

Saguaro Astronomy Club

Metro Phoenix, Arizona

SACNEWS



May 1992 — Issue #184

Perseids '92: A Meteor Storm?

by Peter Brown

Peter Brown is a Council Member of the International Meteor Organization, a non-profit scientific organization. The International Meteor Organization produces a journal/magazine devoted to amateur meteor astronomy with about 250 pages per year, included with membership, for 18 US dollars a year. To subscribe, send payment through: Peter Brown, 181 Sifton Ave., Ft. McMurray, Alberta, T9H 4V7, Canada.

It may be a bit early to start thinking of the Perseid meteor shower which is in August, but the possibility that the 1992 shower may be exceptionally strong makes it an event few will want to miss.

For those who have not been following developments on the Perseid front here is a short recap/update: the 1991 shower produced uncorrected rates (that is the actual number observed) of over 350/hr centered around Aug 12.66 UT in 1991 as first reported by Japanese visual meteor observers. This translates into Zenithal Hourly rates of about 500 (the number that would be seen by an average observer under skies in which stars of magnitude 6.5 are visible at the zenith and the radiant is directly overhead). The initial Japanese visual reports were quickly followed by an announcement by observers who saw the shower from the South of France that the outburst was still going on 6–10 hours later when darkness fell over Europe and they reported ZHR's of around 300. This European report has proven to be **false**, the observers concerned have indicated that while they saw visual (uncorrected) rates of the order of 100/hr the ZHR corrections applied were too uncertain to give reliable results (by the observers own admission). Simply a case of someone jumping the gun without checking the whole facts. Other groups in Europe also reported normal strong rates (characteristic of the usual Perseid peak) but nothing like what the Japanese had observed.

Quick Calendar

SAC Meeting
7:30, Friday, May 8

Public Star Party
Thunderbird Park
Saturday, May 9

Deep Sky Meeting
Canes Venatici
Thursday, May 14

Riverside Telescope Makers' Conference
May 22–25

Star Party
Buckeye Hills Recreation Area
Saturday, May 23

TAAA's
Grand Canyon Star Party
May 30 – June 7
Contact Dean Ketelson 293-2855 8–10PM

After the times of the outburst became known, radar records in Japan were examined and revealed that strong activity with unusual numbers of large particles had been recorded in accordance with Japanese visual reports. Since this time reports from observers in China and Siberia corroborate these observations and amateur radio operators in Europe and North America have indicated they picked up unusual activity near the time of the reported increased activity. Visual observations from Hawaii have indicated that Perseid activity was strong only a few hours before the outburst but not unusually so; it is now quite clear that the outburst was short, lasting on the order of 1–1.5 hours and strong.

The explanation for the activity is that the parent comet, P/Swift-Tuttle has had a period of closer to 130 years rather than 120 since its last return in 1862 and may be the same as a comet seen in 1737 by Kegler. If this is the case P/Swift-Tuttle may return in the course of the next 1–2 years and the Perseid outburst last year represents ejected material ahead of the comet. It is useful to note that strong activity (numbers are hard to attach

to the levels as visual observations were not precise at the time) was also witnessed in 1861 and 1862 near the time of the last passage of the comet through perihelion. In particular the 1862 outburst was very strong so we may be in a similar situation this year. Despite all this optimism it is important to keep a bit of objectivity about the entire subject recognizing that the evidence at hand is **not** conclusive as yet, merely suggestive. Hence the shower has a good chance of being strong this year, but unlike a solar eclipse this cannot be predicted with absolute certainty.

This caution made clear what are the prospects for 1992? Unfortunately, the moon is full right at the time of the shower this year so observations of fainter meteors will be severely hindered. But if the shower does produce bright meteors as in 1991 the show might still be well worth catching. The obvious question is when does that portion of the stream that produced the activity in 1991 collide with Earth in 1992? The answer is 22–23 UT on August 11, 1992. If the structure or filament which caused last years outburst is stable this is when we should see activity again. Unfortunately, (yet again) this favours Europe and the Western part of what used to be the USSR, while the last vestiges of daylight will still cover North America for several hours after this time. However, radio amateurs should be able to “watch” the event as the radiant will be above the horizon for most places. Also, it cannot be predicted how long activity might last, some great showers have lasted for many hours even days so it is possible North American observers will be witness to the display.

