SJAA EPHEMERIS

Record Turnout for Alex Filippenko

On February 7, 2004, the San Jose Astronomical Association hosted its best turnout ever with a count of 106 people who attended to hear Dr. Alexei Filippenko (UC Berkeley) discuss "Einstein's Biggest Blunder? The Case for Cosmic Antigravity." He talked for 90 minutes, took questions in a formal Q/A for 45 minutes and continued discussing various astronomical topics in an informal session for at least another 45 minutes.

As they say on the radio station, the hits just keep coming. In March our speaker will be Don Machholz. Don was a major force in the SJAA before relocating to the darker skies of Colfax, CA. He is a discoverer of 9 comets that bear his name and he is one of the originators of the Messier Marathon – the annual attempt to see the entire Messier list in a single night. From 1988 to 2000 he was the Comets Recorder for the Association of Lunar and Planetary Recorders. His talk will cover the history of the Messier Marathon. This talk will be on March 6 at 8 p.m. at Houge Park.

Don Machholz to speak – March 6 at 8 p.m. at Houge Park.

Later in the month, this year's Messier Marathon will commence at Coe State Park on March 20. More details are on page 6 of the February Ephemeris.

Then, coming in April, the annual SJAA Auction is on Sunday, April 4. There are more details about the auction in Jim Van Nuland's article on page 3.

Leading all of these activities is the board of directors. At the February meeting the following candidates were reelected: David Smith, Steve Nelson, Gary Mitchell and Mike Koop. The following directors have an additional year to serve: Dana Crom, Jim Van Nuland, Craig and Elana Scull, Bill O'Shaughnessy and Bob Havner. At the March meeting the new Board will elect its officers for one-year terms. Officers are chosen from the Board. Board meetings are held at 6:30 p.m. preceding each general meeting. They are open to all.

Dr. Alexei Filippenko discusses astronomical concepts following his talk at the February meeting. Jim Van Nuland looks on.

SJAA Activities Calendar

Jim Van Nuland

March

6 **General meeting**, Don Machholz speaks about the Messier Marathon. 8 p.m.

11 ATM class at Houge Park. 7:30 p.m.

12 Houge Park star party. Sunset 6:13 p.m., 56% moon rise 1:10 a.m. Star party hours: 7 to 10 p.m.

13 Deep sky weekend. Sunset 6:14 p.m., 44% moon rise 2:18 a.m.

20 Annual Messier Marathon at Henry Coe State Park. Sunset 6:20 p.m., New moon. See page 6 in the February issue.

26 Astronomy class at Houge Park. 7:30 p.m. Dave North on Lunar Observing.

26 Houge Park star party. Sunset 6:25 p.m., 35% moon sets 0:25 a.m. Star party hours: 7:30 to 10:30 p.m.

27 ATM Class at Houge Park. 7:30 p.m.

April

4 **General meeting**, SJAA/Bay Area Auction. Doors open at 12 p.m. See article on page 3 for more details. No Board meeting this month.

8 ATM class at Houge Park. 7:30 p.m.

9 Astronomy class at Houge Park. 7:30 p.m. Jim Van Nuland on Telescopes and Eyepieces.

9 Houge Park star party. Sunset 7:38 p.m., 70% moon rise 1:10 a.m. Star party hours: 8:30 to 11:30 p.m.

10 Deep sky weekend. Sunset 7:39 p.m., 59% moon rise 2:15 a.m.

17 Deep sky weekend. Sunset 7:45 p.m., 1% moon rise 6:13 a.m.

23 Houge Park star party. Sunset 7:50 p.m., 20% moon sets 0:14 a.m. Star party hours: 9:00 to 11:00 p.m.

24 ATM Class at Houge Park. 7:30 p.m.

The Board of Directors meets at 6:30 p.m. preceding each general meeting. All are welcome.

24 hour news and information hotline: (408) 559-1221
http://www.sjaa.net

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Foothill College Lecture Series

Andy Fraknoi

Wednesday, March 3 at 7p.m.

