

DENVER OBSERVER

ONE MILE
NEARER THE STARS

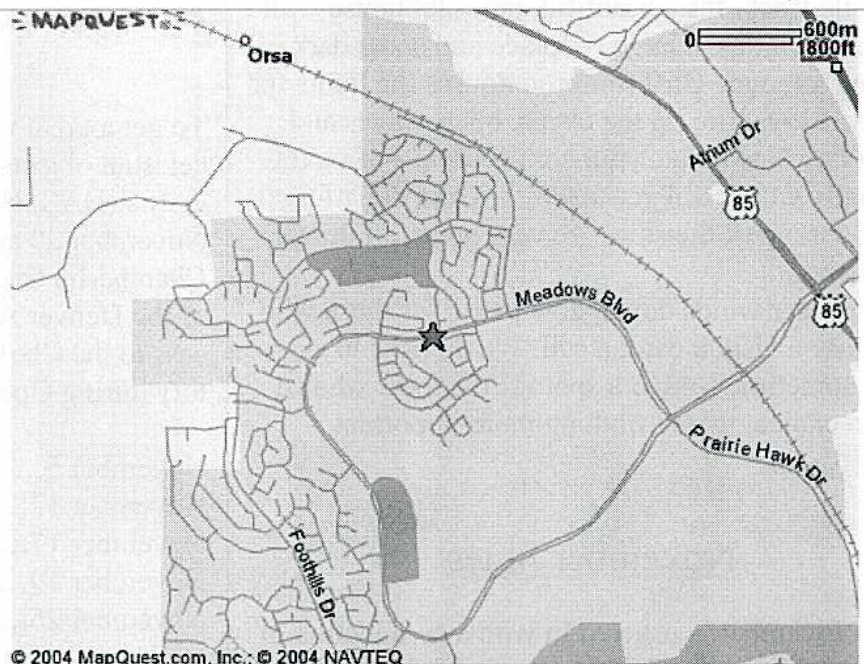
November, 2004

Holiday Potluck

Saturday, December 4, 6 p.m.

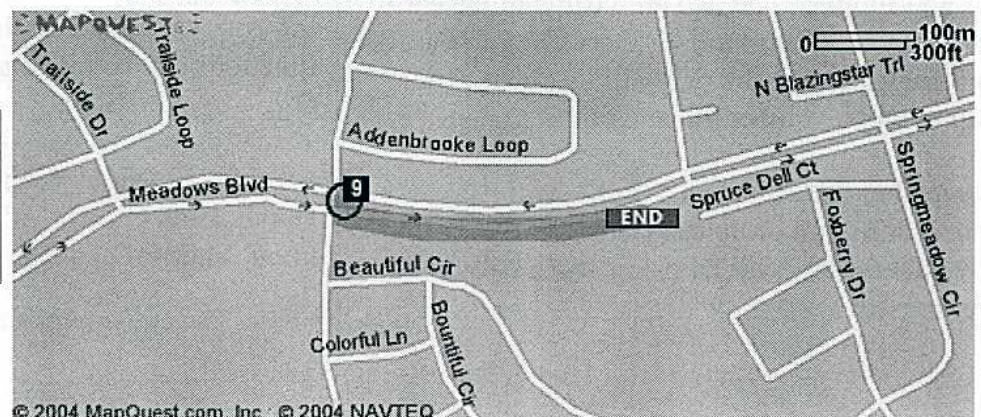
This year's Holiday Potluck will be held at The Grange at the Meadows, 3692 Meadows Blvd., Castle Rock, 80109. Bring your scopes, as there will be a chance for good observing from this location when the parking lot lights are doused, plus the Moon will be near 3rd quarter. Don't forget that it IS a potluck... so bring something to eat! Here are directions and maps as supplied by MapQuest.

Take I-25 to FOUNDERS PKWY/MEADOWS PKWY exit- EXIT 184- toward NORTH US-85. Go 0.6 mile. Turn RIGHT onto MEADOWS PKWY. Go 1 mile Turn RIGHT onto MEADOWS BLVD. Go 1.2 miles. Make a U-TURN onto MEADOWS BLVD. And go .2 mile to 3692 MEADOWS BLVD, CASTLE ROCK.