In any case there are so many “ifs” regarding the shower everyone should get outside on the night of August 11/12, 1992 for the possibility of a real show stopping meteor shower. Start making plans today!

The Partial Eclipse of March 22, 1992

by Tom Polakis

There was only one message on my answering machine when I got home at 11:00 P.M. Saturday, March 21. It was Pierre Schwaar’s voice from three hours earlier, inviting me over to watch a partial eclipse of a moon. Not *the* moon, but Ganymede, one of Jupiter’s moons. The circumstances were such that the tiny shadow of Europa was to be cast onto the surface of Jupiter’s largest moon at 1:00 the next morning. Having seen another in a series of weekend downpours earlier that day, and knowing that I was going to be viewing with Mr. Pierre Schwaar, that magnetic attractor of clouds, it took a lot of contemplation before deciding that it was worth the trip to his house in Phoenix.

Sure enough, when I arrived, hanging overhead was what seemed to be an endless stream of mid-level clouds that Pierre claimed were forming over his backyard. We

had intermittent views of the giant planet before the event began through Pierre’s 20-inch and Jim Stevens’ binocular viewer. After tweaking the collimation on his viewer, Jim was able to convince me in no time how much better the planet looked when viewed through both eyes. The seeing conditions were decent enough to easily show the difference in size between the disks of Europa (1.0”) and Ganymede (1.7”). Ganymede shone almost a magnitude brighter than Europa, about 10” further out from Jupiter’s disk.

For the first half hour of the eighty-minute long event, the clouds got the better of us. What appeared to be a clearing line never materialized — Pierre was going to miss another eclipse! The cloud show finally abated, though, and we were treated to an unforgettable sight. The atmosphere was now steady enough to show that something was definitely “wrong” with Ganymede’s disk. It was not round anymore but appeared to show an oval form. Looking closer still at over 300x with his 20-inch stopped down to 16 inches, Pierre claimed to be seeing the actual “bite” out of the satellite’s disk. Jim verified this claim and even identified that the bite was taken out of the northern hemisphere of the moon. After a prolonged look, I finally saw the “kidney bean” shape of Ganymede. This became clearer as the seeing improved, and for the next twenty minutes we watched as the shadow receded from the disk of Ganymede. Viewing at a similar magnification with the conventional monocular view, the spectacle was not nearly as obvious. The only apparent feature at mid-eclipse was the brightness of Ganymede, which had dropped to approximately that of Europa.

This event showed us what can be seen by pushing high resolution observing to its limit. There won’t be many more of these satellite phenomena left in this series for several years as the orbital plane geometry of the moons becomes unfavorable. Probably the highlight of the event was that, after a daunting string of cloudouts, Pierre finally did get to see an eclipse. It was of a two-arcsecond Galilean moon, but at least it was an eclipse.

The Observer’s Column Sentinel

by
Steve Coe
and A. J. Crayon

On April 4, 1992 the well advertised Deep Sky Group supported Sentinel, AZ star party was held. And what a well-attended star party it was! As twilight deepened the thin cloud layer disappeared over the 31 already set up telescopes. A wide variety of instruments and observers showed up to observe many celestial delights. Even before it got dark there were astronomical thrills to be had as Pierre Schwaar captured the green flash on his video

camera as the sun set over the Arizona desert. A very thin crescent moon set through the zodiacal light and this began the deep sky observing.

Dick Simmon, from EVAC, turned up in a motor home carrying a video camera and a TV monitor to re-view his tapes. Dick made tapes of several observers, their telescopes and a short interview of each member. Several other members of EVAC turned up with scopes to enjoy the evening.

Steve Overholt, from California, made his way to the meeting with 2 very large telescopes stuffed in a very small car. Steve is the proprietor of Magellan Telescopes where he constructs very light weight portable instruments. His Ford Fiesta was home to a 22" and a 17½" dobsonian scope, with enough room left over for Steve to drive.

This time of year lends itself to galaxies, galaxies and more galaxies. It shouldn't be a surprise that most observing lists had a variety of island universes. With over 20 SAC members present and observing it is not possible to cover all of the activities of club members. However, here are some highlights of the evening that were noteworthy to your reporters.