Dr. James Kaler of the University of Illinois, will give a non-technical, illustrated talk on: "Extreme Stars: The Strangest Critters in the Stellar Zoo" in the Smithwick Theater, Foothill College, El Monte Road and Freeway 280, in Los Altos Hills, California. Free and open to the public. Parking on campus costs $2.

Dr. Kaler, the author of a dozen popular books and introductory texts, will discuss the strangest stars astronomers have discovered. These include stars as big as the orbit of Jupiter or so small they have "gone down the drain", stars with lethal magnetism and stars that whirl so fast they would be a blur. Strangest of all are double star systems, where stars hurl hot material at each other or one star can eventually kick its neighbor out of the system entirely.

Learn about the mysteries of star birth and death during this rare Northern California appearance by one of the best astronomy popularizers in the country. Dr. Kaler is the author of such books as "The Greatest Hundred Stars", "The Little Book of Stars", and "Extreme Stars" and appears frequently on Illinois television and radio.

Editor's Semi-Dark Matter

Ø If you are planning to go to the Mars Center at NASA Ames Research Center in Mountain View, be advised that all of the ramps from 101 may be closed due to construction. If so you may want to drive to Moffet Blvd. (which becomes Castro St. in downtown Mt. View) via Middlefield Rd. or Central Expressway and head north. The Mars Center is in the inflatable area just to the right before you get to the guard station.

Mooning

Top And Bottom (or Bottom and Top?)

Dave North

March is arguably the finest month for evening mooning. The orb is high in the sky through most of the first quarter cycle. The weather is usually improving. And sometimes the seeing will be pretty good (this generally improves even more in April).

But you knew that already.

There will be a very close approach to Mars later in the month – an occultation for some of our Canadian friends, but just a brush for us.

Oh well. Seems all the good stuff has been happening somewhere else for the last few years.

So this month I'm going to expand on an idea I mentioned a while back: observing the poles.

"Especially in the large structures, you'll see things almost as if you were flying toward them in an airplane."

First, the terminator acts weird at the poles. It seems to hardly move at all one day to the next.

Of course on average it's moving just as far in longitude as the zippy stuff at the equator, but this does not translate to anywhere near as many kilometers in displacement.

Consequently, you get a much more thorough view of any particular feature, and get to see it with far less dramatic change on the next night.

Another interesting point is one pole or the other will generally be tilted away from the Sun, leaving a terminator visible throughout the month. Even at what seems to be full Moon, you can generally find a terminator.

Because there's almost always low light, you get some of the sharpest looks at jagged peaks in profile near the poles, and in fact some of the large farside crater rims were named as mountain ranges on some maps.

The poles actually became newsworthy a few years back because of speculation (still unconfirmed) that there are significant and possibly usable water deposits in the permanently shaded crater floors.

Some of us were loony enough to try to watch them crash into it – maybe we'd see the plume.

Nope.

But there are certainly some handy aspects to a polar location. With permanent low light the ground temperature flux is less than anywhere else on the Moon.

It's possible to arrange to have partial shade with minimal difficulty, making it possible to incorporate cheap temperature control.

And you can run solar cells 24/7.

But enough theory. What about observing?

The overwhelming 'extreme' is foreshortening. You'll be looking at everything almost edge on. Combine that with light that only changes slowly and it means you can study shadow effect, silhouettes and elevations more easily than on any other part of the Moon.

But wait, there's more! You'll note that many craters and structures seem to have Really Weird Shapes.

This is related to the 3D-to-2D effect that makes so many planetary nebulae have odd shapes – a round crater will look "long," but a typical hexagonal

Continued on next page

Continued from previous page

structure can turn into a square, and long structures can even curve like a hot dog.

Keep an eye out for this effect and you'll soon find some of your own.

Of course my own favorite effect is the 'edge-on-crater' thang that I've mentioned before. Especially in the large structures, you'll see things almost as if you were flying toward them in an airplane.

