarify how to use your link? Another link to McMurdo webcam (2) as [www.macdear.com/mcmurdo.htm](http://www.macdear.com/mcmurdo.htm) showed nothing. Good luck for all those travelling south to the ice.... Fine weather! Francis

From: F.Podmore

By further searching i find that Klipsi lists 6 Antarctic webcams on his site <http://eclipse.span.ch/2003.htm#2003tse> and says "none are in the track of totality"

And his site [eclipse.span.ch/antarctica2003.htm](http://eclipse.span.ch/antarctica2003.htm) lists seven (two at the south pole)

I haven't tried accessing any of them - are any or all working currently? Francis

From: Francisco A. Rodriguez Ramirez

Hi all SAROS Group Scientific Expeditions have updated links to differents webcam in Antarctica for the next total solar eclipse. URL: <http://live.saros.org> Best Regards Francisco A. Rodríguez Ramírez

From: F.Podmore

Here is further information about webcams for TSE 2003 november 23 to add to the info from Francisco Ramirez (many thanks for that), which is <http://live.saros.org>

From: F.Podmore

(Continued on page 62)

The AAD has a useful webpage of info for the TSE 2003 at <http://www.aad.gov.au/default.asp?casid=12598> or just start at their home page and follow the links. Francis

From: Nicki Mennekens

Dear all, As usual, a selection of links to live coverages of the total solar eclipse is on my eclipse homepage, at [http://users.telenet.be/nmenneke/eclips/engels/live\\_en.html](http://users.telenet.be/nmenneke/eclips/engels/live_en.html). It also still features some links to the best reports of the past lunar eclipse.

Greetings, and good luck to the Antarctic adventurers who should still read this, Nicki Mennekens

### **Antarctic eclipse - Iranian expedition**

From: F.Podmore To: Solar Eclipses Mailing List <[solareclipsesSen1200312@aula.com](mailto:solareclipsesSen1200312@aula.com)> Date: Sun, 23 Nov 2003 19:36:42

Hello - I have just received the message below.

And the website [www.nojum.net](http://www.nojum.net) has updated news and photos of their expedition, in English. Francis

Forwarded message -- Date: Mon, 24 Nov 2003 00:52:45 -0500 From: khodashenas <[infoSen1200312@shadow-chasers.net](mailto:infoSen1200312@shadow-chasers.net)>

Dear Dr.Podmore Our ofical site at [www.shadow-chasers.net](http://www.shadow-chasers.net) published only at Farsi.But you can find some more english news about this trip at [www.nojum.net](http://www.nojum.net). Only one group at Kapitan Khelebnikove ice breaker ship have a program for live webcasting and you can find it at [www.live-eclipse.org](http://www.live-eclipse.org) Kapitan khelebnikove icebreaker now stay at 65 Deg 52 min 74 sec South and 89 Deg 30 min Eeast We hope that they can observe this great eclipse wiyhout clouds. We updated our website a few houres after eclipse and we published at first time that possible. As i say you can find more information at [www.nojum.net](http://www.nojum.net) Best regards Shadow-chasers Office Tehran Iran

### **Is the [www.live-eclipse.org](http://www.live-eclipse.org) webcam currently working?**

From: Robert B Slobins To: "'SOLARECLIPSESen1200312@AULA.COM'" <[SOLARECLIPSESen1200312@aula.com](mailto:SOLARECLIPSESen1200312@aula.com)>  
Date: Sun, 23 Nov 2003 17:57:46

Good for you! I would rename the site [www.dead-eclipse.org](http://www.dead-eclipse.org), as I could not get anything to work! This is the second failure I have had with this outfit!

By the way, today is my eighth wedding anniversary. Elisabeth, among other things, has been my most valuable player on my eclipse chases, including the lunars.

She, however, would have stayed off of Antarctica, as anything below +25C freezes her (determined in 1998 and 2001). So we wait for a cruise for 8 April 2005. cheers/rbs

From: F.Podmore

Hello from Zimbabwe, Would anyone who is currently online and trying to watch the eclipse webcast from [www.live-eclipse.org](http://www.live-eclipse.org) please tell me if they are seeing anything yet from that webcam?

When I click on the LIVE PROGRAM link all I get is a blank screen with the words P0int1 Point2 Point3 Point4 under each other at top left = not very informative!!

AND are there any other webcams (with eclipse filters!) already operating in the totality track, which you are watching? Websites please as soon as possible. Thanks, FRancis

Looks like Klipsi and Vic&Jen have cloudless skies currently (-:-))

And I've just thought that all the other Antarctic webcams which are not in the totality track, could not look at the (partial) eclipse

*(Continued on page 63)*

unless they've already been fitted with sun filters, which I don't suppose they have! So they're not much use are they???

From: Mark R. Kidger

I see a map of the ground track with a clock counting down to totality.

Good luck to everyone who is down south! (I have a perfect 3 from 3 record with eclipses: 3 eclipses, 3 clouded out!) Mark Kidger

From: Mike Simmons

I get a frame with options for viewing the webcast. I've tried two links from there but without success so far. But the program schedule at the bottom of that frame says that the broadcast will begin at 21:40 UT which is currently more than 30 minutes from now.

The Iranians you mentioned in your last message had planned on a live webcast using a Celestron 11-inch telescope! It seems that's not going to happen, though, since there's no longer any mention of it on their web sites. Mike Simmons

From: Harvey Wasserman

I am watching the site, Francis. It sounds like you have not been able to load the full page. I have a broadband connection, but had some difficulty bringing it up, too. They may already be getting overloaded :-(. Good luck to all. Harvey

From: Harvey Wasserman

The Davis and Casey cams are currently pointed at the sun.

<http://www.aad.gov.au/asset/webcams/davis/default.asp>

<http://www.aad.gov.au/asset/webcams/casey/default.asp>

Harvey

From: Nicki Mennekens

Dear all, As I told Dr. Podmore, the Live-eclipse.org webcam is not yet functioning at this time. It is supposed to start broadcasting at 21:40 UTC. There isn't any other totality path webcam online to this point, as totality only begins at 22:19 UTC. However, I'm wondering if there isn't any webcast of the partial phase from Australia that has already begun. I'm currently looking for that, without success until now... Greetings, Nicki Mennekens

Note: I sent this message personally to those who asked because the SEML-message would arrive too late. Sorry to them for getting this twice...

From: Nicki Mennekens

The Live-eclipse.org webcam is functioning now (21:37 UTC)! Nicki

From: Mark R. Kidger

Yes. I am having problems too to connect. Mark

From: F.Podmore

Thanks to all those who have tried to help me see the live-eclipse.org webcast, which apparently is running now. But I can't see anything yet - and haven't seen any screen which asks which media player/Qttime/... I'd like to use. My LIVE PROGRAM screen stays resolutely white - and I don't know what to try next...

Maybe I'll have to wait for the still photos tomorrow - oops - it IS tomorrow in Zimbabwe now! Francis

**Official Press Release - Antarctic Eclipse at Novo**

From: Jen Winter - ICSTARS Astronomy To: SOLARECLIPSESenl200312@ula.com Date: Sun, 16 Nov 2003 21:43:11

15 November, 2003

Astronomical Tours Leads First Eclipse Expedition to the Antarctic Continent - Joined by noted experts, David Levy, and Professor Brian Warner, the expedition will offer the first glimpse to human-kind of a Total Solar Eclipse in the Land of the Midnight Eclipse.

Warrensburg, MO (11/15/2003) - The harsh and inaccessible expanse of Dronning Maud Land is not a typical destination for Antarctic expeditioners or tourists. Antarctica is the highest, driest, coldest and windiest continent on the planet. It is also the most remote. Expeditioners seeking access to the path of this eclipse find few suitable and accessible locations from which to observe. Through the introduction of logistical air support to the Novolazarevskaya Ice Runway, eclipse scientists, journalists and enthusiasts are able to position themselves in this unlikely and remote path of totality.

Dronning Maud Land (20°W 45°E) whose name was given for Queen Maud of Norway when the Norwegian Captain Hjalmar Riiser-Larsen discovered it in 1930, is without doubt one of the Jewels in the Crown of the Antarctic Far Side. Dominated by a chain of mountain massifs, which define the abrupt transition from the high-altitude Polar Plateau to the lower-lying northerly coastal plains, Dronning Maud Land offers some of the most dramatic mountain scenery in Antarctica. Vigorous glaciers and icefalls forging their way through the ramparts of the Plateau, have sculptured a fantasy world of towering spires and craggy peaks from the one billion year old crystalline basement rocks of the East Antarctic Shield. Once exclusively the domain of scientists, this isolated and remote area has in recent years attracted the attention of private mountaineering expeditions, drawn by the challenge of its spectacular Big Walls.

While a total solar eclipse may occur somewhere on earth approximately every 18 months, that narrow path may occur in locations either populous or remote. In 2003, the path of totality covers a crescent-shaped swath of Antarctic Far Side from the coast of Dronning Maud Land near the Novo and Maitri science stations, to the Shackleton & West Ice Shelves near the Mirny station. While Antarctica is open and free to visitors, access of any kind is expensive and logistically daunting. Responsible expeditions require many months of advance planning, contingency planning, authorizations and reporting of activities to countries of the Antarctic Treaty organization.

Through the services of the Antarctic Logistics Centre International (ALCI), flight operations to the path of the total solar eclipse would now be possible. ALCI, a South African company based in Cape Town provides governmental and non-governmental logistical support to Dronning Maud Land bases via Ilyushin-76 cargo flights and Icebreaker freighter services with a scheduled flight season from November to February. In September 2001 the Antarctic Logistics Centre International instituted a fully operational shipping link between Cape Town and Antarctica. One of the best ice class vessels in the world provides specialized transport services for research personnel, cargo and supplies. As an associate of INTAARI, St Petersburg, specialists in polar logistics since 1989, ALCI accesses a broad base of experience and expertise in servicing Antarctic research stations.

Astronomical Tours LLC. of Warrensburg MO, USA has organized and sponsored special interest astronomical expeditions of this sort including prior eclipse expeditions to Madagascar, Costa Rica, Zambia, South Africa, Australia and now Antarctica. Formed in 1998 the family-owned company researches and organizes international outings for professional and amateur astronomers to observe astronomical events in special locations with favorable viewing circumstances and travel itineraries. In addition to eclipse expeditions, Astronomical Tours has hosted programs for astronomical purposes to include the Leonid meteor storm of 2001, the opposition of Mars in 2003, solstice celebration ceremonies and an annual stargazing event, the Southern Skies Star Party in the Bolivian Andes. In 2001, Astronomical Tours began planning another travel itinerary for the 2003 total solar eclipse via icebreaker aboard the Quark Expeditions' Captain Khelbnikov. Future programs include the Transit of Venus seen from Egypt and Greece in June of 2004 and the hybrid eclipse of 2005 to be seen from the South Pacific.

As Astronomical Tours was already sponsoring an Antarctic eclipse expedition, Cape Tour Charters (CTC), partnered with the company to conduct a special expedition to the ice runway to view the total eclipse of the sun. CTC, a wholly owned subsidiary of SAA City Center Tokai Travel in Cape Town South Africa providing inbound services to travelers in South Africa since 1985. CTC would provide passenger travel services in association with ALCI and Astronomical Tours to assure visitor safety, comfort and compliance with Antarctic Treaty for this first expedition of its kind. Visitors will assemble in Cape Town on November 18th to assure

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a valid travel window free from weather delays which might jeopardize arrival to the Antarctic in time to view the eclipse. Travelers plan to fly to from Cape Town to the Novo runway overnight on a 6-hour flight the morning of November 21st and return on November 24th for a 9-day program. While in Antarctica, the team will reside in specially erected portable arctic buildings at the Ice Runway base-camp some 45km from the Novo station. Staff and support are provided by ALCI and CTC to meet the strictest measure of environmental and safety codes of conduct.

Onboard for the expedition are internationally notable experts, David H. Levy and Prof. Brian Warner. David H. Levy is one of the most successful comet discoverers in history. He has discovered 21 comets, eight of them using his own backyard telescopes. With Eugene and Carolyn Shoemaker at the Palomar Observatory in California he discovered Shoemaker\_Levy 9, the comet that collided with Jupiter in 1994. That episode produced the most spectacular explosions ever witnessed in the solar system. Levy is the author or editor of 29 books including the popular 'Skywatching' complex published by Weldon Owen Publishers for the Nature Company. Skywatching has since been translated into 5 foreign languages for distribution worldwide. Noted Astronomer and 12-time author, Professor Brian Warner, distinguished Professor of Astronomy at the University of Capetown. Professor Warner is arguably the world's foremost authority on the Herschel family, now regarded as astronomy's most important astronomical observers.

In addition to the unusual observation location circumstances, the geometry of this celestial event proves extremely unusual. On the date of the eclipse, the Sun in the path of the total eclipse will not set. Rather, it will remain above the horizon at all times, hovering around in a circle. At the Novolazarevskaya region, the sun will reach its lowest point at 12:00 midnight local time (2300 UT), just 16 minutes before the eclipse becomes total. It will then be positioned a meager 1.5 degrees above the horizon and be traveling horizontally west to east. At this point, the shadow cone caused by the moon will pass at a low angle over the tilted earth's South Pole, intersecting the earth on the far side where it reaches the ground. This extremely rare event will therefore produce a total eclipse of the sun, a known daytime event; at near midnight local time.

Due to the extreme low angle of the Sun during the eclipse, extensive logistical planning and operations have been required to assure the expedition would be a success. A small hill, incline or obstruction on the horizon in the viewing position of totality would render the event un-observable. Dronning Maud Land's inland hills and inclines would prove detrimental to observing possibilities at both Novolazarevskaya and Maitri bases. Astronomical Tours prepared extensive calculations and in February of 2003, performed a site inspection of the region to locate higher ground from which the team would observe the eclipse. Jen Winter of Astronomical Tours scouted several locations to include the Novolazarevskaya base, the Maitri base, the ice runway and several other locations nearby. All had southern horizons blocked by inland hilly outcrops, which would obscure observing. With the assistance of Mr. Aksenov Victor Fedorovich, an experienced member of visiting Russian mountaineering expedition (MAK), a qualifying safe observing site was located on a nearby plateau with an adequate view to the southern horizon.