Tom Polakis had his newly aluminized 13" mirror re-installed and gathering galaxy light. Tom was delighted with its performance. Chris Schur arrived with a newly completed 16" f/5 in a truss tube. Several people got to observe Comet Shoemaker with this scope in the evening twilight. This scope is easy to set up and tear down, the light weight tube and mount can be handled by one person. And Chris is very pleased with the optical performance. This was the first time at a club function for this instrument and its pretty blue paint job. Pierre Schwaar and Jim Stevens combined a binocular viewer with a 20" f/5 to provide spectacular views of Jupiter. Oohhs and aaahs drifted through the night as observers climbed the ladder and focused on the giant planet. Meanwhile Brian Vorndam monitored transits of Jovian moons. Rick Nadolny showed up with a guest from Paris, France whose name was Serge Ravet. Rick had high hopes of showing Omega Centauri to Serge.

In the hopes of not forgetting anyone in attendance, here are some of the observers who made the 2 hour drive to Sentinel: Dave Fredericksen, Bob Dahl, Rick Walker, Gerry Rattley, Dwight Bogan, Dean Corn, Paul Dickson, Lika Etrog, Dick Jacobson, Michael Janes, Paul Knauth, Paul Lind, Gene Lucas and Rick Rotrammel.

All in all everyone seemed to enjoy this well attended outing. We are certain the Deep Sky Group will plan on another Sentinel get together in the future.

Magazine Subscriptions

Those of you who wish to subscribe to the *Deep Sky Journal* at club rates (\$22.00 for one year, \$43.00 for two years), please notify the Treasurer. We can only obtain these rates if we subscribe as a group of 20 or more simultaneously.

Reach 11 compiled by Paul Dickson

At the April 17 SAC meeting, Stan Celestian gave me some photocopied reports about the Reach 11 Public Star Party that he had his students from Glendale Community College write for extra credit. I'm including excerpts here as there are some remarks that are interesting and in some cases humorous.

The Reach 11 Star Party was very successful with an excellent turnout. Phoenix Parks collected around \$250 at \$1 per person.

One student, a late arrival started, "...it was pitch dark with a warm breeze to make the night mysterious." While another, who arrived much earlier, wrote "upon arriving...telescopes were being set up. I counted 17 in all."

Here is a list of comments about participating SAC members and the views of the sky they shared:

"WOW!! [The Moon] was beautiful. Looking at Moon pictures in our book and day-to-day glances at the Moon are fine, but to look through the telescope and see such a gorgeous sight. The impact craters look so close. At this point my whole evening changed. I wasn't there just for the 10 extra credit points. I wanted to see all I could."

"One amateur had his telescope pointed in the opposite direction [away from the Moon] so I went to see what he had to offer...He had just finished focusing on the Orion Nebula and invited me to take a look. The trapezium was clearly visible and the dust clouds of the nebula were clearer than I had seen them before."

"...with a blue filter, you could see about 4 belts on Jupiter."

"One man, Jim Stevens, won an Achievement Award for his telescope. It is small enough to carry on your back and he takes it on hikes and camping trips."

"Amateur astronomers pointed out that there are 3 stars that made up one star of the handle of the Big Dipper."

"As it got darker I went back to see Bob and asked to see the Moon again since it had gotten darker. He moved his telescope and even pointed it so I could view the Wall."

"The astronomers were very nice and very enthusiastic."

“For a dollar it was a real good deal.”

And then there are the humorous comments made either accidentally or made so by my deliberately extracting them out of context:

“The Orion constellation was so magnificent that I could have looked at it all night, but it was past my bed time and they were running out of lemonade.”

The E.T. ‘see home’ of long distance quality: “The impact craters were so clear it was the next best thing to actually being on the moon.”

“I saw a few Orion Nebulas...”

“[The Moon] was so bright that when I got done looking I saw spots.”

“Another astronomer was showing a trail of stars call M 35,...named after the guy who discovered it.”

“Even though the larger [telescopes] had a closer view, I didn’t care for the ladders.”