You can see not only peaks and breaks in the wall, but you'll get a fascinating look at the terraces that form as the interior of the crater walls collapse.

Oh, one last thing.

A real favorite of almost any lunie is the horns.

Horns are the very tips of the crescent – the points that seem unnaturally distended.

At their very best, you get a 'high point' (a peak) stuck out beyond the end, an almost starlike point like the final period when the story is over.

Directions to Houge Park

Houge (rhymes with "Yogi") Park is in San Jose, near Campbell and Los Gatos. From Hwy. 17, take the Camden Avenue exit. Go east 0.4 miles, and turn right at the light, onto Bascom Avenue. At the next light, turn left onto Woodard Road. At the first stop sign, turn right onto Twilight Drive. Go three blocks, cross Sunrise Drive, then turn left into the park.

From Hwy. 85, take the Bascom Avenue exit. Go north, and turn right at the first traffic light, onto White Oaks Road. At the first stop sign, turn left onto Twilight Drive. You will now be passing the park. Turn right at the first driveway, into the parking lot.

Auction XXIV

Jim Van Nuland

It's spring, and time for the annual migration of astronomical paraphernalia from one garage to another! On Sunday, April 4, 2004, an astronomical auction and swap meet will be conducted at Houge Park in San Jose, sponsored by the San Jose Astronomical Association. The SJAA Auction is a great opportunity for beginners to purchase their first telescope at a great price! Experienced observers often find equipment they need for their next observing project, from OIII filters to finders to star charts. All kinds of interesting items are found in the auction. We will have the auction first, followed by a swap, to allow people some additional haggling time for those items that were optimistically priced by the seller in the auction, or to sell those odds and ends items which were better off being in a swap. It is an even year, so Kevin Medlock will be our auctioneer. Those who have observed his performance in previous auctions have learned to appreciate his skillful evaluation of classical astronomical items on the spot. Great entertainment for all!

Doors open at 12:00 p.m. (or only slightly before) to register material for the auction, and view the auction material. The club reserves the right to accept only appropriate material for the auction so that the auction will run smoothly. The auction will begin at 1 p.m., and will run as long as needed. Seller may specify a minimum bid, which if not met, will return the item back to the seller with no commission applied. After the auction, buyers and sellers settle up using one check to (or from) SJAA and claim their items. Seller pays 10% commission, with a cap of $50 for any one item. We do not handle charge cards. There is no fee for bidder cards.

After the auction, material for the swap meet will be allowed into the hall, about 3 p.m. or perhaps earlier. Sellers are encouraged to bring items that would interest the astronomical audience such as astronomical, science, computer, or tech items. The SJAA reserves the right to turn away inappropriate items for the swap. Joe Sunseri of Earth and Sky Adventure Products will be there with many fine new and used items. At the swap, each buyer pays the seller. Sellers are to keep track of their sales and pay a 10% commission for the auction. There are no table fees. Since SJAA is a 501(c)(3)educational organization, all commissions from the auction and the swap are tax-deductible

Do you have a large item such as a telescope to sell? Please email the auction team at auction@sjaa.net with a description of the item and a picture, if possible. We will add it to the auction website for some pre-auction publicity. This allows the bidders to find out how much that APO scope is really worth, so you will be more likely to sell it. Do you have 5 or more items? We suggest pre-registering at the above email address as much as possible to avoid a crush at the registration table. For more about SJAA, visit our web site at http://www.sjaa.net or email Jim VanNuland at the above address. See you there!

ASTRO INDEX

(*with apologies to Harper's*)

Number of known Jovian moons as of 1974 **:** 13.
Number of known Jovian moons as of 2004 **:** 63.
Number of Jovian moons found in 2003 alone **:** 23.
Number of known Saturnian moons as of 1974 **:** 9.
Number of known Saturnian moons as of 2004 **:** 31.
Number of Saturnian moons found in 2003 alone **:** 1.
Source: Scott Sheppard – http://www.ifa.hawaii.edu/~sheppard/satellites/

The shallow sky

Perceiving the Primordial Pancake

Akkana Peck

For the last two weeks of March, all five naked eye planets – Mercury, Venus, Mars, Jupiter, and Saturn – as well as our own moon, will share the evening sky.

