

SJAA EPHemeris

VOLUME 3 NUMBER 6 OFFICIAL PUBLICATION OF THE SAN JOSE ASTRONOMICAL ASSOCIATION

JUNE, 1992

KTEH (CHANNEL 54) AUCTION

by Del Johnson

On 4/28 six members of the SJAA volunteered their services to support the annual Channel 54 Auction. The members were Jack Zeiders, Jack Peterson, Jim Van Nuland and myself. We were assigned to telephones as bid takers or act as bid runners. We worked the late shift, arriving at 7:30 and leaving shortly after midnight. This is the second year in which SJAA members volunteered. Last year Ernie Piinil and Bill McCormak were also involved.

The SJAA has enjoyed a good relationship with Ch 54 over the years. Last year, during the serialized showing of the *Astronomers*, Ch 54 not only displayed our hot line number, but also broadcast an interview with Tom Ahl, our past president.

The SJAA also contributed directly to the auction by donating certificates which invite the highest bidder (with family and friends) to a special stargazing session at Fremont Peak. These certificates normally sold for about \$45, which goes to Ch 54, a PBS station. During the auction on the evening of 4/27, George Sampson, Ch 54 announcer paused the bidding for a few seconds to describe the SJAA as "friends of KETH and a very knowledgeable group". Orion Telescopes and the SJAA have also joined forces in a donation - a refractor, a one year membership in the SJAA, and a one year subscription to *Sky and Telescope* with a combined value of \$370. It sold for \$225.

Next year we'll try to furnish advanced information via the *Ephemeris* and you'll all have an opportunity to help raise funds for Ch 54, to help promote the SJAA, and to have a lot of fun.
[photos on page 4]

June 5: Star Party at Hough Park.

June 6: Rest - No activity. Maybe go to The Peak?

June 13: 8:00 p.m. General meeting at Milpitas Library. Board of Directors meet at 6:30 p.m. preceding the program. Speaker: Doctor Roger Romani, Dept. Physics, Stanford - Neutron Stars, Black Holes, Cosmology.

June 14: Partial eclipse of the moon

June 20: 8:00 p.m. Beginning Astronomy Class - Milpitas Library.

June 27: Star Party at Grant Ranch w/Halls Valley Group.

June 30: Total eclipse of the sun - \$2700 to the south Atlantic will get you a view. Maybe there will be less expensive photographs in *Sky and Telescope*.

July 4: 1st Qtr Moon - no activity. Clean your optics.

July 10: Star Party at Hough Park

July 11: 8:00 p.m. General meeting at Milpitas Library. Board of Directors meet at 6:30 p.m. preceding the program.

July 13 to 18: *Cosmocon 92* at San Jose State University. Contact AACN or (415) 225-1279

July 18: 8:00 p.m. Beginning Astronomy Class.

July 25: Star Party at Henery Coe - Also one at Grant Ranch- your choice - SJAA will be at Henery Coe.

August 1: SJAA Picnic and Star Party at Fremont Peak State Park.

August 29: Star party at Glacier Point, Yosemite. Contact Jim Van Nuland for more information and reservation. These summer skies are wonderful at over 7,000 feet. We have a group site at Bridal Vall.

SJAA Auction

by ed

Well I hurried home (literally) from the Texas Star Party at just a little over 700 miles each day for two days - Exhausting! I wasn't too disappointed even though the auction was complete by eight o'clock. Some very nice items were sold and every one seemed happy. John Bentencourt had a smile on his face about as long as my return trip. John now has his own 8" newtonian and doesn't have to use one of the association's loaner. Several other high ticket items went also. Bob Brauer sold his small refractor, wished he could have received more, but was also satisfied. A really nice HP camera without a lense, but with a motor drive went for \$20. The lense interface used a Yashica/Contax - no sweat! Again this year Epoch Instrument had a 5" Schmidt camera with all of Kevin's latest modifications for \$1000. I bought one last year. One of the best bargains this year was a red filter for a mini-maglite for \$0.25. The day was warm and the room noisey and every one congenial. [photos on page 4]

A REAL NEED

by ed

There is a need in the Association for a good (slick) public relations person. Someone with vision and ambition is needed. There is a lot of information about us that the public doesn't hear or know about. There are many schools and other organizations, such as KETH and TV personalities who would make reference to us if they only knew and had material. Let's find someone who is willing to step up and take the responsibility or train some one who would.