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Here is that "u-turn" illustrated by a map, to help keep the confusion down to a dull roar.



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President's Corner



Well, so much for the comfortable season of viewing. A little rhyme comes to mind -- it's been seasoned to taste -- "Spring has sprung, Fall has fell, this Summer was about as clear as . . . England." These are family pages, you know.

Dare I say that the holidays are just around the corner? T'is a fact, yes folks. With the season comes our chance to gather and show what we've been building in our basements. Our annual "Show n' Tell" night is Friday, November 19th at 7:30 at Olin Hall. Let Frank Mancini know if you'd like to reserve a time space -- we're speaker-less for the evening, so the night belongs to the daring, the inventive, the bowling league-less. It's always a very good time -- plan to attend.

Our annual Holiday Potluck is being held on Saturday, December 4th at the Grange at the Meadows in Castle Rock. It's a beautiful, new clubhouse with kitchen facilities, a large fireplace and a dark parking lot, once Cliff Simpson douses the lights for us. As always, fire up the ovens, microwaves and cereal bowls to create your contribution -- it's a traditionally wonderful get-together -- and don't forget your telescopes; the skies are very good, all things considered.

As the year winds down, give pause for those who could use a visit, a card, a call. We do have to slow down sometime -- save a spot for the folks who've had no choice; there's nothing more important.

Steve Solon

November Skies

Early November is ushered in with a conjunction of Venus and Jupiter. The two are visible in the early morning hours before sunrise. According to the Astronomical Calendar, the pair will be about ½ degree apart on November 4th and 5th.

On November 2nd, Mars, at 1.7 m_{vis} , will pass around 3° northeast of Spica (1.0 m_{vis}). By the end of November, Mars will be rising about two hours before sunrise.

While viewing Jupiter will require observers to stay up until early the morning hours, Saturn will start rising from late evening to early morning. On November 8th, Saturn appears to stop in the sky and starts a retrograde motion.

On the nights of November 17th and 18th, the moon will be setting in the middle of the night, just in time for viewing the Leonids.

TELESCOPIC TOUR

<i>h</i>	<i>m</i>	$^{\circ}$	
17	32	+55	ν Dra, dbl star
18	44	+39	ϵ Lyr, dbl star
19	30	+27	Albireo, dbl star
0	42	+41	M31, Andromeda galaxy
1	33	+30	M33, Triangulum galaxy
2	21	+57	Per dbl cluster
2	29	+67	ι Cas, triple star
3	47	+24	Pleiades
5	35	-5	M42, Orion nebula
6	08	+24	M35 Cluster
9	55	+69	M81 galaxy

To get a great view of the planets, stars, and other celestial objects, visit the Denver Astronomical Society's (DAS) Open House at sunset on Saturday, November 20 at the University of Denver's Historic Chamberlin Observatory. Remember that members of the Denver Astronomical Society have free access to the Clark 20-inch at Chamberlin Observatory during Open House.