In addition to being a great opportunity for those of us with telescopes to view each of these planets, this also provides a fun way to teach a little celestial mechanics to your less astronomically oriented friends. To wit: the ecliptic.

Go out any night in late March. Look west, and find bright Venus, blazing at magnitude -4.3. A telescope will show it slightly crescent, becoming thinner as the month progresses. Mars is the red "star" above Venus, dim in comparison at magnitude 1. Mars is far away from us now, showing a tiny 5 arcsecond disk not much bigger than Uranus, but think of rovers Spirit and Opportunity as you look at that red dot.

If you hunt a little very early in the evening, you can find Mercury below Venus, brighter than Mars at magnitude -1 and showing its best evening apparition of the year: it sets more than an hour and a half after the sun.

Look overhead and find the bright yet steady "star" near the western foot of Gemini. That's Saturn, high in the sky and perfectly placed for telescopic observers who want to get their best view of the ring system.

Now swing your gaze over to the eastern sky, to the planet that seems almost as bright as Venus – Jupiter! Okay, at magnitude-2.5 it's not really even close to being as bright as Venus, but this near opposition (March 4th), Jupiter is about as bright as it ever gets. Probably enough to make those deep sky observers stay home! Jupiter has enough features, constantly changing in as little as a few days, to keep any telescope owner busy, and its four brightest moons are visible even in a good binocular. We're back in the season of double shadow transits now: Io and Europa on March 4 at 11:22 P.M.; Io, Ganymede and both of their shadows on the 20th at 10:38 P.M.; and a rare triple transit of Io, Europa, Ganymede and all three shadows, at midnight on the 27th-28th. Even better, that's a Saturday night, so mark your calendar!

"Now swing your arm through Venus and Mars, up to Saturn, then over to Jupiter, and notice ... they're all in a line!"

Now that you've located all the naked eye planets, go back and start again with Mercury. Hold your arm out and point (unless you have one of those nifty green lasers). Now swing your arm through Venus and Mars, up to Saturn, then over to Jupiter, and notice ... they're all in a line!

That line is the "ecliptic", which you've probably seen as a dotted line on star charts.

The ecliptic is the plane of the earth's orbit, and, roughly, the plane in which all but one of our planets orbit. (Pluto is the exception: its orbit is inclined seventeen degrees from the ecliptic, which is one of the reasons that some people have tried to argue for its non-planethood.)

Why do all the major planets orbit in the same plane? Is it some staggering coincidence?

Actually, it's a consequence of the spinning disk of dust from which the sun and planets originally coalesced – the primordial planetary pancake. Since all the dust started out in the same plane, as bits of dust bumped into each other and gradually grew into planets, they remained in that original orbital plane. Most moons in the solar system also orbit in that plane, though a few don't.

I mentioned the zodiacal light last month, and this month is another good chance to see it.

Continued on page 5

Dr. Alexei Filippenko speaks to a SJAA record crowd at the February General meeting. (PK)

Continued from page 4

What it is: sunlight reflecting from particles of dust and other small debris which lie along the plane of the ecliptic, making a faint column of light extending from the sun's position up along the ecliptic. In other words, some of what you're looking at might even be stardust left over from the formation of the solar system!

Usually the zodiacal light is a fairly challenging target, especially near a big city like San Jose. But it can be seen, and a perfect chance is at the Messier Marathon on March 20th. If you go out that weekend, remember, after the sky gets fully dark, to take a look in the western sky for a faint pillar of light stretching up along the ecliptic. It won't be bright – it's a lot less obvious than the Milky Way – but if the weather is favorable, you'll have an excellent chance of adding a primordial pancake plus five planets to your marathon observing list.