Astronomical Tours is also working in cooperation with the International Astronomical Union (IAU) eclipse division to assist in coordination of scientific investigations being conducted in Antarctica by Indian and Swiss science groups. The eclipse at this location is of special interest to astronomers from the University of Alaska at Fairbanks, as the unusual circumstances will provide a unique opportunity to look for Aurora Australis. During the brief 1min. 29sec. window of totality, all direct sunlight entering the atmosphere will be blocked. Scientists are speculating that at this extremely southern location, aurora may or may not be visible. Aurora is formed by solar energy interacting with earth's atmosphere, charging particles in our atmospheric gasses. Due to a number of complicated interactions between the sun's radiation, earth's geomagnetosphere and our ionosphere, many scientists disagree as to whether the aurora can form the tell-tale 'auroral arc' during sunlit hours. Unfortunately, sunlight entering the atmosphere scatters and completely prevents observations of dayside aurora. The total eclipse of the sun may reveal the answer to this question, as well as provide spectators a truly rare and beautiful opportunity of colorful aurora-lit skies during a total solar eclipse.

Information about the program and future expeditions may be found at the company's website at: [www.AstronomicalTours.net](http://www.AstronomicalTours.net). Discovery Channel Canada ([www.exn.ca](http://www.exn.ca)) will broadcast live video transmissions and interviews from the Novolazarevskaya area with experts seen by affiliated organizations around the world. Vic & Jen Winter - Owner

From: Daniel Fischer

.. has reached me moments ago thru a mailing list for space journalists by the AAS:

THE FOLLOWING RELEASE WAS RECEIVED FROM THE NATIONAL ASTRONOMICAL OBSERVATORY OF JAPAN, IN TOKYO, AND IS FORWARDED FOR YOUR INFORMATION. (FORWARDING DOES NOT IMPLY ENDORSEMENT BY

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THE AMERICAN ASTRONOMICAL SOCIETY.) Steve Maran, American Astronomical Society

LIVE! ECLIPSE 2003 Press Release Nov 20, 2003

LIVE! UNIVERSE offers the first webcast of the total solar eclipse in the Antarctic

The program is presented by then non-profit organization LIVE! UNIVERSE (Ohta Ward, Tokyo. The Chairman is Masami Okyudo. The website is <http://www.live-universe.org/>), which relays astronomical phenomena via various networks, including the project "LIVE! ECLIPSE 2003" which webcasts the total solar eclipse that will be observed in the Antarctic in the morning on November 24 (JST).

The official web site

<http://www.live-eclipse.org/>

opened on November 3rd. This is the first observation of a total solar eclipse from the Antarctic since human beings made a base facility in the Antarctic. Besides, this is the first attempt to webcast a total solar eclipse from the Antarctic.

This program's observation party member in the Antarctic is Yuichi Ichikawa. He left Japan at the beginning of November by air, then took a ship from South Africa for the observation point. The observation point is Sackleton Ice Shelf. Before getting to the observation point, he will visit the base facility in the Antarctic and several islands, then send reports on the natural environment and interviews to the people on the same ship. He will use e-mail to send photographs, journals, and voice recordings.

On the total solar eclipse day, three video cameras including the professional-use model (Panasonic AGV-DVX100 <http://panasonic.jp/dvc/>) will be used and the images will be sent to Tokyo from PC via INMARSAT\*.

On the official site of LIVE! ECLIPSE 2003, the following content will be created. The main theme is to think of the earth from the perspective of the Antarctic environment. The web site contents are as follows:

- 1) Report from the observation party (current position, travel journal, interviews on the ice vessel or in the base facility, etc.)
- 2) Information on the Antarctic (Basic information and history of the Antarctic. Environmental problems, etc. Weekly uploaded contents. Total of 3 series.)
- 3) Information on solar eclipses (Basic information on solar eclipses, simulation of this total solar eclipse, etc.)

4) Information about webcast (Live program. On the eclipse day, the temperature, illuminance and barometric pressure information will be uploaded to the web site, as well as the live images of the total eclipse of the sun.)

Not only the images of the eclipse day, but the travel journal of the life on the ship and the reports of other islands where the observation party will stop by during the voyage to the Antarctic will be uploaded.

On the webcast day, we are planning to construct a system which can send the environmental information such as temperature, illuminance and barometric pressure in real time. We are going to create a multi-content page of various information. The simulation of the total solar eclipse will also progress in real time. The count down meter will be displayed on the simulation page, so the site viewer can enjoy the upcoming total solar eclipse by comparing the simulation with the real webcast image. Also, there will be a simulation program of the moon shadow seen from the sky above the Antarctic. The site viewers can see how big and how fast the moon shadow moves across the vast Antarctic. We are going to present other inspiring simulations of various aspects.

For the contents creation, students of Wakayama University and Kurashiki University of Science and the Arts collaborated. The collaboration report will also be uploaded as part of the website contents.

Websites will be provided in both Japanese and English As before, the web sites will be provided in Japanese and English to entertain the world and will be updated as required.

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As a new challenge to LIVE! UNIVERSE, the live program and web page will be linked. On the webcast day, November 24 (Monday, National Holiday), the webcast begins around 6 o'clock in the morning (JST=UT+9). When the eclipse begins around 6:40 (JST=UT+9), the "talk program" by the members of LIVE! UNIVERSE also begins. In the talk-program, LIVE! UNIVERSE explains how to enjoy the web contents, the current condition of the observation party, and how to read the environmental data such as the illuminance.

On the webcast day, the images and voices will be sent from the Antarctic to the distribution center/Panasonic Center (Ariake, Koto Ward) via INMARSAT or Iridium\*. From the Antarctic, IP connection to Tokyo will be secured via satellite networks through a Cisco Systems compact built-in router "Cisco 3200 Mobile Access Router"\*

The live program will be distributed to the Center through streaming media. The stream from the Panasonic Center is sent to the core sever through "Broadband Access" (<http://www.ntt.com/bba/>) presented by NTT Communications. Then the stream is load balanced by Cisco Systems "Multilayer Modular Switch Catalyst 6500" and its built-in service module Content Switching Module\*, and redistributed to the distribution companies enable widespread access.

The second observation party of LIVE! UNIVERSE will take images of the total solar eclipse from an airplane, and upload the images to the web site on the evening of November 24th (JST=UT+9).

\*INMARSAT: International Mobile Satellite Organization. Provides communication service with Mobile Earth Stations, such as marine vessels, by utilizing four fixed satellites at 36,000 km above the equator. The four satellites are located above the equator over the Pacific Ocean, Indian Ocean, and Atlantic Ocean (West and East) and cover almost the whole world.

\*Iridium: Satellite phone communication system which utilizes orbiting satellites.

\*Cisco Systems compact built-in router "Cisco 3200 Mobile Access Router"

<http://www.cisco.com/en/US/products/hw/routers/ps272/index.html>

Cisco Systems "Multilayer Modular Switch Catalyst 6500"

<http://www.cisco.com/japanese/warp/public/3/jp/product/hs/switches/cat6500/>

\*Content Switching Module

<http://www.cisco.com/japanese/warp/public/3/jp/product/hs/switches/cat6500/modules/service/csm/index.shtml>

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About the total solar eclipse in the Antarctic A total solar eclipse is the phenomenon when the sun is completely hidden behind the moon. When the sun and the moon cross over each other, a little light leaking around the moon makes a wonderful "Diamond Ring", and then there appears the pearl-colored "Corona" which spreads around the eclipsed sun. This year, the total solar eclipse can be seen from the Antarctic region for almost 2 minutes on the night of November 24 (UT). As total eclipses of the sun must occur in daytime, this total solar eclipse of the midnight sun is very interesting. Besides, as the eclipse occurs in polar region, we can see the eclipsed sun sweeps just above the horizon. There was a total solar eclipse in 1985, but there is no observation record. The next total solar eclipse will occur in 2021.

About LIVE! UNIVERSE <http://www.live-eclipse.org/> LIVE! UNIVERSE is a non-profit organization, which broadcasts astronomical phenomena such as solar eclipse via the Internet from all over the world. The web sites are always provided in Japanese and English, and have presented astronomical phenomenon to the world as entertainment events. The main backbone consists of large scale networks of individual volunteers and industry-government-academia organizations. The web contents are used in distance learning at schools and astronomical observatories. Webcasting has been performed by the LIVE! ECLIPSE Executive Committee and LIVE! LEONIDS Executive Committee since 1997. These two executive committees were integrated and re-established as LIVE! UNIVERSE in 2002 May. The chairman is Masami Okyudo, Professor at Wakayama University Student Center for Independent Research in the Sciences (Former Director of Misato Observatory). For the past projects, please visit <http://www.live-universe.org/en/project.html>.

General Information: [infoSen1200312live-universe.org](mailto:infoSen1200312live-universe.org)

Information for the press: LIVE! UNIVERSE Public Relations Department: Ishikawa FAX.03-5384-7586 [pressSen1200312live-universe.org](mailto:pressSen1200312live-universe.org)

Dr. Junichi Watanabe Public Information Office National Astronomical Observatory of Japan Osawa, Mitaka, 181-8588 Tokyo Ja-

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pan e-mail:jun.watanabeSen1200312nao.ac.jp FAX: +81-422-34-3810 Phone:+81-422-34-3638

From: Bob Morris

"There was a total solar eclipse in 1985, but there is no observation record. The next total solar eclipse will occur in 2021."  
LRM

From: Daniel Fischer

November 20, 2003

Contacts: Rick Fienberg, Editor in Chief 617-864-7360 x144, rfienbergSen1200312SkyandTelescope.com  
Marcy L. Dill, Marketing Director 617-864-7360 x143, mdillSen1200312SkyandTelescope.com

#### IMAGES ANTICIPATED FROM ECLIPSE FLIGHT OVER ANTARCTICA

On November 23, 2003, between 5:24 and 6:14 p.m. Eastern Standard Time, a total eclipse of the Sun will be visible from a narrow track across Antarctica. A partial eclipse will be visible over a broader area, including the tip of South America and parts of Australia and New Zealand.

SKY & TELESCOPE magazine and TravelQuest International have chartered a LanChile Airbus A340 passenger jet to intercept the eclipse at 6:06 p.m. EST at an altitude of 38,000 feet. Those aboard will experience 2 minutes 26 seconds of totality -- 29 seconds more than is possible from the ground -- with the Sun positioned 12 degrees above the horizon and visible directly off the aircraft's port (left) wing. The 14-hour flight begins and ends at Punta Arenas, Chile, and includes a fly-over of the South Pole.

We will have a professional astrophotographer in the cockpit filming all stages of the eclipse. We expect a selection of images to be e-mailed to our offices via satellite telephone between 6:30 and 8:00 p.m. EST Sunday evening, barring unforeseen technical glitches. Once the images are downloaded, we will post them on the following Web page so that you may use them on your nightly news broadcast or in your Monday-morning newspaper:

[http://SkyandTelescope.com/aboutsky/pressreleases/article\\_1110\\_1.asp](http://SkyandTelescope.com/aboutsky/pressreleases/article_1110_1.asp)

An earlier PR by Jay Pasachoff (an interview with whom is in the Jan. 2004 edition of Astronomy on p. 20, by the way) was even picked up by a German science news service: <http://www.wissenschaft.de/wissen/news/232115.html> (the headline reads: "solar eclipse with small audience").

Daniel (staying home, watching CNN-I and BBC World tomorrow - and saving the money for an expedition to Namibia in May 2004 to watch the two comets)

From: Jen Winter - ICSTARS Astronomy

The Astronomical TOurs group has just arrived to the ice on Antarctica at the NOvo runway base.

Skies are currently 100% spotless and clear in all directions - we will be locating the group to the viewing site at 20:00GMT for preparations for observing.

Recent storms had wiped-out many components of the base-camp and observing site with 120kph winds and -28 deg c. temperatures. 5 tents were destroyed in the storms, but revised plans will allow for provisions and support for the teams.

Teams on-site have dug-out 1-meter deep frozen snow-pack to retrieve aircraft and vehicles to prepare for personnel and supply movement.

NHK personnel are on the ice and their aircraft for aerial viewing has arrived and is ready for use.

At present, we are 5:43 away from totality. Clear Skies, Jen Winter, Vic Winter - Owners

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3**Missing TSE**

From: solareclipsewebpagesSenl200312btopenworld.com To: SOLARECLIPSESSenl200312aula.com Date: Sun, 23 Nov 2003 22:46:21

The last Total Solar Eclipse I missed was on 12 November 1985. As for 2003, it was an eclipse over the Antarctic. One day I will be able to see a TSE over the Antarctic. Succes for those observing at the moment, PP

**Partial eclipse clouded out**

From: Fraser Farrell To: eclipses <SOLARECLIPSESSenl200312AULA.COM> Date: Mon, 24 Nov 2003 02:23:29

To all, Bummer....solid overcast all night and early today over most of the inhabited parts of south Australia. I didn't even see the sun this morning until ~3 hours after the eclipse was over.

Best image so far from a local observer is Jenni Kay's shot through a cloud rift: <http://users.senet.com.au/~jenni/nov24.htm>  
There may be others, but most folks had to go to work this morning...

And a big thankyou to everyone who provided webcams and webcasts from Antarctica this morning. cheers,

From: Phil Sutherland

Folks, Same here in Perth, Western Australia. I was up at 5am with camera ready just in case, but it was no use. The cloud was thick and the sun hasn't made an appearance through it at all this morning. Consoled myself with the various webcams (thanks to all who ran them) while I did some business paperwork that I usually wouldn't get up early for. Cheers phil

From: gsimsSenl200312iprimus.com.au

Same here from Sydney - when the eclipse began it was terrential rain. However the rain did stop for a few minutes, and the clouds became thinner for about 30 seconds. I got a glimpse through my eclipse shades about 10 minutes after 1st contact, and was able to witness a tiny partial eclipse. Unfortunately, by the time I found the Sun in the viewfinder of my camera, the clouds were thicker again, and the rain came pelting down. --Geoff

From: F.Podmore

I've just seen this message - haven't looked at the webpage yet. Francis

Forwarded message -- Date: Mon, 24 Nov 2003 12:35:28 +1100 From: Warwick Barnes <Warwick.BarnesSenl200312aad.gov.au>

G'day Francis, I've created a page showing our webcam images taken from Antarctica over the time of the eclipse. The ones from Casey Station seemed to work out best... <http://www.aad.gov.au/asset/webcams/eclipse/default.asp> Cheers, Warwick

**Antarctic webcams currently pointing at solar eclipse (fwd)**

From: F.Podmore To: Solar Eclipses Mailing List <solareclipsesSenl200312aula.com> Date: Sun, 23 Nov 2003 21:58:15

At least I may be able to see something of the eclipse (:)) see below. But do they have sun filters on?? Or automatic exposure meters? I'm about to fing out..... Francis

Forwarded message --Date: Mon, 24 Nov 2003 09:27:03 +1100 From: Warwick Barnes <Warwick.BarnesSenl200312aad.gov.au>  
G'day Dr Podmore,

Three of our four web cameras are now pointing at the eclipse...