Minutes of the March Meeting

The president, Paul Lind, opened the general meeting at 7:30 pm. He outlined the meeting format — a brief business meeting, the “show and tell” by members, a short break, and then the presentation by the main speaker. Tonight’s speaker is Brian Skiff from Flagstaff, who will talk about star spots.

Paul then introduced new members and guests and pointed out the list of SAC events on the board. He mentioned that the May meeting will probably be changed to May 8 from May 15. A.J. Crayon then announced the March 26 meeting of the Deep Sky group at the McGrath house. Gene Lucas gave information about the Riverside meeting during Memorial Day weekend, May 22–25.

Bob Dahl gave his Treasurer’s report and mentioned the new magazine available for members. Membership currently is 108 with 7 receiving newsletters only. He also told the members that for every 10 sky objects observed, members have an opportunity to purchase SAC T-shirts and hats.

Paul Dickson reminded members about the SAC survey, which was mailed with the March newsletter.

As part of our support for continuing education, Paul Lind introduced Patty Tate from Osborne school. She has requested our help in setting up a star party for the third graders and their parents. She needs 8–10 telescopes for Monday, April 13. Paul called for people who have portable telescopes to help in this school project and was able to get a list of those who will be available.

For the “show and tell” portion, Pierre Schwaar showed a video of Jupiter’s Red Spot; Jim Stevens had a video of his back-pack telescope that he carried up Look-out Mountain; Tom Polakis had some slides of the new moon; Pete Burggraaf showed slides of the area around Winden; and Andre Bormanis showed his slides of the annular eclipse from San Diego.

Unfortunately, our main speaker, Brian Skiff did not appear. Later, it was learned that he was ill and we did

not receive the message before the meeting. The meeting was adjourned at 9:15 after the members’ presentations. —*Susan V. Morse, SAC Secretary*

SAC Officers

President	Paul Lind	863–3077
Vice President	Steve Coe	878–1873
Secretary	Susan Morse	934–7496
Treasurer	Bob Dahl	582–5526
Properties	Rich Walker	997–0711
SACNEWS Editor	Paul Dickson	841–7044

Minutes of the April Meeting

The meeting opened at 7:40 when president Paul Lind introduced new members and guests and asked them to sign the guest book to receive the SAC newsletter. The past month was a very busy month with extra star parties and meetings. He reminded all members to check the calendar for the upcoming events in April and May. The educational evening at Encanto School on April 13 was very successful, and Paul wanted to thank the following members for their participation. They were Pete Burggraaf, Adam Sunshine, Jim Stevens, Ray Weigold, Pierre Schwaar, Bob Gardener, Bob Dahl and Katie Lind. The coordinating teacher, Patty Tate brought in letters of appreciations from the students and some wonderful cheesecake.

The treasurer, Bob Dahl, reported that our membership has dropped to 99 after the current renewal season. Also, there are still some shirts and hats available for members. Gene Lucas mentioned the Riverside Telescope Makers’ Conference at Big Bear Lake in California on May 22–25 and told everyone to see him about reservations and information. A.J. Crayon reminded everyone about the Deep Sky Group’s meeting on May 14 at the McGrath house. This month’s constellation will be Canis Venatici.

A.J. Crayon then presented the Herschel 400 award to Steve Coe for finally completing the observation of all 400 objects. This is a special award established in 1980 and is named for the famed astronomer William Herschel.

The Show-N-Tell portion of the meeting opened with a few slides from Steve Coe, Tom Polakis, and a video tape from Pierre Schwaar. During the break, Tom Neuman demonstrated his computer software program on the solar system — ORBIT.

Following break, the main speaker Derald Nye, showed slides and videotapes of both total and annular eclipses. He pointed out the problems with using a camera on board a floating ship. However, even with the movement distortion, the pictures were well received. The meeting adjourned after his presentation and Patty Tate’s class letters. —*Susan V. Morse, SAC Secretary*

Comet Comments

by Don Machholz

One new comet has been discovered recently, it should be visible for the next few weeks. Comet Shoemaker-Levy (1991d) has faded in the morning sky, but another by the same name — Comet Shoemaker-Levy (1991a₁) brightens in our morning sky. Meanwhile, Comet Mueller apparently did not survive perihelion.

Periodic Comet Howell (1991c): S. Larson and J. Scotti recovered this comet from Kitt Peak on Mar. 5 at magnitude 12. It should brighten to magnitude 15 by early next year.