Out There

Across The Universe

Mark Wagner

Deep sky observing offers a wide range of targets, and a nearly endless variety of views. Some pedestrian, the thousands of faint smudges that reveal little of their true nature. Others are challenges - wisps and mere suggestions - ghostly presences, and still others that astound in beauty, grandeur or their unique nature. This month we'll visit some of the latter. Several will require the darkest skies you can find - locally, the SJAA Messier Marathon March 26 at Henry Coe State Park would be a good choice, although darker skies would be better.

Speaking of good dark skies, consider the Shingletown Star Party (SSP), July 16 through 21st, 2004. This is SSP's third year, and the 12th year we've trekked north together to enjoy the beautiful earthly surroundings and outstanding skies Mt. Lassen Volcanic National Park and its environs offer. See http://www.shingletownstarparty.org

Thoughts meander, and so will we - across the universe as we start in the west and move east, from late winter/spring to spring/early summer targets.

NGC 2359 Often overlooked, the emission nebula Thor's Helmet is a great sight. Rich and wispy, under dark skies with good aperture you'll see the shape of a classical warrior's helmet from the middle ages. Try both an OIII and Ultrablock filter to help bring out details. This object has been called the "Duck Nebula" and described as "L" shaped, a teardrop, a tadpole, even a mosquito wriggler with two large feathery antennae...

The strands you see might cause you to think it is similar to the Veil Nebula, which it is not. Its origins are shared with another object in Cygnus - the Crescent Nebula, and Sharpless 2-157 in Cassiopeia. These emission nebulae are powered by intensely hot Wolf-Rayet stars. For some fascinating information on this class of object, see Sky and Telescope Magazine for March 2004, page 23 - Inflating the Crescent Nebula.

NGC 2362 This is a favorite open cluster. Easy to find off the back haunches of Canis Major, this is a nice compact and rich open that benefits visually from its component star Tau, a triple star, sitting at its visual center. At mag 4.4, Tau is easily found. When you view it, realize it is nearly 4,000 light years distant. This is one of the most intrinsically brilliant giant stars known. The brightest member of this system is, itself, a massive binary with a period of just one day. What an amazing universe!

For a bit of fun, center the cluster in your field of view and tap your telescope sufficiently to make Tau "bounce" a bit. Note how the bright star appears to move independently of the cluster. Interesting? Why does it happen?

Abell 1367 I love it when I can count 20+ galaxies in a single view (with my 18" Dob at 100x) and yet, know that I am seeing just the merest hint of what is there - literally thousands of galaxies in the group - it is a visual and intellectual treat. Abell 1367 sits 330 million light years from

Continued on page 6

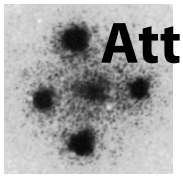

Image credit: NASA and ESA

Attend A Conjunction!

AstroCon 2004

July 20-24, 2004

San Francisco Bay Area

Here's a conjunction you can actually attend—not just observe: a truly once–in–a–lifetime conjunction of the Astronomical League, the American Association of Variable Star Observers, the Association of Lunar and Planetary Observers, and the Astronomical Society of the Pacific.

Highlights :

- AAVSO and ALPO member sessions open to all attendees
- Top professional astronomers
- Great new public outreach tips and techniques
- Field trip to the world-famous Lick Observatory

AstroCon 2004—the Astronomical League's annual convention—is co-hosted by the Astronomical Association of Northern California, the Eastbay Astronomical Society, and the San Jose Astronomical Association.

www.astrocon2004.org
visit the website for complete details, including secure on-line registration and payment

1-415-337-1100 x 109
leave us a message to request a printed registration form, or to ask a question

Continued from page 5

us. Above the star Denebola at the end of Leo's tail, find mag 4.5 93 Leonis and move just under 1 degree WSW. This will place you in the heart of the cluster to find its brightest member NGC 3842. Albert Highe and Bob Czerwinski, both local observers, have interesting information on the Internet about this group at:

http://pw2.netcom.com/~ahighe/a1367.html
http://observers.org/tac.mailing.list/2003/Mar/0205.html

To enjoy Abell 1367, print out a detailed chart from a good planetarium program.