IN QUEST OF MAUNA KEA

by Bill Dellinges

A recent article in Astronomy magazine (Feb. '92 pg 89) concerning a trip to the summit of Mauna Kea (MK) reminded me of my own adventures in trying to reach that somewhat inaccessible astronomical mecca.

As an amateur stargazer, I like to visit any observatory within striking distance of my vacation site. And so it was that I found myself on the big Island fifteen years ago and decided to pop in on the boys up on MK, right.

The rentacar lady assured me it would be "no problem" driving up there. Off I went, out along Saddle Road towards the center of the island where I would link up with the observatory road. It's a weird place out there, a high desert plateau with sprawling cattle ranches and military reservations. Along the way I saw tanks on maneuvers and fighter jets dropping bombs on what I hoped was a test range.

Upon reaching the access road I noticed that it wasn't paved. Hummmmm. Oh well, off I go. It's not long before I realize the situation is hopeless. My compact rental is sliding backwards only a few miles up the road. A couple of guys in a pick-up truck came roaring down the road and stop near me in a cloud of dust. "We couldn't make it, good luck", they say.MK scores 1, Bill scores zip.

A few years later I'm reading an ad in the *Ephemeris* that knocks me over. Lumicon's Jack Marling is looking for someone to accompany him on a week long expedition to MK where he planned to try some new astrophotography techniques on the Air Force's 24 inch telescope there. Wow, I think. What an opportunity! But I don't know a whole lot about astrophotography and wait a week to think it over. I call Jack - too late! Someone else has beat me to it. Rats! On top of that, Jack tells me there was no need to be adept at astrophotography, he mostly just wanted company and the added safety of two people in the dome in case someone fainted or something (you have to be careful at 14,000 feet). . MK score now 2, Bill still zip.

It's 1983, the Astronomical Society

of the Pacific is having their annual symposium on the Big Island, and among other things, they will offer tours to MK Observatory. Holy smokes! I'm signed up in nothing flat! Hotel, car, flight, lectures, MK tour, the works!

The night before we leave, we dine out. Later I complain to my wife about a little indigestion. It gets worse. 10:00 P.M. - can't sleep. Midnight - still pacing around the house with abdominal pain. This is getting ridiculous, I've got to get up in four hours to catch a plane! Got to take action. I tell Lora I'm going to the emergency room at the local hospital to find out once and for all what the heck is going on with me. The diagnosis: appendicitis. It's got to be removed immediately. Cancel the hotel, car, flight, lectures, MK tour, the works! MK score now 3, Bill still zip.

February, 1990. Lora and I decide it's time to return to Hawaii, where we had honey-mooned in 1983 on the island of Kauai. (we had gotten married in the dome of the 20 inch refractor at Chabot Observatory - thank you Kingsly Wightman!). We decided to vacation on the big Island of Hawaii and among other things, naturally, attack MK. The plan is to rent a four wheel drive vehicle and go it alone. Problems with that plan appear immediately when we discover that rentacar companies forbid the use of their cars on the Saddle Road, the access road to the observatories. Considering this development, and the fact that I'm at a distinct disadvantage in not knowing what unpleasant surprises await me up there (terrible road conditions, disgruntled security people, machine gun nests, etc). I decide to take a more conservative approach.

During our first few days there, I had noticed brochures offering rides and tours up to MK. Maybe that was the answer to our quest. One company, Paradise Safaris, offered rides up to MK for sunset photography, a talk about the telescopes there (but not visits inside the facilities), and an observation session with a C-8 at the 9000 foot level at the astronomer's rest station. Sounds like this might be the way to go. I sign us up at \$80 each.

High winds force cancellation of our trip on the scheduled day of departure. Those tiny white domes I can see on the

summit from Kona are looking more remote and elusive than ever. Finally we get the green light, winds dying down. The guy picks us up at our hotel and, along with two other couples, we begin the ascent. The road is paved now and we zoom up to the 9000 foot rest station in nothing flat. We take a break and sip on coffee in the fog. Onward! Now it's dirt road and the four-wheel drive goes to work.