Comet Tanaka-Machholz (1991d): This comet was photographed by Z. Tanaka of Japan on March 24 as a tenth magnitude object moving at an apparent speed of > 4 degrees/day. Due in part to poor weather, the Tokyo Observatory did not follow up on it. On Mar. 31, while sweeping with a homemade 5" refractor at 21x, I picked up an object some seven degrees away and moving in the same direction, but < 1 degree/day. It now appears that both are the same object with the earlier reported speed in error.

This comet came 760 hours following my previous find in August 1988. Despite the excitement of the discovery, the most significant event of the week was the arrival of our new infant son, Mark, the following day. To top all this off, I received an offer for a better job the next day.

Comet 1992d will be closet the sun at 1.26 AU on Apr. 22. It moves north, under the North Pole, and into the evening sky my mid-June, never being more than 50 degrees from the sun.

Don Machholz (916) 346-8963

Comet	Shoemaker-Levy (1991a ₁)		Elong	Sky	Mag
Date	RA-2000-Dec				
05-03	00h56.8m	+40°43'	34°	M	11.6
05-08	01h01.3m	+42°22'	36°	M	11.3
05-13	01h06.1m	+44°14'	38°	M	11.0
05-18	01h11.4m	+46°19'	41°	M	10.7
05-23	01h17.3m	+48°41'	43°	M	10.4
05-28	01h24.2m	+51°22'	45°	M	10.0
06-02	01h32.5m	+54°28'	48°	M	9.7
06-07	01h43.3m	+58°04'	50°	M	9.3

Comet	Tanaka-Machholz (19912d)		Elong	Sky	Mag
Date	RA-2000-Dec				
04-23	23h15.3m	+40°31'	46°	M	8.2
04-28	23h36.3m	+45°31'	47°	M	8.2
05-03	00h00.8m	+50°18'	47°	M	8.2
05-08	00h29.9m	+54°43'	47°	M	8.3
05-13	01h04.3m	+58°35'	47°	M	8.4
05-18	01h44.2m	+61°43'	47°	M	8.5
05-23	02h29.3m	+63°59'	46°	M	8.6
05-28	03h17.4m	+65°18'	45°	M	8.8
06-02	04h05.1m	+65°40'	44°	M	8.9
06-07	04h49.7m	+65°16'	43°	M	9.1

Directions to SAC Events

SAC General Meetings 7:30 PM at Grand Canyon University, Fleming Building, Room 105 — 1 mile west of Interstate 17 on Camelback Rd., north on 33rd Ave., second building on the right.

SAC Star Parties at Buckeye Hills Recreation Area — Interstate 10 west to Exit 112 (30 miles west of Interstate 17), then south for 10.5 miles, right at entrance to recreation area, one-half mile, on the right. No water and only pit toilets. Please arrive before sunset; allow one hour from central Phoenix.

SAC Deep Sky Subgroup Meeting at John & Tom McGrath's, 11239 N. 75th St., Scottsdale, 998-4661 — Scottsdale Rd. north, Cholla St. east to 75th St., southeast corner.

Bits and Pieces

Coming Events

May has lots of events scheduled. A Public Star Party at Thunderbird Park on May 9, the Riverside Telescope Makers Conference (RTMC) on the weekend of May 23, and TAAA's Grand Canyon Star Party from May 30 to June 7.

May's Speaker

Brian Skiff has been rescheduled for the May meeting. His topic is "Spotted Stars and Tomorrow's Weather."

May Meeting Date Changed

The SAC meeting schedules for May 15 has been rescheduled one week earlier, May 8.

1992 SAC Meetings

May 8 **Changed**

June 12

July 17

August 14

September 11

October 9

November 6

December 12 Party

1992 SAC Star Parties

May 23

June 27

July 25

August 22

September 19

October 24

November 21

December 19

June Newsletter Deadline

Be sure to mail items to be included in the newsletter by May 20. Items sent later will not be included, but will be included in the next newsletter.

Deep Sky Meeting

The next Deep Sky meeting will take place on Thursday, May 14 at 7:30pm. Objects in the constellation Canes Venatici are open for discussion.