Markarian's Chain There are a few very bright Messier galaxies in this chain of eight galaxies. Get the biggest aperture you can and begin skipping from galaxy to galaxy beginning at M84. This chain is at the core of the Virgo Cluster, about 45 million light years distant, their brightness a good contrast to the views of distant Abell 1367. I especially enjoy the bright triangle of galaxies (and one in the center) comprising M84, M86 and NGC 4388… then sweeping northeast past outliers, through "The Eyes" and then out to the dimmer denizens. Don't stop here, at the chain, Virgo is full of surprises. You can just about point your scope anywhere in this area and find something of interest.

M53 and NGC 5053 These two globular clusters are close together and an extreme contrast in appearance, which is why I include them. M53 is an easy find, just under one degree northeast from the mag 4.3 star GSC 1454:1130 in Coma Berenices, which is the southern star in the "figure" (line) describing the constellation. Hop from the star to M53, then to NGC 5053 just under a degree south-southeast. Can you see the dimmer globular? M53 is one of the further Messier globulars at 58KLY, NGC 5053 is 55KLY distant. It is interesting to see how two globular clusters so near to each other can have such dramatically different appearances.

Hickson 68 Get to a dark sky and find someone with a big scope to really appreciate this - at least a 10" if not a 15" or larger. This is a beautiful sight - visually stunning - the combination of four galaxies like a ring - a setting for the rich gold and white optical double star close to their west. The galaxy group is comprised of, in diminishing magnitude, NGC5353 E5 2.2x1.1' mag 11 sb 11.8, NGC5354 S0 1.4x1.3' mag 12.3 sb 11.9, NGC5355 S0 1.2x0.7' mag 14.0 sb 12.8 and NGC5358 SO-a 1.1x0.3' mag 14.6 sb 12.3.

The universe is certainly an interesting place, full of amazing sites. Lots to explore, even if our thoughts meander through just a tiny part.

Object	Type	Constellation	RA	Dec
NGC 2359	EN	Canis Major	07.18.31	-13.15.5
NGC 2362	OC	Canis Major	07.18.42	-24.57.3
Abell 1367	GxCl	Leo	11.44.44	19.41.59
Markarian's Chain	Gx	Virgo/Coma Berenices	12.28.12	13.01.01
M53	GC	Coma Berenices	13.12.55	18.10.09
NGC 5053	GC	Coma Berenices	13.16.27	17.41.52
Hickson 68	Gx	Canes Venatici	13.53.40	40.15.32

Celestial calendar
March 2004

Richard Stanton

Lunar phases:	Date	Rise	Trans	Set
FM 15:14 PST	06	18:08	00:28	07:43
LQ 13:01 PST	13	00:52	06:03	11:07
NM 14:41 PST	20	07:26	12:51	18:25
FQ 15:48 PST	28	10:35	18:02	00:39

Nearer planets:				R. A.	Dec.
Mercury, 0.31 A.U., Mag. -0.4					
07	06:47	12:33	18:20	23:25	-05:15
17	06:48	13:03	19:18	00:34	+03:53
27	06:40	13:20	20:00	01:31	+11:51
Venus, 0.79 A.U., Mag. -3.5					
07	08:19	15:05	21:49	01:56	+13:24
17	08:06	15:06	22:05	02:37	+17:43
27	07:55	15:08	22:20	03:18	+21:23
Mars, 1.81 A.U., Mag. +1.4					
07	09:17	16:21	23:25	03:13	+18:57
17	08:58	16:08	23:18	03:39	+20:36
27	08:40	15:55	23:10	04:06	+22:00
Jupiter, 4.45 A.U., Mag. -2.5					
07	17:42	00:09	06:36	11:01	+07:48
17	16:57	23:25	05:53	10:56	+08:17
27	16:12	22:41	05:11	10:52	+08:44
Saturn, 8.83A.U., Mag. +0.7					
07	12:17	19:35	02:53	06:27	+22:46
17	11:38	18:56	02:14	06:27	+22:48
27	11:00	18:18	01:36	06:28	+22:48