November 5.....Moon at last quarter

November 12.....New Moon

November 17.....Leonid meteors

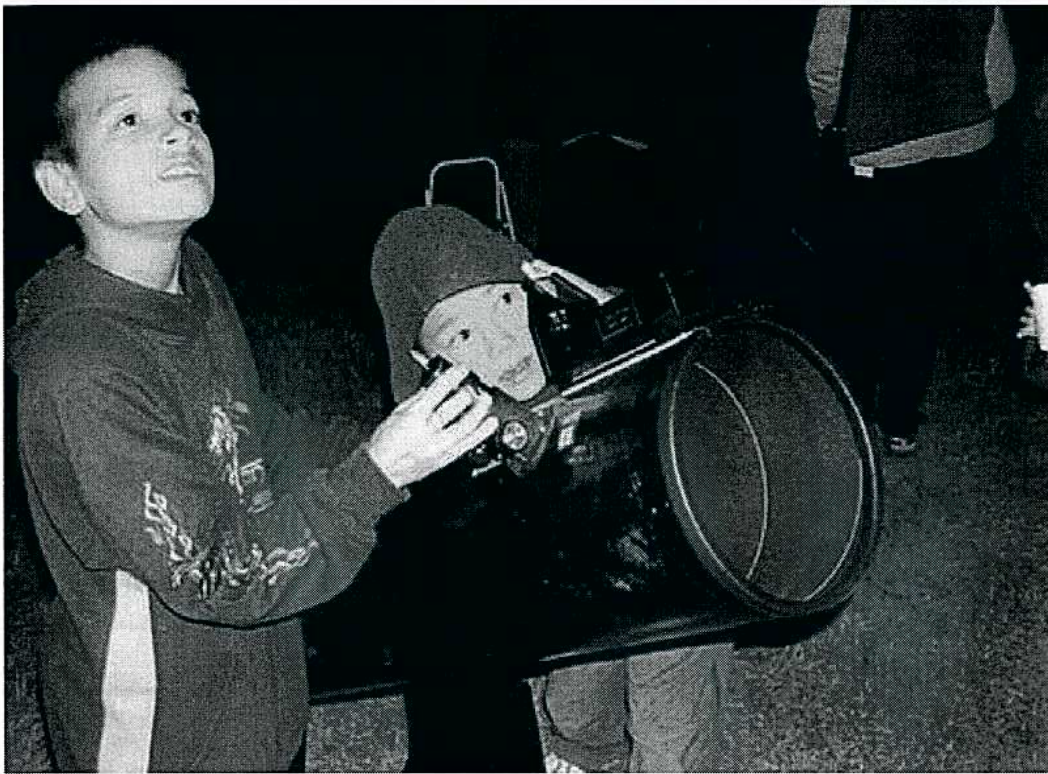
November 19.....Moon at first quarter

November 26.....Full Moon

Information regarding the DAS and its events and functions can be found at www.denverastrosociety.org.

-- By Public Night Team 4 (Courtney Cais, John Doran, Brad Gilman, Wayne Green, Rich Loper, Frank Mancini and Ron Mickle)

Credits: *The Astronomical Calendar 2004*.



Some young folks master an 8-inch Dobsonian at a recent DAS star party sponsored by Majestic View Nature Center in Arvada. Photo courtesy Karen Baltz, MVNC Director.

Cosmic World Order, or Notes from the Public Night Staff

In addition to its membership, the Denver Astronomical Society (DAS) is composed of Officers, an Executive Board, committees such as the Chamberlin Restoration and Maintenance Committee, the Van Nattan-Hansen Scholarship Committee and the EGK Dark-Site Committee. We, the members of the DAS Public Night (PN) and Open House staff, not to be outdone, have formed the Public Night Standards and Training (PNS&T) Committee.

In all seriousness, there was an identified need to establish a small committee consisting of five members from the Public Night staff. On Saturday, September 18 at 2 p.m., approximately 15 PN staff members, along with "Dr. Bob" Stencel, met at Chamberlin Observatory and elected, by ballot, the five new committee members. All PNS&T committee members are certified scope operators and will serve one or two year terms. Committee members are Ted Cox, Brad Gilman, Wayne Green, Ron Mickle (Chairman) and Dave Shouldice.

The function of the PNS&T committee is to train apprentice scope operators for Denver University's Chamberlin Observatory Clark 20-inch in accordance with the standards set forth by the observatory's Director, prepare scope apprentices for their final checkout, monitor Public Night operations to

ensure standardization, draft revisions to training publications in preparation for submission to the Director, coordinate with Public Night staff toward ensuring equipment needs are met and advising the E-Board of Public Night staff recommendations for purchases.