We reach the snow covered summit (14,000 feet) shortly before sunset and are issued parkas to protect us from the cold. We're on our own now to run amuck and take pictures for the next forty-five minutes. I realize my task is impossible: to assimilate all the wonders about me in precious few minutes. Here's what I see: Barren, snow covered ridges peppered with perhaps eight or so white domes contrasted against an ever darkening deep blue sky. Not a tree or bush to be seen. There's a solid cloud deck a few thousand feet below us. To the south, 25 miles away, 13,677 foot Mauna Loa looms on the horizon.

Here's what I feel: A sheer feeling of excitement at having finally gotten here. I notice my brain is getting giddy from the altitude and my lungs are aching from running back and forth trying to get all the camera shots I want (the atmospheric pressures is only 60% that of sea level). The air is clean, clear, and cold.

I've removed my gloves to operate the camera controls and after a few minutes notice my left hand is painfully cold. It will turn out that the fingers are mildly frost bitten and remain numb for the rest of the week. No permanent damage. Beware of the forces of MK!

The observing session was routine except for three things. I saw my first "moonbow", the full moon creating a rainbow in the fog below us. We also had a spectacular view of the zodiacal light, a huge spear of light reaching perhaps 40 degrees or more above the western horizon. It was conspicuous - I thought at first it was light pollution from Kona. The third thing? Our guide was one of the most obnoxious persons I've ever met.

And so it came to pass, I had conquered Mauna Kea. MK's score 3, Bill's score 1.

Midnight Mac and Me

by Jack Zeiders

Here I sit at the Macintrash [such herrisay . . . ed] again, it is about midnight and Bob Madden has threatened me with a as yet unnamed torment if I don't come up with an article for this months *Ephemeralis*. I generate enough abuse as it is without actively seeking it out, so bear with me.

The Auction has just finished and we survived another one. I would like to thank all the volunteers that make the swap meet & auction possible. Jim Van Noodle for bringing his PC and handling all the registration and accounting chores. Del Johnson and Paul Barton and Noodle for doing the site hunt and acquisition. Paul Mancuso for several attempts to get the Milpitas Library schedule and the SJAA needs aligned. Crazy Ed for being winningly drafted and Jack Paterson fer the cold wet stuff. Especially Jay Freeman for another fine effort at auctioneering. It seems people are voting for a swap meet rather than an auction by the level of activity shown over the last three years. The auction barely had one table of "stuff" after the swap meet. Many folks came early and left before the auction started. There were perhaps 25-30 folks that stayed till the end at 8:30 or so.

I would like to thank all of you for putting up with my harrassment and gentle arm twisting for the Hydrogen Alpha filter fund donations. If my numbers are correct we are over 2/3's of the way there. At last count there was \$707 in the fund last month. You donated another \$116 plus change at the swap meet. Sounds like \$823 now and another \$377 to the \$1200 goal. At this rate maybe we can place the order by the end of summer. Good job guys!

Del Johnson corralled me into a night of answering auction phones at KETH last week. Bob Ashford, Jim VN. Jack P., Bob Keller, Del and I started about 7:30 and were fed and 'oriented' by 8:45. We were led into the studio about 5 till nine and found a seat, enabled the phone and the next thing I knew it was midnight. Wow that was one busy session. I heard the SJAA certifi-

cate for a star party with the SJAA went for \$57. Now I have to get recertified on the 30" and reserve a night or two. If you haven't volunteered for an auction yet, think about giving it a try next year. I'll be back.