<http://www.aad.gov.au/asset/webcams/casey/default.asp>

<http://www.aad.gov.au/asset/webcams/davis/default.asp>

<http://www.aad.gov.au/asset/webcams/mawson/default.asp>

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We're aiming to update the images every minute during the eclipse. Regards, Warwick Barnes Web Developer Australian Antarctic Division

Original Message--From: F.Podmore [mailto:podmoreSenl200312science.uz.ac.zw] Hello from Zimbabwe I have been checking the four AAD webcams and would like to know if you are planning to program them to watch the progress of the total solar eclipse tomorrow, although I know none are in the track of totality.

More rapid images on the web would be appreciated, provided the weather is cooperative. Can you tell me if this will happen? Thank you, Francis Podmore

PS Sorry the All Blacks lost today, but I gather it was an excellent game.

From: Nick Quinn

Hi, The webcam from Davis station <http://www.aad.gov.au/asset/webcams/davis/default.asp> is providing live pictures of the partially eclipsed Sun. Nick Quinn.

From: Mark R. Kidger

Francis: I'm watching but the Sun is totally invisible. It's overcast. The sky has gone from cloudless too hopeless in 45 minutes. Mark

From: Jean-Paul GODARD

I have currently an image from <http://www.aad.gov.au/asset/webcams/davis/default.asp> Cordialement, Martine & Jean-Paul

From: F.Podmore

Hello Nick - Yes, I was told by Warwick Barnes of AAD the Casey, Davis and Mawson were all looking at the Sun. And they are, but all my mages seem 'stuck' i.e. haven't advanced for about 15 minutes..... V odd. I thought they'd automatically be updated, like a slow movie.. Is that what you get? Francis

From: farrSenl200312vodafone.es

Hi, My screen is white too :( . I am seeing the images of parciality from Casey Station <http://www.aad.gov.au/asset/webcams/casey/default.asp> Best Regards Frank [www.astroeduca.com](http://www.astroeduca.com) [www.saros.org](http://www.saros.org)

From: F.Podmore

And now two questions..

1. WHO will be the first to get an image of totality onto the web?
2. HOW MANY people went into Antarctica especially for the event?

Good night - time for bed (long ago!) At least our African eclipses happened at sensible times of the day!!! Francis

From: AlcovedbaseSenl200312aol.com

Hi All, Although I wasn't able to connect to <http://www.live-eclipse.org>, I could see almost of all the partial phases on the webcams of Australian Antarctic Division (<http://www.aad.gov.au/asset/webcams/>). Especially the views from Davis and Casey were really inspiring. It looks that a lot of people had a clear view of the TSE and good time. I am looking forward to their pictures. As I type this, the webcast goes on from Mawson, Davis and Casey stations. Good dance penguins, good dance! Haldun I. Menali in Boston, MA; a land far away from where the excitement is! <http://members.aol.com/astroalcove/index.html>

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From: F.Podmore

I've just seen the following website, which has 4 images of the partial eclipse as seen by the webcam at Davis station. And it says the live show program on the live-eclipse website was cloudy at the observing site of the Khlebnikov icebreaker. What a story there will be to tell - LOTS of them.

See <http://www.nojum.net/news/newse.asp?newsid=12> or go to [www.nojum.net](http://www.nojum.net) and click LATEST NEWS at the left side. Francis

From: Jean-Paul GODARD

I just compiled this (for you) <http://perso.club-internet.fr/uranos/actu/TSE23112003/index.html> Chers and champagne!!! I saw it...Electronically Cordialement, Martine & Jean-Paul

From: Mike Simmons

The following was in a story about the TSE from Associated Press posted on Yahoo News at [http://story.news.yahoo.com/news?tmpl=story&cid=1894&e=1&u=/ap/20031124/ap\\_on\\_sc/antarctic\\_eclipse](http://story.news.yahoo.com/news?tmpl=story&cid=1894&e=1&u=/ap/20031124/ap_on_sc/antarctic_eclipse):

"Lou Anthony, a staffer at the Scott Base... said the last time a total eclipse was observed in Antarctica was on Sept. 21, 1903, by British explorer Capt. Robert Falcon Scott, on Ross Island off the continent's northern coast."

I had understood that there had not been any observations of a TSE from Antarctica before today. Is this correct? Mike Simmons

### **Report from Antarctic flight**

From: Jay.M.PasachoffSen1200312williams.edu To: [solareclipsesSen1200312@ula.com](mailto:solareclipsesSen1200312@ula.com) Date: Mon, 24 Nov 2003 08:23:45

Report on the Croydon travel flight.

We very successfully saw the total solar eclipse today from a latitude of 70 degrees south over Antarctica. The corona was just beautiful, and we could clearly see the moon's shadow sweeping in. We got great views of huge icebergs and other snow phenomena on Antarctica, too, after some cloudy weather below us in the first part of the flight.

Glenn Schneider did a fantastic job of navigating and planning the flight. He observed from the navigator's window in the cockpit. Many others also from this mailing list were in the various passenger cabins.

The corona was very spiky, a result of the magnetic configuration that led to the recent solar activity. It corresponded, of course, very closely to the inner LASCO coronagraph view on SOHO that I saw on the Web just before we took off from Melbourne. Our eclipse view filled in the gap between that LASCO view and the solar surface.

We're just back to the hotel, exhausted, and I'll write more later. We are told that our flight of 13 h 58 m set the world record for the longest domestic flight; a previous Antarctic charter a few minutes shorter is actually listed in the Guinness book with this absurd record.

Glenn, Croydon Travel, and others coordinating the flight are to be congratulated. Over and out. Jay Pasachoff

From: Robert B Slobins

We need an expert on atmospheric optics here.

However, atmospheric refraction is a factor with the altitude of the sun, if not the latitude of the observer. The web-cam people on the QCUYAG Yahoo group discuss the problems with atmospheric refraction, and Registax does have a feature for aligning images.

I wonder if the clarity of the skies in Antarctica allow for the better manifestation of refraction. Given the weather in Antarctica--

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being between major storms, I doubt that there would be an inversion. cheers/rbs

From: davidSen1200312starfield.com.au

I've just uploaded a few shots from the Qantas flight. They can be found at <http://www.starfield.com.au/2003/eclipse.html>

Thanks to all my newly found friends on QF2911 (especially those who boarded in Sydney) for making the flight more than just an observation of an eclipse, but an adventure as well. Regards David Finlay

From: Fraser Farrell

One thing that's very striking in all of the eclipse imagery posted so far - the very squashed-looking sun seen from ground level versus the nice round sun seen from aircraft.

But totality pictures at similar ~10-15 degree altitudes - but lower latitudes - show much less obvious refraction. Typically the sun doesn't go obviously elliptical until it's practically on the horizon. For example May's annular from Scotland, or last December's total from Cameron Corner.

I wonder if this amount of atmospheric refraction is -normal- for Antarctica? Or did the folks down on the ice observe through an inversion layer or similar?

One for the meteorologists to consider when planning for the next polar eclipse.... cheers,

From: Christiaan

Thanks to everybody involved in this flight. It was marvelous! I'd like to thank David for offering me his window-seat. I don't get that kind of gift every day! Rumour; the person hiding behind the very last window in the tail of the plane (the first person ever to see an Antarctic eclipse from a plane) was somebody who sneaked from the right side of the plane to the left. Regards, Christiaan.

From: Daniel Lynch

I can confirm that this rumour is true. The first person to view the Antarctic eclipse from the plane was indeed a non eclipse fare passenger who had "sneaked" over from the right side of the plane. More happily, however, preflight he told me that he had attempted to buy an eclipse seat and would have if they were not sold out. And so he had paid quite a bit of money just to be in the shadow, if not see it. Also he had been to a few totals - 3, I think.

On the same topic, I had some trouble with non eclipse fare passengers (and perhaps C seat ones) trying to take the emergency door window beside my seat. They had come over during the Antarctica viewing stages and set up camp. I had to make it very clear to them that I was using it for my eyes and camcorder. After a few shuffles (and growls on my part), I let them know that I wasn't up for a 50/50 sharing but that they could view it from behind me should they wish. It worked, at least from my viewing of it.

So the things that marked this eclipse for me was the beauty of this spikey corona, the prominences at 7:30, 2:30 position, and the chromosphere towards the end of totality. Of course the cordial and friendly atmosphere, as well as the unusual circumstances, made this eclipse extra special. I've made some lifelong friends.

I'd like to take this opportunity to thank all the chasers involved in the Qantas flight, especially Glenn. It was truly an incredible experience .

Also, my appreciation must go to Mathew and Jean-Luc, of the EurAstro team, for their support. All the best, Daniel Lynch

From: Geoff

Congratulations to all who observed the eclipse - from both land, air, and sea.

re Croydon flight - I find it interesting people would pay that much money merely for a "chance" of seeing the eclipse - ie, buying a

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seat from which it is not visible (right hand side of plane), or buying an aisle seat next to someone you don't know. I always suspected that would be a problem.

I wonder how many people risked it, and in fact did not get to see it? I know when I was booked on the flight (though had to cancel due to financial issues), there were people sitting next to me. If I had indeed flown, they would not have seen a thing! --Geoff

From: davidSen1200312starfield.com.au

I know that Chris shared the view of the eclipse with Tetsuji-san, the passenger with the aisle seat, after I had given him my window seat (I wish I had taken a photo of his face when I gave it to him). It shows that some people were prepared to share the experience and I'm sure similar circumstances were repeated all over the plane, although probably not on the sightseeing side. When the first iceberg appeared people were crawling all over each other to get a look.

I've updated my web page with all the relevant eclipse images and a few shots of some of the passengers. Follow the eclipse link at <http://www.starfield.com.au> Regards Dave Finlay

From: Joel Moskowitz

I am writing this at 10,000 meters over Antarctica (of course I will send it later) as we celebrate a most gorgeous total solar eclipse. Timings yet to be determined, but was about 2 1/2 minutes. Corona was larger and more beautiful than 1991! Prominences, chromosphere, beautiful phenomenon. Present were (are) 105 eclipse chasers on Qantas flight 2901 in a brand new 747 ER. Among the chasers here: Glenn Schneider, who navigated a most successful eclipse intercept Me!!

- Craig Small
- Michael Gill
- Jay Friedland
- Jay Passachoff
- Steven Kolodny
- Carter Roberts
- Bengt Alfredson
- Charles Cooper
- Derryl Barr
- Daniel Lynch
- Joerg Schoppmeyer
- John Beattie

**report from flight  
IMG\_2547**



- Jean-Luc Dighaye
- Matthew Poulton
- Ray and Dory Brooks
- John Duran

More details will follow when my adrenaline stops pumping! (I also apologize if I misspelled names)



Joel M. Moskowitz, M.D. 9 (total)solar eclipses and counting YEEEEEE!!! HAAAAA! G. Schneider (24 TSEs and counting)

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**Antarctica Eclipse Early Pix**

From: Jen Winter - ICSTARS Astronomy To: SOLARECLIPSES-Senl200312aula.com Date: Mon, 24 Nov 2003 09:12:21

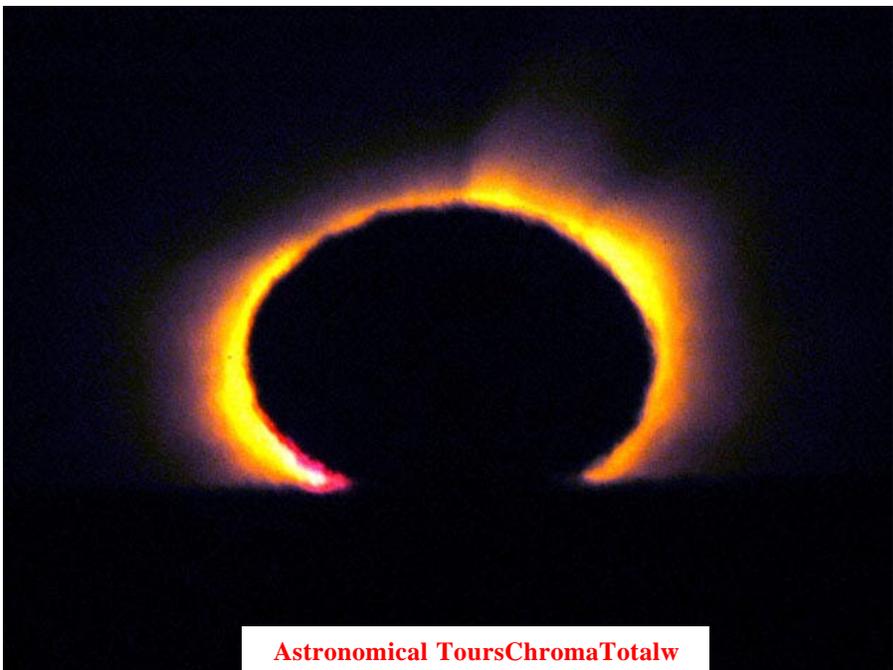
We have just uploaded two pictures of success viewing the total eclipse from Antarctica at:

We successfully observed the eclipse through partial and total phases in a narrow 36 hour window of clear skies between severe storms near the Novo Base. Temperatures during totality dipped below -20 deg c. Most equipment failed in some capacity due to severe cold temperatures with problems from battery malfunction, to mechanical and electronic disfunction.

Shadow bands were observable for approximately 10 minutes with a very strong overall "twinkling and sparkling" seen in all light during the onset of totality.

The disk was very much squashed due to atmospheric refraction.

The corona represented a wide chromatic rainbow effect from top to bottom with green streamers emitting from the upper right 2:00 region and a golden-red color at the lower-limb.



**Astronomical Tours Chroma Totalw**



**AstronomicalToursGroup**

Very large prominences were visible naked-eye at the 2:00 region and the 7:00 region.

Everyone is cold and tired, but happy to be the first humans to observe a total solar eclipse from the continent of Antarctica. - including an eclipsed Midnight Sun!

[www.astronomicaltours.net/totality/ThirdContactPromw.jpg](http://www.astronomicaltours.net/totality/ThirdContactPromw.jpg)

[www.astronomicaltours.net/totality/ChromaTotalw.jpg](http://www.astronomicaltours.net/totality/ChromaTotalw.jpg);

More images are available at: [www.icstars.com/](http://www.icstars.com/) [www.astronomicaltours.net/totality/](http://www.astronomicaltours.net/totality/)

**First Antarctic TSE?**

From: Chris O'Byrne To: SOLARECLIPSESenl200312AULA.COM Date: Mon, 24 Nov 2003 11:13:19

> "Lou Anthony, a staffer at the Scott Base... said the last time a total eclipse was observed in Antarctica was on Sept. 21, 1903, by British explorer Capt. Robert Falcon Scott, on Ross Island off the continent's northern coast."

Isn't every coast of Antartica the "northern" coast!?!? :) Chris.