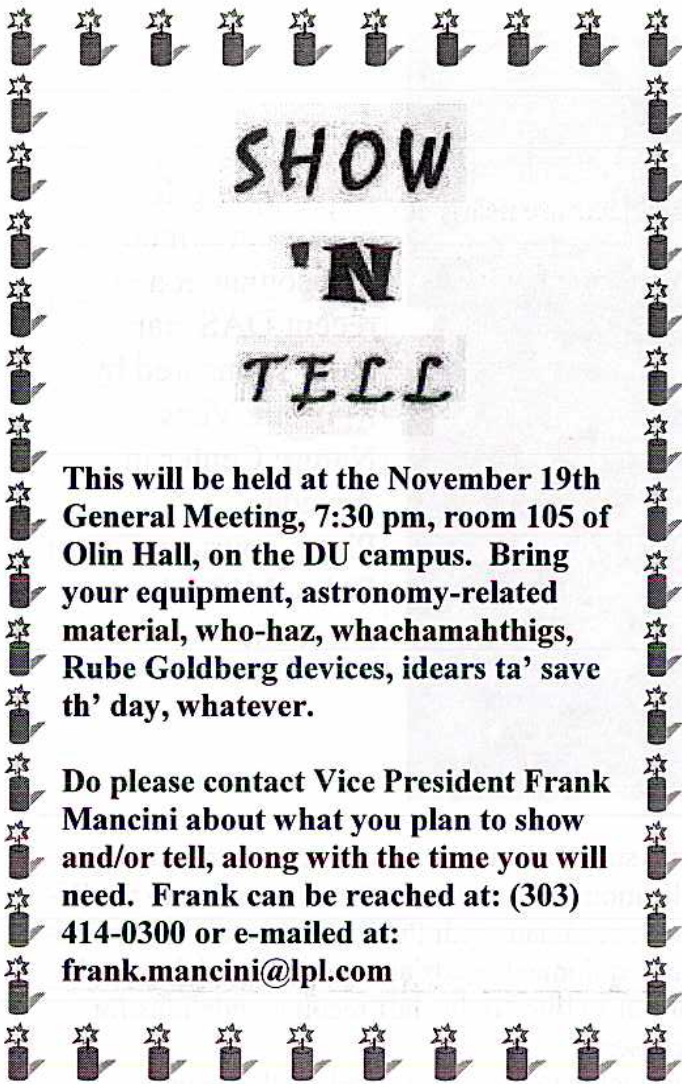
Our goal is to provide a standard that promises an unparalleled standard in Public Night scope operations while ensuring that the highest degree of safety and security for the public and the DAS membership is the baseline for all operations.

Signed,
Members, *Public Night Standards & Training Committee*

FOR SALE

Brand new Meade 12" LX200GPS Schmidt-Cassegrain telescope (U 1210-50-31). Included with the scope is the hard case, variable polarizer, televue nagler, cele ep contrast booster, and ac/dc adapter. Everything is just out of the box and has been used twice. The retail price of this instrument is \$5123.00. I hope to sell for \$3850.00.

Joe Kowalchuk
303-377-3657



SHOW 'N TELL

This will be held at the November 19th General Meeting, 7:30 pm, room 105 of Olin Hall, on the DU campus. Bring your equipment, astronomy-related material, who-haz, whachamahthigs, Rube Goldberg devices, idears ta' save th' day, whatever.

Do please contact Vice President Frank Mancini about what you plan to show and/or tell, along with the time you will need. Frank can be reached at: (303) 414-0300 or e-mailed at: frank.mancini@lpl.com

A Summer Vacation Tracking Down UFOs

Erin Schumacher's summer job for NASA was to look for UFOs. Erin is a 16-year-old high school student from Redondo Beach, California, attending the California Academy of Mathematics and Science in Carson. She was one of ten students selected to work at NASA's Jet Propulsion Laboratory (JPL) in Pasadena as part of the Summer High School Apprenticeship Research Program, or SHARP.

But is studying UFOs a useful kind of NASA research? Well, it is when they are "unidentified flashing objects" that appear in certain images of Earth from space. Erin worked with scientists on the Multi-angle Imaging SpectroRadiometer (MISR) project to track down these mysterious features. MISR is one of five instruments onboard the Earth-orbiting Terra satellite. MISR's nine separate cameras all point downward at different angles,

For Sale

NP101 with the JMI NGC-Max, dig setting circles, on a Losmandy GM8 bought at S&S early this year. A sweet rig. Only used five times.

\$4500 OBO

Tom Foresman

303-277-1395 or tom1130@earthlink.net

each camera in turn taking a picture of the same piece of Earth as the satellite passes overhead.

Viewing the same scene through the atmosphere at different angles gives far more information about the aerosols, pollution, and water vapor in the air than a single view would give. Ground features may also look slightly or dramatically different from one viewing angle to another.