Speaking about Fremont Peak and the 30", the 25th of April was a work day at the peak. We put the tube assembly back on the mount after Kevin and Rob Toebe installed a new tangent arm. This May 9th is opening day of the 1992 season. I hope the weather cooperates better than the last time I went up to the hill with the scope. During the work session we had a beautiful day with a mild breeze. Not having an abundance of sense, I thought sure the breeze would die down after sunset and we'd have a nice warm evening for astronomy I had done a rush job earlier in the week machining parts, cutting relief pockets and installing encoder adaptors for a nice digital circle package I bought. What me use setting circles? Yeah I know it's kinda like going over to the enemy camp for a long term star hopper like me. I got embarrassed one evening when I could not even find 7331 through some street light glare and a thin haze. Sheesh! So I felt the application of a bit of technology might just do the trick. Well you can't do a slop job and expect to get away with it with these things. It would have helped if I had time to read the manuel before trying to use the damn things I suppose. Would you think the minor fact that I had forgotten a bubble level to initialize the setup be part of the issue? you betcha. Well after not even getting out of the alignment mode in 45 minutes the fog started to ooze over the peak as the wind picked up. Damn, it gets real cold and wet when that happens. In 15 minutes we could not see a single star, not even that cursed red variable over the peak. Time to close up the scope and go have a look at what was going on in the observatory meeting room. Most folks with any sense were packing up and heading home. Rob Toebe and Dave Barroso were playing with Dave's new 386 clone. Seems Dave had shown Rob a game called Jet Fighter, a aircraft simulator that lets one bomb and strafe the Bay Bridge and downtown San Francisco, an aircraft carrier and various

landmarks. Rob was entranced and making air strikes and crashing with equal enthusiasm. Chris Paul came by and wanted to play but Rob snarled.

The fog settled about 11:30 PM but it was still very wet. dew had accumulated on the scope and ran off in rivulets when I lifted the cover to see if the diagonal had dewed over. It was soaked, so I crawled into the truck and woke up the next morning.

HOUGE PARK STAR PARTY

by Paul Barton

May 8 was some party! I'd say we had 75 to 100 folks show up to look thru almost two dozen telescopes. The weather was warm, dry and the sky was clear of clouds, tho it was obscured by haze or moisture. There was about a one quarter moon in Leo. The crowd was enthusiastic and a great time was had by all.

Lady's name may be changed to Yogi she can smell a sandwich at 200 yards or more. I had to "rescue" her twice from the picknic area. Here are just some of the telescopes there:

Bob Madden	SPC 80 Fluo
Gabe Camarillo	C8 S/C
Shelly McAleese	13 Odyssy
John Martin	SPC 102
Michae England	10 Meade S/C
David Enos	10 Meade S/C
Rich Neuschaefer	4 Takahasi
Mark Averich	5 Astro-Physics
Haetoshi Arima	60X20 Sky Hunter
Leon Jones	10.1 Odyssy
Paul Barton	JMI 18
Frank Vanslager	

Happenings on Astronomy Day

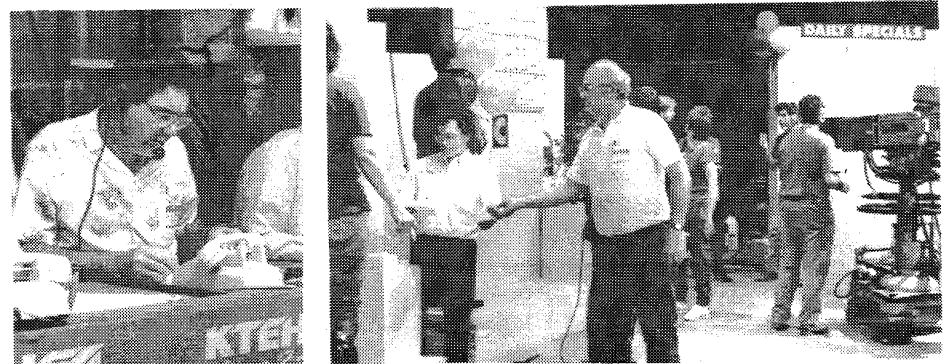
by Bob Madden

The day started with a Sale conducted at all of the local Orion stores. I chose to go to Santa Cruz because the flier indicated there would be a warehouse sale in addition to the 25% off sale. Figuring there would be more to look over I chose this location and was a little disappointed in the amount of merchandise, but proceeded to part with some money anyway. If one was there when the door opened, as I was, there were some good buys on returned, blemished and slightly damaged optics. I came away with an a small eyepiece case, an Amichi prism, a barlow and an 18mm orion ocular. Yes dear, I really needed them.

Next, it was off to Hoge Park for sun viewing. There were four of us: Paul Barton, Bob Ashford, Bob Brauer and myself. We had several customers, but not enough to keep us happy, so we left around 3 o'clock. Bob Ashford, Paul Barton and Bob Brauer headed to Milpitas Library to meet up with Paul Mancuso and Jack Peterson. There were more customers naturally. It is my understanding the lines were as long as four to five people.