From: Mike Simmons

So even if they had seen the Sun it wasn't a total eclipse anyway as stated in the AP story. I'm glad our friends then get to claim that historic "first".

Thanks for looking up the definitive reference, Jan -- Scott's own remarks. Mike Simmons

At 08:34 AM 11/24/2003, you wrote: Hello all, I found in "THE VOYAGES OF CAPTAIN SCOTT" by Charles Turley the following:

September 21 brought with it a grievous disappointment, as on that day the nautical almanac announced that nine-tenths of the sun would be obscured. For this event Bernacchi had made the most careful preparations, and everyone was placed under his orders during the day. Telescopes and the spectroscopic camera were trained in the right direction, magnetic instruments were set to run at quick speed, and observers were told off to watch everything on which the absence of sun could possibly have the smallest effect. Everything, in short, was ready except the sun itself which obstinately refused to come out. 'There may,' Scott says, 'have been an eclipse of the sun on September 21, 1903, as the almanac said, but we should none of us have liked to swear to the fact.'

He was at that moment at Cape Crozier Cross. Jan Pieter van de Giessen

Original Message --From: Mike Simmons <msimmSenl200312ucla.edu>

> The following was in a story about the TSE from Associated Press posted on Yahoo News at [http://story.news.yahoo.com/news?tmpl=story&cid=1894&e=1&u=/ap/20031124/ap\\_on\\_sc/antarctic\\_eclipse](http://story.news.yahoo.com/news?tmpl=story&cid=1894&e=1&u=/ap/20031124/ap_on_sc/antarctic_eclipse):

>  
> "Lou Anthony, a staffer at the Scott Base... said the last time a total eclipse was observed in Antarctica was on Sept. 21, 1903, by British explorer Capt. Robert Falcon Scott, on Ross Island off the continent's northern coast."

> I had understood that there had not been any observations of a TSE from Antarctica before today. Is this correct? Mike Simmons

**TSE2003 - More images and more questions**

From: F.Podmore To: Solar Eclipses Mailing List <solareclipsesSenl200312aula.com> Date: Mon, 24 Nov 2003 16:03:12

I rejoice that some/most of you downsouth had such a wonderful view, and it's great to start seeing what you saw

Some more IMAGES I'VE FOUND

1. The most spectacular corona picture yet is on

[www.shelios.com/sh2003/diario/23nov.html](http://www.shelios.com/sh2003/diario/23nov.html) [and for fun go back one day to [22nov.html](http://www.shelios.com/sh2003/diario/22nov.html) (-:)]

2. The website [www.space.com/imageoftheday/image\\_of\\_day\\_031124.html](http://www.space.com/imageoftheday/image_of_day_031124.html)

has a beautiful partial and an extensive report of the event.

3. There are more images (incl the famous 'Shadow!') listed at [www.astronomicaltours.net/totality](http://www.astronomicaltours.net/totality) then click on the addresses given

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## THE QUESTIONS:-

1. Whatever has happened to Klipsi and his tour group? I hope nothing serious. The last posting on his website was 7 1/2 hours before the TSE - but I've seen nothing since.
2. How is it possible to view the highlights of the [www.live-eclipse.org](http://www.live-eclipse.org) webcast? Could someone explain off-the-list what I should do?
3. The Iranian expedition sequence of updates also seems to have come to an end, with no advance since last night before the TSE - anyone know what happened to them?
4. [Mainly for Chris Malicki I guess] Would it be possible for you to extract some of the best images from the Discovery Channel broadcast (e.g. replay the tape and photograph the screen) and post them on the web?
5. How would it be possible to get a copy of that tape?
6. And of the live-eclipse webcast?
7. Fred Bruenjes diary of the expedition also seems to be 'stuck' in Cape Town on 22 Nov - is he OK? (you can find the link from [www.icstars.com](http://www.icstars.com) page. Bye, Francis --

From: Geoff

## &gt;THE QUESTIONS:-

&gt;

>1. Whatever has happened to Klipsi and his tour group? I hope nothing serious. The last posting on his website was 7 1/2 hours before the TSE - but I've seen nothing since.

I'm not sure what website you're looking at, but Klipsi's has been updated all the time - check one of the mirror sites at: <http://www.staigerland.com/eclipse03/danews.htm>

"Klipsi's SMS Sunday, November 23, 2003 2:58 PM : CLOUDED OUT .SAW SOME CORONA THRU CLNUD

Sunday, November 23, 2003 3:12 PM NOT CLOUDED OUT BUT SOME CLOUDS AT SUN. GREAT DARK SKY. SOME CORONA

"so how was this eclipse? not perfect, but close. Alas, no penguins during totality :-(" --Geoff

**TSE Coverage Report**

From: Nicki Mennekens To: SOLARECLIPSESen1200312AULA.COM Date: Mon, 24 Nov 2003 18:54:43

Dear all, Last night, the only online webcast of the total eclipse was that of Live-eclipse.org. It was professional as always (although there were some delays in the beginning), but unfortunately clouds came spoiling the sight just before totality, and nothing was seen. What was spectacular, was that the darkening and the approaching shadow were perfectly visible on the ice and ocean.

By the way, one of the movies someone linked, [http://www.ctv.ca/servlet/ArticleNews/story/CTVNews/1069632514023\\_2/?hub=SciTech](http://www.ctv.ca/servlet/ArticleNews/story/CTVNews/1069632514023_2/?hub=SciTech), is one of the most breathtaking eclipse videos I've ever seen, as it also shows this shadow.

Congratulations to all those who put on these wonderful pictures and movies, and see you next time! Greetings, Nicki Mennekens

**Klipsi's report online**

From: B0802AlexSen1200312aol.com To: solareclipsesSen1200312aula.com Date: Mon, 24 Nov 2003 21:46:22

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Hello all, for those who wait about news from Klipsi, visit his Webpage. A report from the eclipse including pictures is online now. Alexander Birkner 2:2 [www.kernschatten.info](http://www.kernschatten.info)



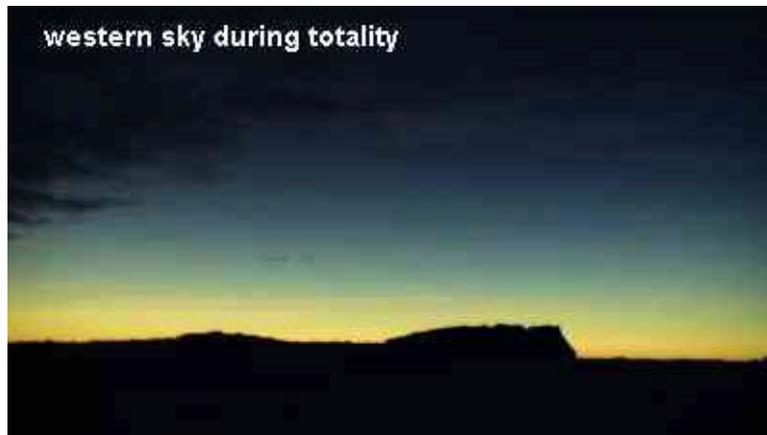
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3**Nojum editors who watched Nov. 23rd solar eclipse**

From: solareclipsewebpagesSen1200312btopenworld.com To: SOLARECLIPSESSen1200312aula.com Date: Mon, 24 Nov 2003 22:52:04

See the complete report from the Iran team (on the icebreaker) at: <http://www.nojum.net/news/newse.asp?newsid=13> PP

**Another Beauty**

From: eclipseclatSen1200312comcast.net To: SOLARECLIPSESSen1200312aula.com Date: Mon, 24 Nov 2003 22:55:53

Qantas 747 Beautiful Eclipse

It actually seemed long to many of us (probably due to the shortness of last year's)

Nice prominence at about 3 o'clock, 8 o'clock then a bunch of chromosphere on the left side. Corona very like July 11 1991.

We gotta run (on a tour) Will post nice pics later. Raymond & Dori Brooks

**Eclipse image from Antarctic flight is on line**

From: Jay.M.PasachoffSen1200312williams.edu To: solareclipsesSen1200312aula.com Date: Tue, 25 Nov 2003 01:38:25

Hello. A wide-angle image I took from the Croydon flight out of Melbourne is posted at

<http://www.williams.edu/astronomy>.

It was taken with a Minolta digital camera. It shows the moon's shadow and the eclipsed sun. Jay Pasachoff

PS I tried to post it yesterday as .jpg to the list but it was too large a file and was bounced back.

**2003 Antarctica Photos/Story FYI**

From: SpencerHowsonSen1200312aol.com To: solareclipsewebpagesSen1200312btopenworld.com Date: Tue, 25 Nov 2003 06:30:29

<http://www.abc.net.au/brisbane/stories/s996269.htm>

**Eclipse Chasers table**

From: Sheridan Williams To: SOLARECLIPSESSen1200312aula.com Date: Tue, 25 Nov 2003 14:42:49

I need to update my web page: [www.clock-tower.com/tse.htm](http://www.clock-tower.com/tse.htm) So please would those who saw the 2003 TSE email me at: [chasersSen1200312clock-tower.com](mailto:chasersSen1200312clock-tower.com)) Please let me have the duration of totality they saw and the cloud cover (if any).

Please do not simply reply to this email as the info will clutter up the SEML.

**Moon's shadow from space**

From: Mike Simmons To: solareclipsesSen1200312Aula.com Date: Tue, 25 Nov 2003 23:45:45

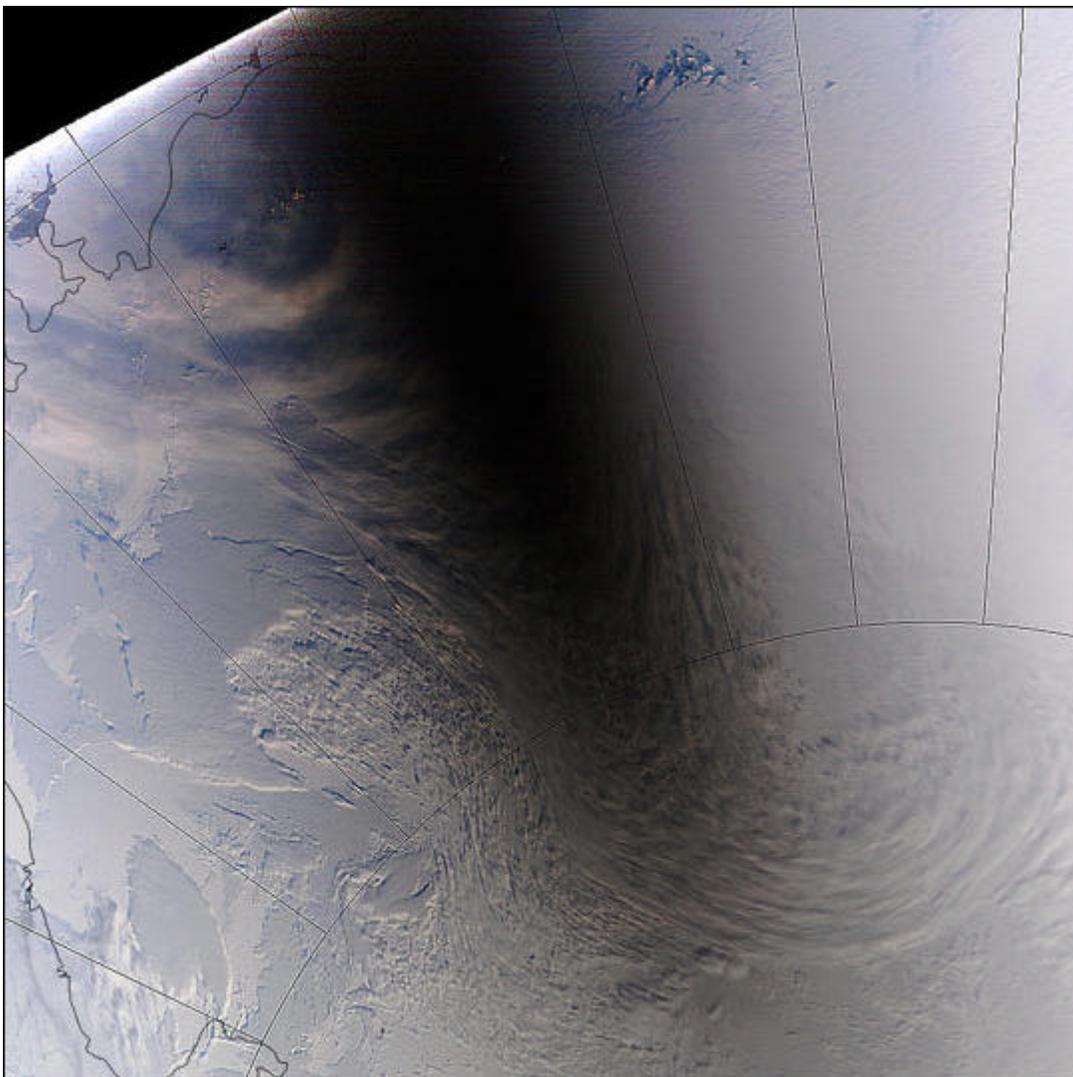
A stunning image of the Moon's elongated shadow crossing Antarctica taken by the Moderate Resolution Imaging Spectroradiometer (MODIS) on the Aqua satellite is available in various resolutions (up to 3400 x 4000) at: [http://earthobservatory.nasa.gov/Newsroom/NewImages/images.php3?img\\_id=16373](http://earthobservatory.nasa.gov/Newsroom/NewImages/images.php3?img_id=16373) Mike Simmons

From: Jean Marc Larivière

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Looking at the stunning images of the Moon's shadow over Antarctica taken by the Aqua satellite brought back memories of the short movie we assembled from similar shots of the August 1999 total solar eclipse for my film *Shadow Chasers*. Does anyone know of a similar sequence for this latest eclipse or plan on creating one? I would love to see this unusual shadow track play out since I can't quite visualize it in my mind's eye despite Fred Espenak's excellent maps. Jean Marc Lariviere



#### Antarctic Eclipse Success - Novo/Maitri/NHK, etc

From: homeSen1200312icstars.com To: SOLARECLIPSESen1200312AULA.COM Date: Tue, 25 Nov 2003 11:54:30

Hello all, We're all safely back in Cape Town going over pictures and stories from our success at the Novo area.

Those teams we can report having success in our area were: NHK - perfect 100% clear Skies. We talked with crew and staff after the event and they reported no problems other than horrific cold during totality and icy terrain related difficulties. Their disk was very close to the horizon, but as their observation station was on a slope of a hilly outcrop - they enjoyed good horizon clearance.

Novo - the science station itself was not reported to be investigating the eclipse. No scientific or observation reports were made from personnel at that science station.

Novo / ALCI drommland airstrip - 25km south of Novo: 100% perfect skies. The eclipse was observed from the airstrip basecamp by staff with a small 25% horizon obstruction to the disk.