SOL Star Type G2V Intelligent Life in System ?
Hours of Darkness

09:28	07	06:31	12:20	18:09	23:12	-05:07
09:02	17	06:17	12:17	18:18	23:49	-01:11
08:35	27	06:02	12:14	18:27	00:25	+02:45

Astronomical twilight:		Begin	End
JD 2,453,071	07	05:03	19:31
081	17	04:48	19:41
2,453,091	27	04:36	19:55

Sidereal time:
Transit Right Ascension at local midnight
07 00:00 = 10:53
17 00:00 = 11:33
27 00:00 = 12:12

Darkest Saturday Night: 20 Mar 2004

Sunset	18:21
Twilight	19:48
Moon set	18:21
Dawn begin	04:42
Hours dark	08:54

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Submit
Submit articles for publication in the SJAA Ephemeris. Send articles to the editors via e-mail to ephemeris@sjaa.net. **Deadline, 10th of previous month.**

SJAA loaner scope status

All scopes are available to any SJAA member; contact Mike Koop by email (koopm@best.com) or by phone at work (408) 473-6315 or home (408) 446-0310 (Please leave message, phone screened).

Available scopes

These are scopes that are available for immediate loan, stored at other SJAA members homes. If you are interested in borrowing one of these scopes, please contact Mike Koop for a scope pick up at any of the listed SJAA events.

# Scope	Description	Stored by
1	4.5" Newt/ P Mount	Annette Reyes
7	12.5" Dobson	Tom Fredrickson
8	14" Dobson	Craig Colvin
10	Star Spectroscope	Keng Teh
14	8" f/8.5 Dob	E. Clay Buchanan
16	Solar Scope	Bob Havner
19	6" Newt/P Mount	Daryn Baker
23	6" Newt/P Mount	Wei Cheng
24	60mm Refractor	Al Kestler
26	11" Dobson	John Bunyan
27	13" Dobson	Steve Houlihan
28	13" Dobson	Jim Albers
35	Meade 8" Equatorial	Patrick Lewis
38	Meade 4.5" Digital Newt	Tej Kohli

Scope loans

These are scopes that have been recently loaned out. If you are interested in borrowing one of these scopes, you will be placed on the waiting list until the scope becomes available after the due date.

# Scope	Description	Borrower	Due Date
11	Orion XT6 Dob	Steve Codraro	3/4/04
13	Orion XT6 Dob	Michael Hewitt	3/2/04
32	6" f/7 Dobson	Sandy Mohan	1/28/04

Extended scope loans

These are scopes that have had their loan period extended. If you are interested in borrowing one of these scopes, we will contact the current borrower and try to work out a reasonable transfer time for both parties.

# Scope	Description	Borrower	Due Date
2	6" f/9 Dob	John Paul De Silva	?
3	4" Quantum S/C	Hsin I. Huang	3/16/04
6	8" Celestron S/C	Richard Savage	4/24/04
9	C-11 Compustar	Bill Maney	Indefinite
12	Orion XT8 Dob	Jason Yoon	3/8/04
15	8" Dobson	Mike Koop	Repair
21	10" Dobson	Michael Dajewski	Repair
29	C8, Astrophotography	Tajinder Singh	2/22/04
33	10" Deep Space Explorer	Glen White	3/19/04
34	Dynamax 8" S/C	Yuan-Tung Chin	4/24/04
36	Celestron 8" f/6 Skyhopper	Ion Coman	1/19/04
37	4" Fluorite Refractor	Gary Hansen	4/15/04
39	17" Dobson	Ron Gross	2/3/04

Waiting list:

39	17" Dobsonian	Frank Williamson
	8" Dob	Vinod Nagarajan
	Any telescope	Mike Van Meter, Al Garcia

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