I headed to Milpitas for the 6 o'clock board meeting which precedes the general meeting and found Bob Brauer trying to find Jupiter in the daylight. We learned we needed to know where to look. John Gleason, Astrophotographer par excellence, gave the talk. John started with simple camera shots, progressed through cold camera, and ended with a sandwiched simple camera slide. Now I have used the term of "simple" and it is because John makes it look simple. In truth, John has used many hours dedicating his time to guiding his telescope and camera. John now uses his SBIG ST 4 as his auto guider. John's presentation was breath taking and drew many ohs and awes. His talk was so popular there was about 35 folks who listened.

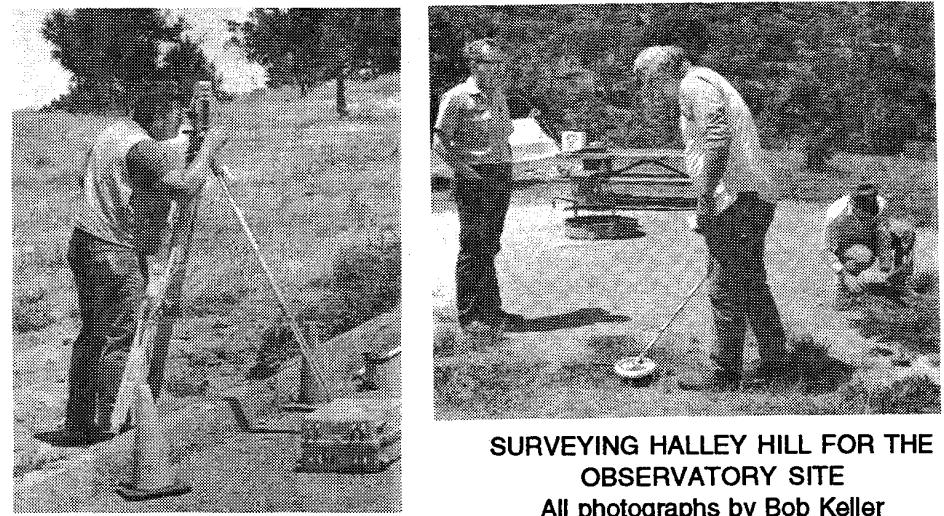
The speakers we get are top quality and have very interesting presentations. You are missing a great opportunity when you don't come.



KTEH CH 54 AUCTION



SJAA SWAP and AUCTION



SURVEYING HALLEY HILL FOR THE OBSERVATORY SITE
All photographs by Bob Keller

1992 Texas Star Party

by Bob Madden

I don't know how many have gone to the Texas Star Party, however, I'll give you my account of this year's (1992) event. This star party is not like Riverside in its character. There are vendors, but no feeding frenzy, seven days of observing (at night), and presentations. Most of the folks who attend are serious observers. Of course they are from Texas and many are from Canada, Illinois, Michigan and Iowa, few from San Diego and several from New Mexico and Arizona. One thing about the party's character is every one was friendly. The facilities were fantastic! I had reservations for the large bunk house, but on Sunday leaving El Paso I decided to call to see if there was a cancellation for a room. You bet there was, however I would share the room with another fellow - he wouldn't arrive until Thursday. Well he showed up on Wednesday afternoon, but he spent all night photographing. I'm glad I made that call. I had listened to Richard Berry and Peter Cerevolo talks and decided I wanted to see my honey (because I had traveled alone) and didn't want to miss our Auction. I left Texas on Thursday morning and arrived home Friday evening - a total of 1543 miles (Ft. Davis to San Jose).

I also saw and visited with Bruce Ashcroft, a SJAA member who has moved to Albuquerque. A friend of his, Bruce Levine, had a nice refractor with a Day Star filter trained on the sun. His views were great! Quite a number who were attending knew about the Group 70 project. I didn't take a telescope and therefore begged views through other telescopes. The first two nights I observed with Peter Cerevolo through a new Maksutov-Newtonian six inch of his own design. Great views through it. Peter has a six and an eight inch design he is talking of marketing. They would be great because there is no collimation adjustments. The optics, corrector and mirror, will be hard mounted. Only the focus of the eyepiece will be adjustable. Reading about Peter's critical inspection of commercial optics, I am sure one will be able to get his money's worth. With Peter were friends, Doug

George and Aji Segal. These guys are good, but stay out of the line of flack as they needle each other all night long. You may remember Doug from an article in S&T on visual testing four telescopes of various quality. Peter and Doug also presented a paper on telescope optics finishing with a summary of the article. The result of that discussion is we all have less than perfect optics, but if we are satisfied with them, be happy with it because we couldn't afford them to be perfect.