Maitri - Indian science staff from Maitri observed the eclipse from a nearby high plateau 9km to the south-west of the Novo airstrip camp. This team was investigating shadow-bands and was well rewarded with 10 minutes of glimmering shadow bands seen in 180 degrees and in the overall lighting of the eclipsed sun. The team enjoyed 100% clear skies, but 5% disk obscuration by the horizon.

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Astronomical Tours (David Levy) and Japanese umbraphiles - - The team arrived to Antarctica at the Novo airstrip only 6 hours prior to first contact. Time constraints prevented site selection and revision options and the group observed at the site obtained by Maitri science teams with 0-5% disk obstruction by horizon. Skies were 100% clear and shadow bands lasted some 10 minutes surrounding totality.

David Levy commented that in its extremely low angle kissing the horizon, this eclipse was one of the most beautiful and extraordinary eclipses he had ever seen.

Group participant, Fred Bruenjes captured an image of totality on the horizon, with eclipse observers silhouetted by the corona basking in the light of totality. More pictures to come soon on [www.icstars.com](http://www.icstars.com) and on Fred's site, [www.Moonglow.net](http://www.Moonglow.net)  
Clear Skies, Jen & Vic Winter

#### URL's collected

From: Jay.M.PasachoffSen1200312williams.edu To: solareclipsesSen1200312aula.com Date: Tue, 25 Nov 2003 21:56:45

For your convenience, I list below URL's from messages gleaned from the SEML and elsewhere showing the eclipse. We will soon post this list at [www.eclipses.info](http://www.eclipses.info). Jay Pasachoff

Jay Pasachoff on the Croydon plane [www.williams.edu/astronomy](http://www.williams.edu/astronomy)

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Fred Bruenjes <[fredSen1200312moonglow.net](mailto:fredSen1200312moonglow.net)> on the icebreaker [www.moonglow.net](http://www.moonglow.net)  
<http://www.moonglow.net/eclipse/2003nov23/updates.html>

Vic and Jen Winter on land in Antarctica  
[www.astronomicaltours.net/totality/ThirdContactPromw.jpg](http://www.astronomicaltours.net/totality/ThirdContactPromw.jpg)  
[www.astronomicaltours.net/totality/ChromaTotalw.jpg](http://www.astronomicaltours.net/totality/ChromaTotalw.jpg);  
More images are available at:  
[www.icstars.com/](http://www.icstars.com/)  
[www.astronomicaltours.net/totality/](http://www.astronomicaltours.net/totality/)  
and from the Iran team on the icebreaker  
<http://www.nojum.net/news/newse.asp?newsid=13>

CTV: [www.ctv.ca/servlet/ArticleNews/story/CTVNews/1069632514023\\_2/?hub=SciTech](http://www.ctv.ca/servlet/ArticleNews/story/CTVNews/1069632514023_2/?hub=SciTech)  
You'll find a "Related Video" box. Follow the second link: CTV Newsnet: Total eclipse of the sun over Antarctica 7:02

David Finlay on the Croydon plane <http://www.starfield.com.au/2003/eclipse.html>

Chris O'Byrne <[obyrneSen1200312iol.ie](mailto:obyrneSen1200312iol.ie)> has uploaded pictures taken at the South Pole during the eclipse to <http://www.ecliptomaniacs.com/2003/nov23/spole/>

[www.shelios.com/sh2003/diario/23nov.html](http://www.shelios.com/sh2003/diario/23nov.html)  
[www.space.com/imageoftheday/image\\_of\\_day\\_031124.html](http://www.space.com/imageoftheday/image_of_day_031124.html)

Website that had live coverage [www.live-eclipse.org](http://www.live-eclipse.org)

Terra satellite: Here are the best views of the total eclipse from the Terra satellite using the MODIS sensor and specifically the channel 1 or 0.6465 micron visible channel:

<http://amrc.ssec.wisc.edu/amrc/ECLIPSE-DRAFT.JPG>  
<http://amrc.ssec.wisc.edu/amrc/ECLIPSE.JPG>  
<http://amrc.ssec.wisc.edu/amrc/ECLIPSE-AWS-F.JPG>  
<http://amrc.ssec.wisc.edu/amrc/ECLIPSE-AWS-C.JPG>

Sky and Telescope <http://www.skyandtelescope.com>

**TSE 2003 FROM QF 2901**

From: Glenn Schneider To: SOLARECLIPSESSen1200312AULA.COM Date: Wed, 26 Nov 2003 05:11:18

All, \*JUST\* arrived back at home in Tucson literally minutes ago. I see my email in box overflowing with SEML, off-list eclipse related (and other) mails. I ask your indulgence for my non-instant replies, which will be forthcoming after catching up on much needed sleep over the next few days. In brief:

The QF 2901 Antarctic eclipse flight was executed as planned. Totality was successfully observed for approximately 2-1/2 minutes (detailed limb timing analysis forthcoming... my bags are not yet unpacked!) with a min-eclipse intercept at 22:44:00 UT with remarkably clear, pristine skies from 35,000 ft above MSL. The aircraft continued on centerline to just below 70S before breaking off for some post-eclipse low-level "sightseeing" - an unplanned bonus. I understand that there was quite a jubilant celebration in the cabin. Unfortunately, as those who were not on the flight may not know, I was locked away on the flight deck for the entire duration of the event - so if anyone got photos or video of that, and any other goings on on the plane or the airport PLEASE send me a copies! In time, I'll distribute/post many details of what went "behind closed doors" but for now, just the first two of many photos to come - neither of these my own (which are still in the cans and yet to be developed).

[http://nicmosis.as.arizona.edu:8000/ECLIPSE\\_WEB/ECLIPSE\\_03/TSE\\_2003\\_V1.jpg](http://nicmosis.as.arizona.edu:8000/ECLIPSE_WEB/ECLIPSE_03/TSE_2003_V1.jpg) is a view of totality taken through the window in the first class bathroom. The raw video imagery was taken by a QANTAS cabin steward, and was downloaded to my laptop on the return flight segment. I apologize for not recalling his name off hand - that definitely is in my notes but is not yet unpacked - and he will be fully credited on my web site. The above image is a "composite" I made by registering (to remove the pointing jitter) and medianing seven extracted frames (to improve the signal-to-noise) all near mid-eclipse. I believe this image is historically unique. I cannot say so authoritatively, but very likely it is the first (and maybe the only) TSE image acquired in a bathroom.

[http://nicmosis.as.arizona.edu:8000/ECLIPSE\\_WEB/ECLIPSE\\_03/SHADOW\\_EDGES\\_S.jpg](http://nicmosis.as.arizona.edu:8000/ECLIPSE_WEB/ECLIPSE_03/SHADOW_EDGES_S.jpg) are two images taken by Carter Roberts of the approaching (looking back to the "left") and receding edges of the lunar shadow prior to and after contacts 2 and 3 respectively. In addition to the obvious brightness gradient across the sky, the projection of the shadow onto the low-level cloud-cover below is nicely captured. Note also light from BEYOND the shadow on the horizon in both images.

I must add my most heartfelt and appreciative thanks to Captain John Dennis, the PIC for QF 2901, and the rest of our extraordinary crew. John has worked tirelessly "behind the scenes" on this flight, and we all owe him a debt of thanks which will be very hard (likely impossible) to repay in kind. The success of this flight lies on his shoulders. At the very least: SEND HIM COPIES OF YOUR PICTURES!

More to come, much more, in days weeks and months ahead. But now, to sleep, perchance to dream (of TSE 2005, of course).

Also, a congratulations to Jen Winters and crew for their successful ground based expedition and to any others who have not yet reported (or not yet been read), and condolences to any who might have been cursed with cloud (as I have been three times of now twenty-four).

Any word from the Lan Chile flight? As it turned out we were unable to raise them on the radio... Kelly? Hans-Peter? Cheers, Glenn Schneider

P.S. Phil Asker: Please forward this your distribution list for QF 2901, many of whom are not on the SEML.

From: Jan Sládeček

Hi Glenn, I congratulate to you, captain John Dennis and all persons from flight QF 2901. The QF 2901 Antarctic Eclipse Flight was very successful, I saw first pictures, it's very beautiful. I participated of this flight in the visualization at least, because my possibility - to observe the Total Solar Eclipse 2003, did not come off. Regards, Jan



(Continued on page 82)

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From: Kelly Beatty

Jay... just back today. congrats on a successful flight. tell me, cause we're dying to know: how exactly did the crowd of non-eclipse passengers behave?

I'll be pulling together a fuller report in the days ahead.

At 03:23 AM 11/24/2003 -0500, you wrote: We are told that our flight of 13 h 58 m set the world record for the longest domestic flight;

how did you reckon your flight length? ours was 14h 4m, gate to gate. Kelly

#### A FROZEN ECLIPSE

Though few people were fortunate enough to be in Antarctica to see it, the November 23rd total solar eclipse has been heralded as superb. Read about SKY & TELESCOPE's eclipse flight here: [http://SkyandTelescope.com/observing/objects/eclipses/article\\_1113\\_1.asp](http://SkyandTelescope.com/observing/objects/eclipses/article_1113_1.asp)

#### TSE 2003 expeditions TRanslators please

From: Francisco A. Rodriguez Ramirez To: SOLARECLIPSES-Sen1200312AULA.COM Date: Sun, 23 Nov 2003 13:15:47

Hi, you can translate spanish and german web in <http://babelfish.altavista.com/>

Best Regards Francisco A. Rodríguez Ramirez [www.astroeduca.com](http://www.astroeduca.com) [www.saros.org](http://www.saros.org)

From: Robert Raye

Hey Buddy, How are you doing? It has been awhile!

Nothing much new here, we decided to go to Antarctica :-( for many reasons, mostly our lack of success on the last two Africa trips and it is f\*\*king cold there! Hopefully we will be back for the next one.

I'll be in London for a business meeting for the first week of December, I mention that just in case you might be in the neighborhood. As always, you have a place to stay in Houston Texas.

Happy holidays to you and your family, Regards, Rob Raye [www.eclipselive.com](http://www.eclipselive.com)

From: Robert Raye

Sorry about this, it was intended for Francisco, not the entire group! Happy holidays, just the same. Rob

#### Antarctic eclipse

From: Robert B Slobins To: "SOLARECLIPSESSen1200312AULA.COM" <SOLARECLIPSESSen1200312aula.com> Date: Thu, 27 Nov 2003 09:55:07

For all those interested in aviation records:

The time to measure is indeed from takeoff to landing, and it must be recorded by reliable witnesses. I would imagine that air traffic control in the tower would be as good as any.

For more info: Federation Aeronautique Internationale, FAI -- [www.fai.org](http://www.fai.org). Perhaps someone can research and record QF2901's flight if it indeed set a record. cheers/rbs

From: Glenn Schneider

Robert, Two times are actually recorder. "Chock to chock" and take-off to landing. I actually believe the chock to chock time is what is book kept for the records for COMMERCIAL aviation (as opposed to sporting aviation as on [fai.org](http://fai.org)). I'll ask our pilot to confirm. In any event, both eclipse flights were indeed long ones. (Longer when you aren't allowed to leave the flight deck!) -GS-

From JOerg

I measured the time of the QF2901 flight from takeoff to landing with 13h57m36s. From gate to gate it was indeed longer than 14h4m ..... Joerg

**From Kapitan Khlebnikov**

From: solareclipsewebpagesSenl200312btopenworld.com To: SOLARECLIPSESenl200312aula.com Date: Thu, 27 Nov 2003 12:45:47

Dear Patrick, I'm writing to you from Kapitan Khlebnikov, this is second report I'm sending back to the list, I don't access to my e-mail address so I used the ship's e-mail address, I managed to prepare a complete report by expressions from some of our mailing list members here. hope you all enjoy it. Babak Tafreshi

Late Report from Kapitan Khlebnikov Expedition for Antarctica Total solar eclipse

Being the first human to experience totality from coldest, the most remote and one of the most beautiful continents of all, is just a fraction of what we really feel after observing 1 minute and 12.8 seconds spectacular totality. standing on the ice covering part of Davis sea in Antarctica and watching the eclipsed more than 10 degrees over the frozen landscape. Cruising with the Russian ice breaker, Kapitan Khlebnikov, we were wondering around the Davis Sea until the late sunset before the eclipse, searching for possible ways to south west, where the weather prospects seems to be better, though in wellknown unpredictable weather situation of the Antarctic. The captain used data received by Fred Espenak through Jay Anderson in Canada and from Harry Otten, Meteorologist and eclipse chasers from Netherland to locate the area. We stop on a pack ice area surrounded by ice bergs in the horizon. The sky was mostly clear during our 4 hours night of no darkness, pink and yellow colors in the south east Horizon promises a lovely sunrise of the great eclipse day. The first to be on the ice for the eclipse were probably couple of Adelie and Emperor penguins that were walking on the ice, enjoying the first sunrises of the day. Some of us who feel better standing on the ice for totality left the ship and set our instruments on ice, and others stayed on the top of the icebreaker's bridge to watch the darkness of the shadow over the landscapes beneath. As the first contact occurred, spreading dark clouds appeared in southern Horizon, stay with us through the whole event. However most of what we anticipated has been experienced, penguins wondering around the observers for their curiosity, shadow over icebergs, amazing blue, yellow, green and orange colors of the horizon during totality, interesting Bailey's beads and just glance of outer corona lasted just few seconds after second contact. Even with high reflectivity of ice covered area, it was unexpected dark due to clouds which has covered most of the sky during the totality. The temperature was -8 at the sunrise and probably dropped more than 5 degrees (lowest at few minutes after totality). Our observing location in middle of nowhere in Davis was coordinated at Latitude of -65 55 and Longitude of 89 16 E. Due to weather prospects and ice covered ocean, our observing site was way out of central part of the path but thanks to the exceptional wide path of totality we still got more than a minute of total solar eclipse, a minute that will last for ever for all the passengers aboard on this expedition. There were reports and a webcast transmitting from the ship during eclipse or slightly after. We were sending daily reports and images and short compressed videos back to Iran to be published in several websites and newspapers, including [www.shadowchasers.net](http://www.shadowchasers.net) and [www.nojum.net](http://www.nojum.net). Olivier Staiger, Swiss experienced eclipse chasers was updating his website (<http://eclipse.span.ch>) daily by voice messages and images. Academic team from University of Geneva was also updating their website at [www.science-cite.ch](http://www.science-cite.ch). But the most visitors during the totality day was attracted by [www.live-universe.com](http://www.live-universe.com) who its representative aboard Khlebnikov managed to run the eclipse webcast from Antarctica. Images and more reports are available on all mentioned URL's. I managed to prepare short and wonderful the Antarctic eclipse expressions by our fellow eclipse chasers and mostly wellknown members of SEML on this report, which included to the message:

Fred Espenak, Astronomer staff of the expedition - US

Thanks to the efforts of meteorologists Jay Anderson (via email from Canada) and Harry Otten (aboard the Khlebnikov), we were able to avoid a major low pressure system which dominated most of the eclipse path north of Mirny. We were about 80 miles west of the central line so the duration was 1m 14s instead of 1m 54s. According to Harry, the barometric pressure was 964 mbar which would make this the lowest pressure ever for successfully observing an eclipse. The skies were clear at sunrise, but altocumulus and stratocumulus clouds covered about 5/8 of the sky by totality (6:37 local time). Still, we observed all four contact times, Bailey's Beads and glimpses of the corona through the clouds. The sky coloration was astounding and the huge umbral shadow was quite visible (but no shadow bands). We were surrounded by icebergs frozen into the ice shelf which provided a surreal environment for totality. Fantastic!