Tom O'Hara from Ann Arbor was also very gracious Wednesday night letting me observe with his 20" Dobsonian. Tom is a heck of a pleasant fellow and knows his way around the sky. I also got a chance to see a pair of 17.5" binoculars and the 32" Dob which was written up in S&T. The nice things about the 32" was a turret of five eyepieces made to be parfocal and AI, one of the makers/owners, could really play the banjo. I'm convinced that 20 to 25" is the largest mirror size for a dobsonian. The 32" seemed subject to vibration. I feel it would do better on a sturdy cross axis mount, but it wouldn't be portable. There has to be a price for every thing.

I listened to talks on CCD, which was something I was interested in as I had thoughts of obtaining one. I have come to the conclusion that CCD devices are super auto-guiders when doing astrophotography, but when used for imagery things become more difficult. There is considerable playing with software and the images until one is satisfactory (some what akin to printing in black and white the first time). Richard Berry stated, "It is better to get your image the way you want it on the monitor and then take a photograph of it." The consensus of the speakers was that CCD imagery is exciting, but there has to be more breakthroughs needed to become as good as straight photography.

There were several interesting stories from TSP. I stayed in Gallup, NM one night and then drove to Santa Fe. When I arrived in Santa Fe I realized I had left my brief case at the motel. Well, back to Gallup and return and arrive at the B and B at 11 P.M. In the morning I quickly walked around the plaza, breakfasted, went to the flea market and on to

El Paso. Another story was about two guys from St. Louis who stopped at a road side rest. The driver thought his buddy was sleeping in the back, went to the restroom without waking him up. While gone, the sleeping fellow woke up and got out of the car. Yup, you guessed it! The sleeping fellow was left behind and 250 miles later (plus 8 hours) the driver returned to get him. Tom O'Hara forgot a couple poles to his tent and had to bum a spot to sleep in another tent. Maybe these stories aren't so interesting.

Now, about those Texas Skies! From what I had heard, the skies at Prude Ranch, which are just under McDonald Observatory, are the best in Texas. This is probably true, but compared to the skies we have here at Fremont Peak and our other observing sites I think we have it better (so why do we complain). There seemed to be interference from the Zodiacal light every night and a strange ground glow just above the Davis mountains which was very annoying. Good seeing didn't begin until after midnight - skies were clear though and the temperature cool. You must remember the Prude Ranch is several miles from Ft. Davis where the stores aren't open on Wednesday and the lights go out at dusk. At the Ranch there was total blackout and well policed.

I sensed a complete sense of trust because equipment and instruments were left unattended. There were no stories of theft or stiffing. The vendors were cautious though and locked the room when not there, but the place seemed safe - not like the feeling I have had at RTMC.

The trip was worth the effort, but I think I'll wait a while before I go again. While driving to the Prude Ranch I visited several National Monuments - Monument Valley, Canyon De Chelly and the Wupatki Indian ruins. I missed Carlsbad Caverns, Meteor Crater and Grand Canyon. All left for another time.

I do have some slides to bore you all - a typical travelogue - which can be given at a meeting soon

CELESTIAL CALENDAR

June 1992

by Richard Stanton

LunarPhases Date Rise Tran Set
FQ 13:47hr 07-06 1259 1901 0105
FM 21:50hr 14-06 2012 0053 0533
LQ 01:11hr 23-06 0103 0728 1359
NM 04:18hr 30-06 0607 1317 2031

Nearer Planets

Mercury	07-06 0547 1330 2116
1.19 AU	17-06 0630 1413 2159
Mag -0.3	27-06 0724 1441 2202

Venus	07-06 0541 1254 2012
1.73 AU	17-06 0544 1304 2029
Mag -3.9	27-06 0551 1314 2041

Mars	07-06 0308 0931 1600
1.70 AU	17-06 0249 0921 1558
Mag +0.9	27-06 0230 0910 1555

Jupiter	07-06 1147 1820 0056
5.67 AU	17-06 1113 1745 0020
Mag -1.9	27-06 1041 1711 2344

Saturn	07-06 0000 0508 1015
9.26 AU	17-06 2320 0428 0935
Mag +0.5	27-06 2239 0347 0853

SOL Star Type G2V Mag - 26.72
0505+2246 07-06 0546 1302 2021
0543+2322 17-06 0543 1300 2022
0621+2319 27-06 0542 1259 2021

Astronomical Twilight

JD 2,448,780.5	07-06 0347 - 2219
,790.5	17-06 0342 - 2222
,800.5	27-06 0341 - 2221

Siderial Time

Transit Right	07-06 0000 PST=1558
Ascention at	17-06 0000 PST=1635
Local Midnight	27-06 0000 PST=1715

Darkest	Saturday Night	Jun 27
Sunset		2021
Twilight End		2221
Moon Rise		0326

**TIMES AND DATES ARE
PACIFIC DAYLIGHT**

Solar filter Project reported at the Board Meeting

We hit pay dirt at the auction. Jack Z, your Prez, had a box for our H-Alpha T scanner. We netted somewhere on

UPCOMING ASTRONOMY SEMINARS

by Bill Dellinges

For those who may have missed my talk on astronomy camps at the April meeting, I've listed below the four I discussed, should you wish to pursue any of them.

Mt. Lemmon Astronomy Camps

April 24-26, October 4-6, October 30-November 1

Fee: \$300 plus \$30 for optional Kitt Peak tour

Lisa Roubal, Arizona Alumni Association
111 N. Cherry Ave. Tucson, AZ 85721
(602) 621-5233 or (800) 232-8278

104 th Annual Meeting of the Astronomical Society of the Pacific

June 20-25

Numerous lectures/tour to Yerkes Observatory

Teacher workshops/astronomy Expo and Fair

Presented by A.S.P., Astronomy Magazine, and the University of Wisconsin

Write:

ASP
390 Ashton Ave.
San Francisco, CA 94112
(415) 337-1100

Starry Skies Over Yosemite

July 19-23, July 26-30 (Glacier Point)

Instructor: Ronald Oriti

Fee: \$170

Write:

Yosemite Assc.
PO Box 230
El Portal, CA 95318
(209) 379-2321 or 379-2646

Sierra Nevada Field Campus Astronomy Class

July 27-August 1

Instructor: Dr. Jim Peters, Fee: \$123, Dining Hall \$13.75/day, Tent use \$8/day

Write:

Before June 1st
Jim Steele, School of Science, San Francisco state University
1600 Holloway Ave.
San Francisco, CA 94132-9987
After June 1st
C/O Sierra Nevada Field Campus
Star Route
Sattley, CA 96124
City Campus: (415) 338-1571 or 738-1814, Field Station: (916) 862-1230

the order of \$116, which now puts the fund at \$824. The goal is near \$1200 and then we'll begin to talk about adding a small telescope. Jack Z thinks we'll reach our goal easily by the end of the year.

ASTRO ADS

ASTRO ADS are free to all noncommercial advertisers wishing to sell astronomically related products or services. Please send your ad directly to the Editor:

Bob Madden
1616 Inglis Lane
San Jose, Ca. 95118

NO LATER THAN THE 12TH OF EACH MONTH! Your Astro Ad will run approximately 3-months.

Celestron C8 Schmidt - Cassigrain.

Drive system with Joy stick with declination and right ascension. Has starbright coating, 28 mm ER eyepiece. Also optional field tripod with wedge and 8X50 finder scope. The optical system is perfect! For \$1,000. Call Syd Goldstein (408)-923-6706 (H) 5/92

8-Inch Celestron Schmidt Camera.