Pat Totten, Eclipse Chaser, USA

In a meadow of snow, surrounded by a forest of icebergs, we waited for the Moon's shadow to sweep across us. Immersed in the

*(Continued on page 84)*

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white and cold, a few Adelie penguins observed the strange creatures, who had invaded their neighborhood. Shortly after first contact, the clouds obscured the Sun's disk to such a degree that our solar filters were no longer necessary. The thickening clouds moved in our direction, making the dance of Sun and Moon difficult to follow. Small holes in the overcast sky teased us, occasionally allowing bright light from the partially eclipsed Sun to break through in a blinding flash. The sky began to darken to the west and the next few moments cannot be remembered clearly. Somehow, the tiny gleam of the diamond ring found its way through the clouds and reached us on the ground. Then the shadow did its magic and turned everything from white to black. Already cold, we didn't notice the drop in temperature, but being spread out on the ice as we were, our sense of isolation was magnified. The ship loomed in front of us, black on black. Reflections from the icebergs illuminated some of its windows. Before we could grab enough of this vision and pull it securely into our memories, the shadow swept away and left us to the meager warmth of the blinding Sun once again. The two short event left us exhausted and exhilarated and, of course, wanting more. We asked, as always, "Where's the next one?"

Proff. John Parkinson, Astronomer staff of the expedition - UK

We Observed the eclipse from the most impressive site ever! Sorounded by dozens of huge, grounded icebergs, we watched the struggle between the sun, moon and clouds. I was able to time the duration of totality so I have a measurement of the solar diameter, but it was the light show that was most impressive.

Olivier Staiger (Klipsi) - Switzerland

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hi dear friends, hope you liked the daily journal and reports. the eclipse ? well, I am a bit sad. not for the eclipse, but for the missed occasion to sit down with penguins during totality. For years it was my dream to be up close with emperors in the moonshadow. Some 5 or 10 minutes before totality, a group of 3 emperors walked up close, looked at us, it filled my heart with utmost joy and happyness and my eyes with tears , but then they left just 3 minutes before totality. on my video you can hear me say "oh my God - oh my God ..... oh my God ! " as totality arrives, and it may look like I say so for the sudden darkness, but I rather think I said so because I was realizing that this rare opportunity to sit down with emperors in the moonshadow was gone with the wind.... so I'll have to challenge the more dangerous northern hemisphere alternative : sit down with polar bears in the 2008 moonshadow . ;-) Ultimately, Antarctica is wonderful. stunning, amazing, breathtaking. <http://eclipse.span.ch>

Hamid Khodashenas - Iran

It's more than a eclipse chasing for me, I feel kind of ultimate passionin observing solar eclipses. I put my whole life and financial power to afford this cruise and to prepare the instruments to make a documentary and sending daily reports back to Iran. I'm honored that I could share our lovely experiences with people in Iran and other countries who read our reports. When I saw three Adeili small penguins a minute after totality sleeping on ice, and relax their head on ice, they were so odd, no activity of them was visible, I got very close and they didn't move as usual, they just stay steel and never moved, and then 5 minutes after totality they started making noises and their special sounds. watching them with pink and yellow lights beneath the crescent sun in the south east horizon was the most memorable moments I have from the Antarctic eclipse. [www.shadow-chasers.net](http://www.shadow-chasers.net) (the first Iranian eclipse chasing group)

Yuichi Ichikawa - Japan

Hi, I am Yuichi Ichikawa, a board member of LIVE! UNIVERSE. Our Project "LIVE! ECLIPSE 2003" was succeeded! Webcast from Antarctica was very difficult thing, but I solve many trouble by many other people(passenger). Our website had 7,700,000 access(6:30-8:00JST). I am happy and thank you. <http://www.live-universe.org/>

Harry Otten - Netherland

For me this trip combines a lot of dreams. I wanted to see the Antarctic eclipse and as a kid I was very aware of the remoteness of Antarctica and the will to once visit. The days before the eclipse were very stressful. During our trip we had thusfar only one or two days with sunshine and I was fearing that we would experience the eclipse under thick clouds. Moreover, the weathermaps were showing a vigorous low to pass north of us bringing clouds and wind to the central line. And there was the ice that was so thick that we only made slow progress. Weather forecasts however gradually had the low move more quickly to the east opening up the western path of the zone of totality. This path fortunately was very wide. All weather forecasts Fred and I had access to pointed towards us staying west of 90E if possible. So the ship was parked in ice and it was there we were to see the eclipse. However, the icesheet

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we were on was moving to the west at 1 mile per hour which made it dangerous to stay. Therefore we moved up a few miles towards the east to a most beautiful spot where we should see the eclipse in a landscape of icebergs. The sun set shortly before midnight and only some high clouds were present. When I got up at 5 AM and looked out of the window I could see the western sky: no clouds to speak of and my optimism grew. However, once outside I saw this patch of alto and strato cumulus clouds that worried me. I saw them moving towards us and a quick calculation showed that we would only be able to see the sun through holes in the clouds. I was awed by the darkness approaching us and suddenly totality was there. Seeing through the clouds was difficult but I could see some of the sun's corona and saw the diamond clearly at third contact. The first impression was one of excitement and disappointment at the same time. Maybe because of looking too much towards the west where the eclipse would have been visible in all its glory. Playing the whole film back in my mind however, I started seeing more things which was confirmed the next day when people showed their photographs and videos. Amazing what they could shoot despite the difficult circumstances. Yes, we were there, yes, we were the first people on earth to SEE an eclipse on Antarctica and yes, I met a lot of interesting people. A word of great thanks to my Iranian friends, who put out wonderful pictures on the internet that we could use for my diary on the internet back home. This was a truly international community and I have enjoyed every moment of it! And now let's plan the next ones I want to see: annular in Spain in 2005, totality in Libya in 2006 and totality in 2008, maybe at the most northern point of the world in Greenland in 2008!

David Makepeace - Canada

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As we crash our way through the pack ice that encircles Antarctica like a corona, I thought I would send a few thoughts to the group about what we saw early on Monday morning. This eclipse was supposed to be the impossible one yet it has proven to be a bold reminder of why I chase eclipses in the first place? you never know what is going to happen until you get there. And I love the mystery of that. I was prepared for the worst. I knew well in advance that I would probably be going home disappointed about the eclipse because the chances were so slim for clear skies. I told myself that I would take whatever Mother Nature had to give and be grateful that I had the means to journey to the bottom of the Earth to find out. In my lucky string of seven successful total eclipses I have always enjoyed perfect skies, a glorious view of the corona and a taste of all the phenomena that I love so much. When we awoke to clear skies on eclipse morning I began to get that anxious feeling that maybe we would beat the odds and it would all happen again. But it wasn't meant to be. When a low, broken bank of clouds rolled across the sky as we entered the partial phases the only thing that was clear was that we would be lucky to see anything at all. Just before totality the umbra rolled across our tiny expedition team who were scattered around a neighbourhood of massive icebergs. When the sudden darkness came it was like none other I have ever experienced. The umbra was SO DARK! It descended upon us, crashing down from the sky like Merlin's cloak turning the sky and all the icebergs into a dream world of colour. Being in the umbra was what this eclipse was about. Not the sharp brushes and swords of the corona or the chance to count prominences? it was about looking around you, in every direction. This time the magic wasn't in the sky? it was on the Earth. I will never forget the colour of the sky on the horizon, the pastel hues on every facet of the bergs who were our hosts, or the astonishing movement of the umbra across the ice. Yes, I saw the black disc of the Moon, some corona and the chromosphere through the broken cloud that drifted unaware across the eclipse in the sky, but the real delight was completely unexpected. The mystery of this eclipse, that took me completely by surprise, also taught me a lesson about being an eclipse chaser? that sometimes a perfectly clear sky doesn't matter. Sometimes just being in the umbra is its own reward. And that is what this eclipse was about. An unqualified success for number eight! [www.eclipseguy.com](http://www.eclipseguy.com)

Report prepared by Babak A. Tafreshi Editor at Astronomy Magazine of Iran ([www.nojum.net](http://www.nojum.net)) Nature and Astrophotographer ([www.dreamview.net](http://www.dreamview.net))

### EurAstro TSE Report

From: Jean-Luc L. J. DIGHAYE To: SOLARECLIPSESenl200312@aula.com Date: Fri, 28 Nov 2003 04:59:48

...can be seen on a dedicated page of the Groupe d'Astronomie de Spa (as an announcement to this evening's conference) <http://www.eurospacecenter.be/conf281103.htm>

EurAstro TSE Report

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**TSE 2003 and S&T/TravelQuest (LanChile flight 8001)**

From: Kelly Beatty To: SOLARECLIPSESenl200312AULA.COM Date: Thu, 27 Nov 2003 17:04:00

folks... not much has been said here about the Sky&Telescope/TravelQuest eclipse flight, but I'm happy to report that it was a complete success. we flew round-trip from Punta Arenas, Chile, on a chartered LanChile Airbus 340-313, with 63 passengers and a crew of 13. because the Airbus has 38 rows of seats, most people had exclusive use of two windows -- one on the port side for totality and the partial phases after contact 3, and the corresponding one on the starboard side for partial phases leading up to contact 2. we used the center-section seats to organize equipment and for sleeping.

our intercept point was 78°41'S, 51°52'E, which afforded us 2m26s of totality centered on 23:06 UT. (we are indebted to Glenn Schneider, who calculated our position and vector data using EFLIGHT.) our commander, Capt. Hans-Peter Fuchslocher, is a 33-year veteran of LanChile and head of A340 training for the airline. he helped our cause by flying over our intercept track \*in the reverse direction\* 45 minutes before 2nd contact; this provided crucial real-time wind data that he used to compute a four-segment turn that placed us precisely at our predetermined centerline intercept for totality. it worked beautifully.

the sky was flawlessly clear, and we witnessed the coronal streamers and minor prominences reported elsewhere on SEML. of course, the vantage from our cruise altitude of 38,000 gave us a view of the shadow's passage unlike anything possible from the ground. a distinct wall of darkness swept across the sky from left to right, and totality began precisely when this encroaching boundary reached the merged Sun and Moon; likewise, when totality ended the shadow wall immediately moved off and ahead of us. even our most seasoned umbraphiles had to admit that they'd never seen anything so dramatic. we're all now permanently spoiled. I agree with Glenn's assessment that the corona was an electric white -- distinctly brighter (due no doubt to better atmospheric transparency and contrast against a blacker sky) than is seen from the ground.

our flight was far from over. about 1.5 hours later we reached the South Pole and made two passes over Amundsen-Scott station at an altitude of just 2,500 feet. we could spot people standing outside watching us. (at the pole, the eclipse had a magnitude of 0.86, and we'd sent 150 viewers plus some Baader film ahead of time to aid the summer residents there.) then, en route back to Chile, we corkscrewed around Vinson Massif (4,897m) a couple times, which gave everyone incredible views of Antarctica's highest peaks. then, after witnessing sunset over the Antarctic Peninsula, we returned to Punta Arenas in the waxing dawn of 24 Nov.

by then I was completely wrung out -- in the week before we'd visited the VLT, CTIO, and Gemini observatories; observed the southern skies from the Mamalluca compound near La Serena, and spent three days touring Patagonia.

if you're interested in more detail, preliminary reports have been posted at:

[http://skyandtelescope.com/observing/objects/eclipses/article\\_1113\\_1.asp](http://skyandtelescope.com/observing/objects/eclipses/article_1113_1.asp)

<http://www.tq-international.com/AntarcticaFly/AntarcticaFlyReport.htm>

<http://www.shelios.com/sh2003/diario/23nov.html> (astronomer Miguel Serra)

clear skies, Kelly

**All the news that's fit to link ...**

From: Daniel Fischer To: SOLARECLIPSESenl200312AULA.COM Date: Thu, 27 Nov 2003 22:06:09

... about the Antarctic eclipse can be found in the sidebar of the first article of <http://www.geocities.com/skyweek/mirror/265.html> - I still haven't heard definitely that Mirnyy was clouded out, though. And what about the 'Pool Photo' in <http://www.japantimes.co.jp/cgi-bin/getarticle.pl5?nn20031125a3.htm> that is said to have been taken at a spot different from Novo and Maitri - who was there and where they the first humans to ever see the corona from the ground in Antarctica? Daniel

**Antarctica Eclipse Video**

From: Luís Miguel Viterbo To: SOLARECLIPSESenl200312AULA.COM Date: Mon, 24 Nov 2003 11:33:57

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Hi everyone! Google News Alerts sent me the following link with amazing video coverage on the spot:

[http://www.ctv.ca/servlet/ArticleNews/story/CTVNews/1069632514023\\_2/?hub=SciTech](http://www.ctv.ca/servlet/ArticleNews/story/CTVNews/1069632514023_2/?hub=SciTech)

You'll find a "Related Video" box. Follow the second link:

CTV Newsnet: Total eclipse of the sun over Antarctica 7:02

Enjoy! Even on the screen, I couldn't help but cry with the amazing natural show... Miguel Viterbo

From: Matthias Graner

Thanks for the link. The video is simply amazing! I could look at it again and again. Cheers Matthias

From: Glenn Schneider

Are there any Mac users on SEML who have been able to view the video which is linked from the above and has been raved about here? When I try to view it (under Mac OS X with Netscape or Safari) I get a message such as: "Plug In Not Supported - this page has plug-in content that Safari does not support {similar error with Netscape}. The application "Media Player" may be able to display the content. Would you like to try?" As much as I loath loading any Microsoft code onto my computer, I did download and install MS Media Player. Then after Media Player started up I got the message: "Cannot continue playing file. Invalid or corrupt data was encountered".

Perhaps some kind person on SEML could convert this from what appears to be a Windoze only format into something the rest of us might be able to display? I would really like to see it. Cheers, -GS-

From: Fraser Farrell

Glenn, I had similar problems trying to play it in Linux. And Windows 95. And even with Mozilla & Netscape on later versions of Windows....I guess because Media Player is deliberately designed to work poorly with these browsers.

I've tried doing a video stream capture while playing it within Internet Explorer in Windows 98 and 2000, but no luck so far. Damn these proprietary file formats....

By contrast, Sheridan's high-resolution extract of the BBC's annular eclipse broadcast plays fine here.

NOTE to everyone with images & video of the Antarctica TSE. Please make your footage viewable on non-Windows computers too. Not all of us are enslaved to Microsoft! cheers,

From: Jan Sládeček

Hi Glenn, thank you for the web page with live coverage from Antarctica Eclipse. My PC replay it by Windows Media Player right, my PC have installed system Windows 2000. Regards, Jan

From: Stig Linander

Wed, 26 Nov 2003 23:42:59 -0700, Glenn Schneider wrote ...

>> Perhaps some kind person on SEML could convert this from what appears to be a Windoze only format into something the rest of us might be able to display? I would really like to see it.

Thu, 27 Nov 2003 18:09:47 +1030, Fraser Farrell wrote ...

> I had similar problems trying to play it in Linux.

Same problems here.

(Continued on page 88)

> Please make your footage viewable on non-Windows computers too.

Yes. Please! MPEG-1 is a good choice. It's a standard and it's playable on all platforms. Best regards, Stig.

From: Jean-Paul GODARD

Please, consider that if the authors made provisions to refrain copying their images, you may violate some laws by copying converting, or reencoding this stream. You'll have to wait for a commercial version! Cordialement, jean-paul.godardSen1200312noos.fr

### Antarctic eclipse flight times

From: Kelly Beatty To: SOLARECLIPSESen1200312AULA.COM Date: Fri, 28 Nov 2003 03:33:25

Glenn et al...

At 11:49 AM 11/27/2003, you wrote: Two times are actually recorde[d]. "Chock to chock" and take-off to landing.

according to our flight commander, the S&T/TQI/LanChile flight had a flight time (takeoff roll to touchdown) of 13:52 and a block time of 14:08. so the bragging rights go to Croydon/Qantas by a nose. Kelly

From: Glenn Schneider

Hi Kelly, First, congratulations to all on Lan Chile 8001, eclipse chasers and flight crew. My only regrets were that I couldn't be in two places at once, and that we were unable to reach you by radio from QANTAS 2901 while we both were over the Antarctic The wait to hear of your success was interminable. My personal congratulations especially to Cpt. Hans-Peter Fuchslocher (the Pilot in Command of Lan Chile 8001). It was my pleasure to assist him over these many months in planning your intercept, and I was extraordinarily happy (and relieved!) to hear it had played out exactly it had been defined and planned. Or, nearly so?

In your email to SEML: our intercept point was 78°41'S, 51°52'E, which afforded us 2m26s of totality centered on 23:06 UT. (we are indebted to Glenn Schneider, who calculated our position and vector data using EFLIGHT.)

The position is correct (to the nearest arc minute), but that should have been 23:06:02 UT. Was I off by two seconds, or just some rounding here? Perhaps we can take this off-line from SEML, but I would like to know which of the multi-variate family of plan solutions I had provided was used based on windage (parameterized for you as ground speed), or if that was interpolated. As to indebtedness, the personal satisfaction of making two plane loads of umbraphiles gleefully happy (none, I suspect more so than myself) is likely more than enough. Although... If you could swing a free subscription to Sky & Telescope... ;-)

As to "bragging rights" on a new world duration record for a domestic flight, I'll pass along your tip of the hat to Capt. John Dennis, our Pilot in Command, and ask him to verify our times as well. But, I am sure we can all agree on both flights EVERYONE came out a winner.

I'm looking forward to full reports from land, sea and air in S&T. Cheers, GS-

From: Glenn Schneider

All, Captain John Dennis, PIC for QF 2901 has replied to an email query and reports that:

"Our block time was 14:16 and airborne time 13:56."

Earlier, Kelly Beattie had posted w.r.t. LAN CHILE 8001:

"according to our flight commander, the S&T/TQI/LanChile flight had a flight time (takeoff roll to touchdown) of 13:52 and a block time of 14:08. so the bragging rights go to Croydon/Qantas by a nose."

(Continued on page 89)

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So that nose is 8 minutes chock-to-chock and 4 minutes in the air.

I suppose we will ask John and Hans-Peter both to have a run at breaking John's new record on 04 December 2021 - the NEXT Antarctic total solar eclipse. Shall we start planning now? -GS-

From: Fraser Farrell

I can see this starting a whole new fad among umbraphiles: who can stay airborne the longest.

From memory, the longest Qantas flight with paying passengers on board was about 17-18 hours in flight. This was a non-stop London to Sydney "delivery flight" of a new 747. I understand that they landed with about 30 minutes of fuel in the tanks. Not sure if this is the world record because I don't have the latest edition of Guinness handy.

What happens after the fuel runs out? The longest -glide- by a commercial airliner that I know of was about 90km - over the Atlantic at night - to a dead-stick landing on an island runway neither of the pilots had seen before. The aircraft's engines had been shut off in flight due to a computer error. See the Risks Digest for the details (and no they don't report who paid the laundry bill...).

So you can imagine a flight plan for the 2005 TSE that begins from one side of the Pacific, flies out to centreline and circles around for hours like a vulture, and after fourth contact flies home again. If the aircraft has a small passenger load, pre-cooled fuel etc then it could stay airborne for 19 to 20 hours?

On the other hand, I note that the Zeppelin company is once again building large airships (<http://www.zeppelin-nt.com>). And airships can stay aloft for -days-....

The real endurance test in all of this, or course, is which hardy band of umbraphiles can endure the most in-flight meals ;-)

cheers,

From: Robert B Slobins

Fraser: Those of us who flew from America to Johannesburg in June 2001 were airborne for at least 14 hours! The halfway point for the Atlanta flight is Natal, Brasil--7 hours! These trans-Atlantic flights are regularly-scheduled and are the longest flights as such.

Our particular flight stopped to refuel in Cape Verde, because Atlanta's long runway was under repair and our plane had to take off with less than full tanks. I am sure that by now, this situation has been corrected.

I was in transit for 30.5 hours from Newark to Los Angeles to Hawaii to Biak to Denpasar for the 18 March 1988 eclipse. That is 22.5 hours in flight and figure 2 hours on the ground per stop. Is that a record? cheers/rbs

From: Fraser Farrell

Thomas (and others), It was an Air Transat flight enroute to Lisbon. Their flight computer indicated a "fuel imbalance" condition, when what had really happened was a massive fuel leak from one of the tanks. Following the procedure to correct the "fuel imbalance" actually caused the fuel in the undamaged tanks to be pumped into the leaky tank....

I've rediscovered the Risks reference: <http://catless.ncl.ac.uk/Risks/21.94.html> (see "Air Transat incident")

and my memory was faulty - it was actually an 85 nautical mile glide, for about 30 minutes, in a ~200 ton Airbus A330. So it beats the Gimli Glider incident for mass and glide distance...which by curious coincidence was another Canadian airliner. If you feed "air transat' A330 azores" into Google you will get plenty of other references to this drama.

Sounds to me like we should avoid Airbuses and/or Canadian airlines for eclipse flights over oceans!

From: Michael Gill

(Continued on page 90)

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I guess the above is only semi-serious, but the 8-April-2005 eclipse doesn't really lend itself to an airborne interception of the umbra.

Around the point of greatest eclipse, the Sun will have an altitude of ~70-degrees. From a conventional passenger aircraft, the eclipse will not be visible to those on board.

To get the Sun at an elevation where it can be viewed from the windows of a passenger aircraft you would need to position the aircraft closer to the transition points where the eclipse flips from being annular to total (and vice versa).

Doing that however, causes the duration of totality to drop off. For example, an airborne interception from New Zealand to the 19:15UT point would have the Sun at around 35-degrees above the horizon but the duration of totality would be a mere 8 or 9 seconds. It wouldn't really be possible to use the aircraft's velocity to prolong the eclipse the way Glenn devised for QF2901 as you would need the Sun perpendicular to the aircraft fuselage during totality to enable passenger viewing.

Furthermore, the track is narrow at that point – a jet travelling at 800kph would travel from the path edge to the central line in just 15-seconds. So timing would be critical (although when you read what Glenn accomplished in October 1986, I wouldn't be surprised if he could pull it off).

However, the above constraints convince me that a ship-borne expedition is the way to go for April 2005. Cheers, Michael Gil

From: Glenn Schneider

Hard to imagine, given fuel costs. However, H(Hybrid)SE 2005 is not a good candidate for an airborne observation for a commercial aircraft. Where the eclipse is at maximum duration of totality (of appx 42s near 11S, 119W) the Sun will be only 20 degrees from the Zenith and not viewable out the windows. Of course, there IS an emergency escape hatch atop the flight deck of the B747-400. I wonder if it can be fitted with an optical window? ;-)

For those seeking totality from 8 April 2005 a ship is definitely in order. Stay tuned... -GS-

From: Glenn Schneider

Robert, I am afraid Pat will soon (appropriately) declare this off topic. As a last comment, to those on SEMML who are wondering why this is "of interest", it turns out that QF 2901 set a new world duration record (by either metric previously posted here) DOMESTIC flight, just nosing out Lan Chile 8001. Clearly, there have been many longer international flights. (Both eclipse flights were classified as domestic as they took off and landed in the same country). The previous domestic longest flight record was held also by Captain John Dennis, PIC of QF 2901. I would like to say he wasn't going to let Hans-Peter take that away and kept us aloft 4 extra minutes, but that was all purely serendipitous. Both pilots deserve laudable praise from our community of eclipse chasers. -GS-

#### All the news that's fit to link ...

From: Daniel Fischer To: SOLARECLIPSESen200312AULA.COM Date: Thu, 27 Nov 2003 22:06:09

... about the Antarctic eclipse can be found in the sidebar of the first article of <http://www.geocities.com/skyweek/mirror/265.html> - I still haven't heard definitely that Mirnyy was clouded out, though. And what about the 'Pool Photo' in <http://www.japantimes.co.jp/cgi-bin/getarticle.pl5?nn20031125a3.htm> that is said to have been taken at a spot different from Novo and Maitri - who was there and where they the first humans to ever see the corona from the ground in Antarctica? Daniel

#### Terra Satellite view of Antarctic eclipse

From: Dale Ireland To: "Solar Eclipse List (solar eclipse list)" <SOLARECLIPSESen200312AULA.COM> Date: Tue, 25 Nov 2003

Hello I forward this from the WXSAT mailing list: Here are the best views of the total eclipse from the Terra satellite using the

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MODIS sensor and specifically the channel 1 or 0.6465 micron visible channel:

<http://amrc.ssec.wisc.edu/amrc/ECLIPSE-DRAFT.JPG>

<http://amrc.ssec.wisc.edu/amrc/ECLIPSE.JPG>

<http://amrc.ssec.wisc.edu/amrc/ECLIPSE-AWS-F.JPG>

<http://amrc.ssec.wisc.edu/amrc/ECLIPSE-AWS-C.JPG>

Dale

From: Fraser Farrell

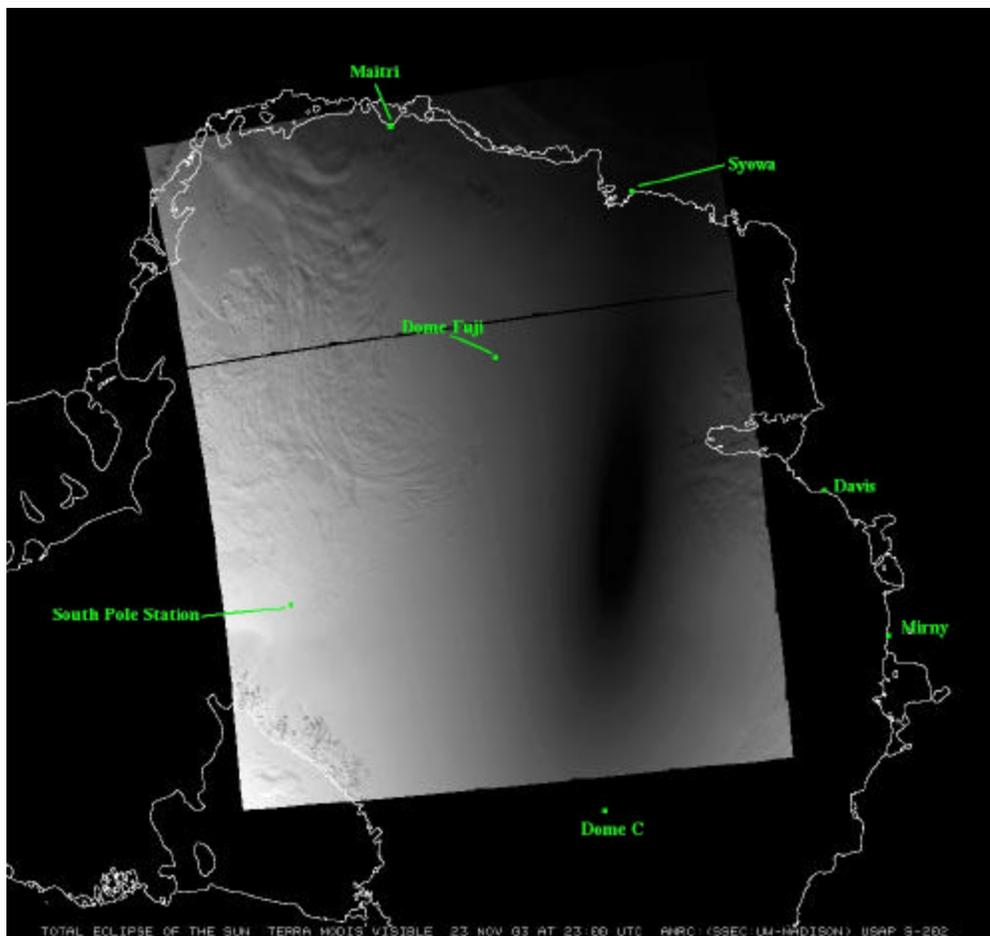
Dale, Dramatic images of that vast shadow, especially against a background of ice and cloud. An Astronomy Picture of the Day?

Do they have any similar pictures of previous TSEs? cheers,

From: Dale Ireland

Fraser I don't know. They just release tidbits. You can search the huge volumes of data and then purchase what you want for unbelievably high prices. Seems pretty weird, like Hubble that all the images are proprietary and expensive even though they are paid for with our tax dollars. During the 60's NASA gave away space imagery for free. Now you can't get it or afford it.