F/1.5, field 4.5X6.5. Two cut-film holders for 35 mm. Excellent optical condition, minor scratch on exterior. Makes great comet photos when attached to your telescope and mount! \$1750. Dale Cruikshank (408)-446-2935. 3/92

2 Coulter Mirrors 10" f/5.6 - Matched focal lengths, new in the box. \$300 for both. Ed Allen (408)-438-1014 3/92

C-5 Orange Optical Tube assembly on a Tasco-like German Equatorial mount. 6X30 Finder, special coatings, visual back, 1-1/4 diagonal, No eyepieces. Same mount pictured on Orion Telescope Center's "Space Probe 4.5" in their catalog, but w/o motor hook-up linkage. Nice slow motion controls. Ideal for travel and quick set up gazing sessions. Super RFT when used with Celestron F6.3 reducer/corrector. Tube assembly in near mint condition. **Price Reduced!** - \$650 firm. Bill Dellinges (510) 792-9206 3/92

Lumicon 1-1/4 Newtonian Easy-Guider \$100. Celestron Cometron 60 mm RFT w/tabletop tripod, diagonal, 1-1/4 focuser w/extension tubes, 6X finder, 25 mm Kellner (12X), case, plus camera adapter: use for first scope, telephoto, or big finder, \$100. Celestron 1-1/4" Barlow, \$20. Meade 1-1/4" prime +e.p. projection camera adapter \$18. Orion prime focus camera adapter and eyepiece projection tube for S-C's, \$14 each. Tony Americh (408) 985-6978. 4/92

Meade 10" SC, GE mount, 8X50 quick

Offices and Board of Directors

Pres: Jack Zelders -	408-281-0220
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Dir: Steve Greenberg-	209-239-2154
Dir: Paul Barton-	408-377-0148
Dir: Bob Madden-	408-264-4488

Ephemeris Contributors

Don Machholz -	916-346-8963
Pat Donnelly -	408-778-2741
Richard Stanton -	408-662-0205
Bob fingerhut -	408-263-4455
Bill Dellinges -	510-792-9206
Paul Barton -	408-377-0148

Editor

Bob Madden -	408-264-4488
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COMET COMMENTS

by don Machholz

Two comets will be visible in our circumpolar sky early this summer.

Periodic comet Singer Brewster (1992e) : J.Scotti recovered this comet from Kitt Peak on April 1 at magnitude 20. It has a 6.4 year orbital period but will be faint.

Periodic comet Shoemaker -Levy 8 (1992f) : The team of Shoemaker and Levy discovered this comet from Palomar at magnitude 17 on April 5. Its

orbital period is 7.6 years but will not get much brighter.

Periodic comet Mueller 4 (1992g) : As part of the Second Palomar Sky Survey, Jean Mueller picked up this object on April 9 at magnitude 17. It has a 9.1 year orbital period and will stay faint.

Comet Bradfield (1992i) : William Bradfield of Australia discovered this comet on May 3 at magnitude 10, in the morning southern sky. It was moving rapidly eastward. I have no other word on it at this time.

EPHEMERIDES

DATE (UT)	RA (2000)	DEC	ELONG	SKY	MAG
COMET SHOEMAKER-LEVY (1991a ₁)					
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
06-12	01h58.5m	+62°14'	52°	M	8.9
06-17	02h22.6m	+67°05'	54°	M	8.4
06-22	03h07.0m	+72°28'	55°	M	8.0
06-27	04h45.6m	+77°27'	55°	M	7.6
07-02	07h50.6m	+77°55'	55°	M	7.2
07-07	10h06.1m	+70°50'	55°	M	6.9
COMET TANAKA-MACHHOLZ (1992d)					
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
06-12	05h29.2m	+64°15'	41°	E	9.8
06-17	06h03.1m	+62°50'	40°	E	10.0
06-22	06h31.6m	+61°11'	38°	E	10.2
06-27	06h55.7m	+59°24'	37°	E	10.3
07-02	07h16.1m	+57°34'	35°	E	10.5
07-07	07h33.6m	+55°45'	34°	E	10.7

Don Machholz (916) 346-8963

removeable finder, 26mm & 10 mm eyepieces, Tuthill heated dew shield. Mount has RA drive, polar axis scope and digital setting circles. Astro Physics 5" triplet refractor, f4 field flattener/reducer for astro photography, 2" diag,

mtg rings, 5" type II solar filter. Both \$2500/OBO Dave Enos (408) 263-5624 5/92

Meade S/C w/motor drive, Plossel, documentation, case - \$500. Wm Leslie Howard (408) 353-8344 6/92

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