From: Glenn Schneider



TOTAL ECLIPSE OF THE SUN, TERRA MOON'S VISIBLE, 23 NOV 03 AT 23:00 UTC, AMRC (SSEC UW-MADISON) USAP 3-203

Dale, Sorry this is a bit off-topic, but I MUST take exception with your above comment. \*ALL\* HST imagery and data are publicly available through the HST data archive through the Multi-Mission Space Telescope portal at: <http://archive.stsci.edu/>

By policy which had been put in place before the start of the HST mission, and which I whole heartedly agree, General Observer and Guaranteed Time observations are proprietary to the principal investigators (and their designated co-investigators) for one year following the date of their observations. After that they are immediately available to anyone through the MAST archive. The proprietary period is quite necessary to allow those who have spent years of their careers doing all of the background research, coordinated observing, observation planning, etc. to work with the data to produce and publish their scientific results. This is the "pay off", for scientists, is not to see quick-look images splashed on the internet ahead of their ability to get into the meat of the quantitative results. Note, though, that starting several years ago with the inception of the large HST Treasury programs, like GOODS and the UDF, those data are made available in an even more timely fashion - with a huge effort by the research teams.

There is NO charge for these data, free to anyone for the asking, and asking is easy via the on-line interface.

Finally: MAST also disseminates - free of charge of course - data/images from FUSE, ROSAT, IUE, UUVE, HUT, UIT, WUPPE, BEFS, IMAPS, TUES and Copernicus space missions. Other NASA space missions have their own portals, as will SIRTf once those programs begin.

(Here is the SEML related part): SOLAR images from SOHO can be obtained through their archive: <http://sohowww.nascom.nasa>

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TRACE is a PI class SMEX mission, but even so, they provide all their data as well at: <http://vestige.lmsal.com/TRACE/> That is a small mission in terms of funding profile, but they still have an Open Data Policy" stated to the "Scientific community" yet if you have a need for some specific imagery, they are most accommodating.

Your (and my) tax dollars at work. It's a bargain. So what's your beef? -GS-

From: Fred Bruenjes

Daily Terra/Aqua MODIS data back to April 2001 is available free in full resolution at this page:

<http://rapidfire.sci.gsfc.nasa.gov/realtime/>

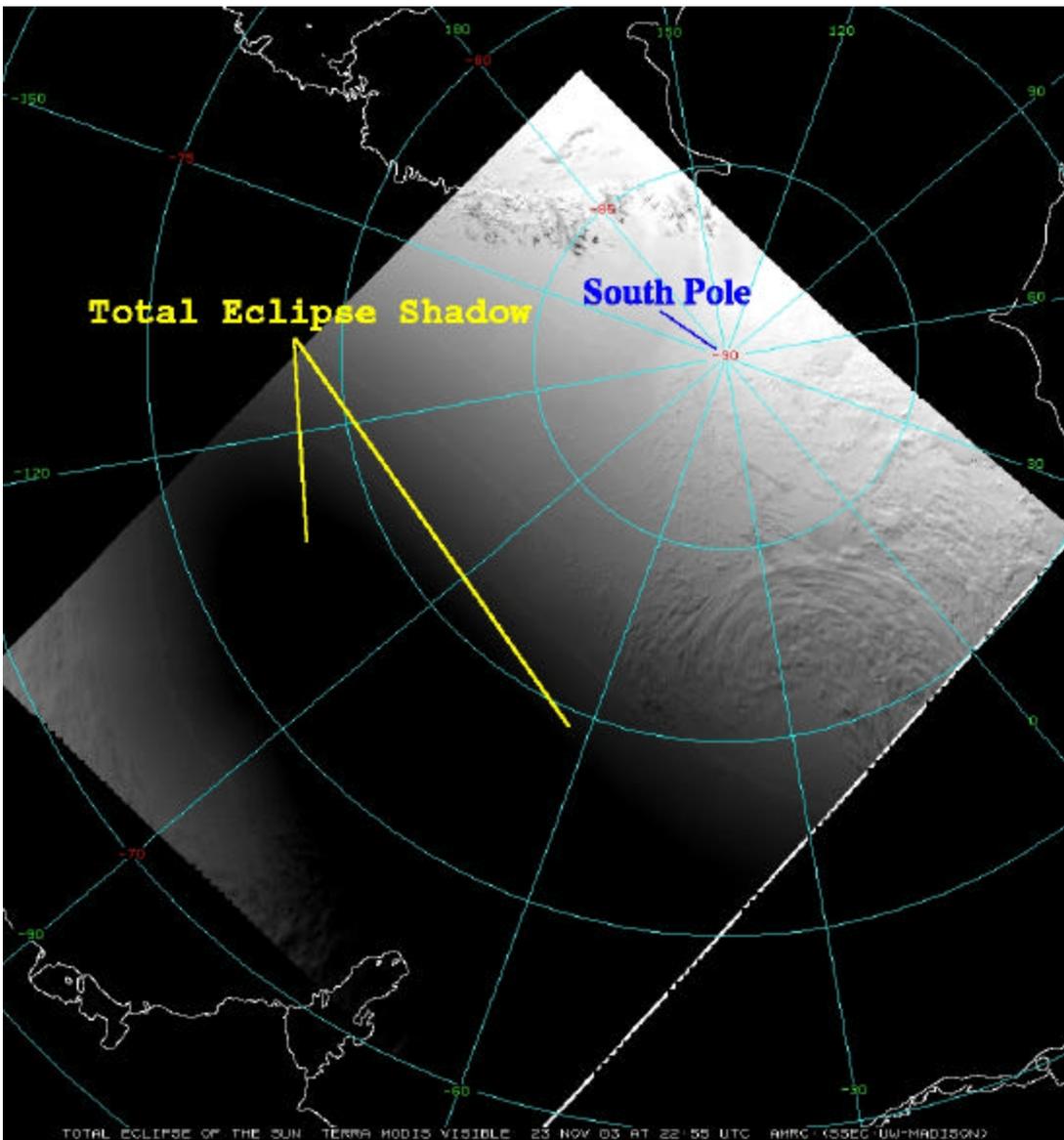
A cursory check for data during the 2001 and 2002 TSEs didn't turn up anything nearly as dramatic as the 2003 images. I could just barely see the edge of the penumbral shadow in a couple images for 2002 (recombine these URLs into one line if they are split):

[http://rapidfire.sci.gsfc.nasa.gov/realtime/single.cgi?2002338/crefl1\\_143.A2002338062000-](http://rapidfire.sci.gsfc.nasa.gov/realtime/single.cgi?2002338/crefl1_143.A2002338062000-)

[2002338062500.2km.jpg](http://rapidfire.sci.gsfc.nasa.gov/realtime/single.cgi?2002338/crefl2_143.A2002338085500-2002338090000.2km.jpg)

[http://rapidfire.sci.gsfc.nasa.gov/realtime/single.cgi?2002338/crefl2\\_143.A2002338085500-2002338090000.2km.jpg](http://rapidfire.sci.gsfc.nasa.gov/realtime/single.cgi?2002338/crefl2_143.A2002338085500-2002338090000.2km.jpg)

Notice the brownish-yellow shadow at the left and right edges respectively. Fred Bruenjes



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3**Discovery channel program**

From: Sheridan Williams To: SOLARECLIPSESen1200312@ula.com Date: Mon, 17 Nov 2003 22:28:40

Apparently the Discovery Channel Canada is showing a live video of the Antarctic eclipse. Nov 23 6-7pm. See [www.exn.ca](http://www.exn.ca)

If anyone can record it I'd love to have a copy (I will pay expenses of course). Put it on a DVD, CD, VHS tape in whatever format you like. Here's hoping Sheridan Williams

From: Chris Malicki

I just looked in this week's TV guide. Yes, the Canadian Discovery channel has a program : Solar Eclipse Live from Antarctica; airing at 5p.m. EST on Sunday. Thanks for the SE list for alerting me. I will videotape the program.

Good luck to those watching the eclipse in the flesh! Chris Malicki New website: <http://members.rogers.com/kmalicki/>

From: homeSen1200312@icstars.com

US viewers should be able to see this live eclipse broadcast on the Discovery Science Channel as well. We have just spoken with the producers about our live telecast with David Levy and learned that Discovery Canada will co-broadcast the telecast with the US-based cable Science Channel.

We will be participating in live transmissions from the Novo Station observation point at approximately 21:30 AND 23:30 UT both before and after the event.

Discovery Channel is also scheduled to broadcast the live video HDTV feed from a Japanese team, as well as to interview David Makepeace aboard the Kaptain Khlebnikov.

Check your local listings coast-to-coast in Canada and the US for broadcast times on Discovery and the Discovery Science Channels.

That broadcast should be  
7:00-8:00pm on Nov 23rd EST  
6:00-7:00pm on Nov 23rd Central

Clear Skies, Vic & Jen Winter - Owners

From: Richard Monk

Well it's not being broadcast on Discovery Science this side of the water! Instead we are being treated to "An in-depth look at the causes of obesity". I think a strongly worded letter is called for. I suppose I will have to hope I can catch one of these web casts. Good luck to all in Antarctica. Richard

From: Chris Malicki

I just watched (and taped) 2 hours of the Canadian Discovery channel's live TSE coverage from Antarctica with feeds from the NHK Japan Broadcast Corporation. They successfully observed the total eclipse from Novolazarevskaya Station with a sun 2 deg. above the horizon and also a plane flying above the station. There were some fabulous video clips especially showing the shadow move from left to right over the sun with Venus visible off to the right. There was a nice prominence at the 2 o'clock position. David Levy was interviewed immediately after the eclipse and said that the entire icefield showed shadowbands for a record long period of ten minutes. He also stated that the corona was red at the bottom (near horizon as at sunset) and greenish at the top and that aurora was looked for but not seen.

David Makepeace (at the icebreaker) was interviewed at 5:45 EST (after the eclipse for him) but I got the impression that it was a recording pre-eclipse because he was talking about what it would be like, not how it was.

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Penguins were observed at Syowa which had a 97 percent partial. The penguins became agitated as the ambience darkened.

There will be a further recap of the eclipse on Discovery Canada, 3 hrs after the eclipse and I will tape this too. Chris Mallicki

From: Bob Morris

It was *\*very\** clear!

All sun pix prior to totality from the ground (a) were orange, rather than pale yellow (plane) (b) showed horizon shimmer.

The totality pix went from pale yellow to totality with no shimmer. They *\*we re\** from the plane!

Ground coverage of totality was totally absent. The question is "Why?"

As I said, there was no questions that the last shots from the ground showed the sun through "mild clouds."

Or, did they have "totality panic!"?

Also, poor planning! The plane should have been scheduled to intercept the shadow about 5 minutes before it reached Novo. That way we would have seen plane totality, then ground totality.

Finally, we should have seen the penguins 5 minutes before totality.

The plane pictures were wonderful with unprecedented corona detail but it could have been way more wonderful!

With mild clouds on the ground we could have seen the shadow arriving and then later replayed in slo-mo.

We could have seen 360 sunset horizon.

With the several million spent did they hire anyone to tell them what to show at totality?

At least they knew how to show the dia mond ring and corona.

The Discovery commentator (not the co-host guy) was a seasoned eclipse watcher: he explained everthing quite well.

NHK should have hired Fred, Jay, Levy (well-know names) to prime them.

I know you or I could have too but the above names are everywhere, ours aren't!

By far the best TV program on eclipses was the one shown on PBS about the '91 eclipse in Baja! It is sensational.

Besides great sun close-ups and observer reaction they knew to keep the camera aperature constant as the sun dimmed.

I would love to get it on DVD. Bob (Quebec, 63; Greece 66; Cape Charles, VA 70; Aruba 98)

From: Daniel Fischer

CNN International blew it also, this time - during all the past total (and even at least one annular) eclipses they had at least tried to make a live broadcast, from whatever foreign feed they could get, and even if this just showed dark clouds like in 2002 from the Kruger Park. :-) But this time: nothing (and dito for BBC world). Only some 12 hours later those marvellous NHK images began to turn up on regular TV news here in Germany and eventually also as part of CNN's international weather report. Either NHK wasn't giving away its feed in real-time, or those responsible for the programming at both CNN-I and BBC World just didn't get it (I mean, mentally) ...

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Daniel (just enjoying all the articles linked at <http://www.eclipse-reisen.de/2003/links.htm> as well as <http://www.moonglow.net/eclipse/2003nov23/updates.html> - weird but great!)

From: Jan Sládeček

Hi Daniel, I watched two TV monitors at a time, (first monitor: CNN Int., second monitor: BBC World/Deutsche Welle). Unfortunately, I can't watch channel NHK Japan and Discovery Canada.

I recorded first pictures of Solar Eclipse in Antarctica from (CET):

1. BBC World, 24 November, 6.25 o' clock

2. DW - 9.09 (English)

3.- 4. TV5, NDR - after 14 h.

5. CNN Int. - 19.35 CET, it' s very late !

All pictures was passed from NHK, from Novolararevskaya. Jan

From: Glenn Schneider

A couple of comments vis -a-vis Bob's email.

Obviously I did not see the discovery channel's coverage, being a bit preoccupied at the moment. I can tell you we very much would have liked to have have downlinked real-time video from the QANTAS QF 2901 eclipse flight, but that was not a possibility - which I now fully appreciate after some first hand experience with the coms and video systems on the aircraft. The sky at appx 70S and at 35,000 ft was stunningly clear. The shadow was of pastel colors and lighter coloration than may have been expected. I anticipated darker due to the low levels of airborne particulate and aerosols to scatter light from "outside" the umbra into it, and attribute this likely by reflected/scattered light off of the ice/cloud cover below. It was an amazing vista, and the corona was stark electrical white (a subjective description). An amazing view, visually to me out to about 3 solar diameters. Cheers, -GS-

From: Bob Morris

Glen: My posting might not make sense to those like you who had seen \*not\* seen Discovery.

It was apparent that there were three HDTV cameras on the ground, two at Novo and one at the penguin rookery outside the path.

The one showing the Japanese astronaut in front of a slight slope upwards with the sun at the top of the slope should have showed totality. This camera was used much during partial phases.

The one at the rookery should have shown scenes near totality.

There were no scenes at or near totality from either of these.

Maybe their uplink failed?

A mystery never explained. Bob Morris

From: Kelly Beatty

Marc... Ivan Semeniuk <[isemeniuSen12@discovery.ca](mailto:isemeniuSen12@discovery.ca)> is an astronomically trained science writer. he wrote a feature on cosmic rays that appears in S&T's March 2003 issue. Kelly Beatty

From: Bob Morris

He really showed his stuff when he was asked: "Why did things move so fast just prior to totality and then seem to stop"?

He replied that the moon appeared larger than the sun, and was sliding over the sun -- and still moving at the same rate. Bob Morris

(Continued on page 96)