Erin's job was to carefully examine the pictures looking for any flashes of light that might be visible from just one of the nine angles. Such flashes are caused by sunlight bouncing off very reflective surfaces and can be seen if a camera is pointed at just the right angle to catch them. Because the satellite data contain precise locations for each pixel in the images, Erin could figure out exactly where a flashing object on the ground should be. Her job was then to figure out exactly what it was that made the flash in particular, to see if she could distinguish man-made objects from natural ones. When Erin began working at JPL, scientists on the MISR project had already identified two large flashes out in the middle of the Mojave Desert in Southern California. These turned out to be from solar power generating stations. Soon, Erin began finding flashes all over the place. She learned how to apply her math knowledge to figuring out how the objects would have to be oriented in order to be seen by a particular MISR camera. One time, she and a team of MISR scientists and students went on a field trip to the exact locations of some flashes, where they found greenhouses, large warehouses with corrugated metal roofs, a glass-enclosed shopping mall, and a solar-paneled barn. For some flashes, they could find nothing at all. Those remain "UFOs" to this day!

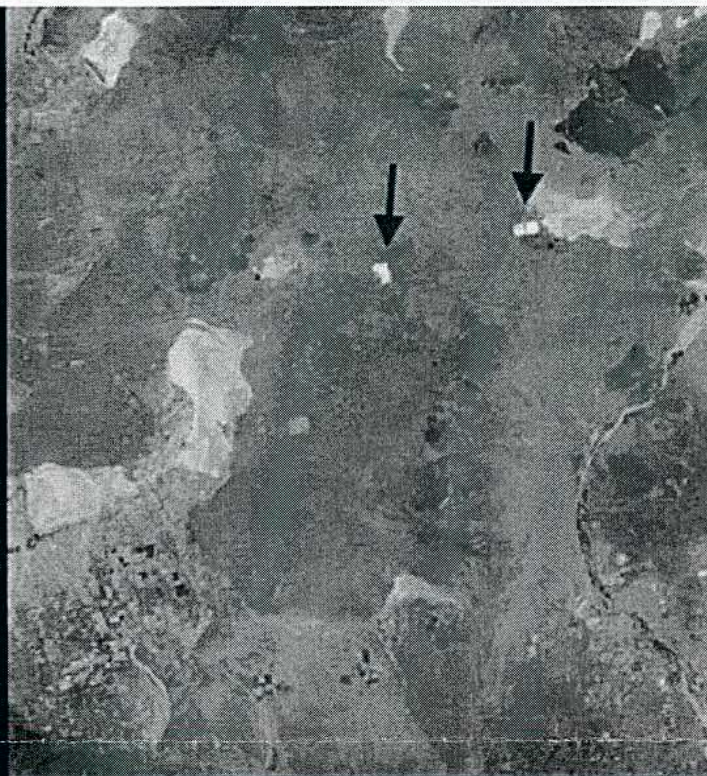
Learn more about SHARP at www.nasasharp.com and Earth science applications of MISR at www-misr.jpl.nasa.gov. Kids can do an online MISR crossword at spaceplace.nasa.gov/en/kids/misr_xword/misr_xword1.shtml.

This article was written by Diane K. Fisher. It was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

Below: Two cameras on MISR made these images of the same part of the Mojave Desert. The camera pointed at an angle of 26 forward saw the flashes from two solar electric power generating stations. These objects are nearly invisible at the other angle.



26° backward



26° forward



Comet C/2001 Q4
(NEAT)

Image provided by
Chris Tarr, from the
Texas Star Party,
2004.

Canon D10, con-
nected to a 4 inch f5
refractor. The refrac-
tor was guided to
track the stars. A
stack of twenty 30
second exposures at
ISO 1600.

ATM Workshops

The DAS will be offering Amateur Telescope Making workshops at Chamberlin Observatory concurrent with the Public Nights and Open House Programs. Several DAS members have unfinished mirror projects, and several others have expressed an interest in learning the techniques of grinding, polishing and testing reflecting optics.

The workshops will be held weekly for DAS members on designated Tuesday or Thursday evenings, to be determined by the participants. Facilities and instruction will also be available before dark on the Open House Saturdays.

Note that the times of these sessions will be limited to the open hours of each Public Night so that additional burden is not placed on the lecturers and keyholders. It is possible some sessions may be cut short if a Public Night is curtailed due to weather.

Stuart Hutchins and Wayne Green, both active amateur telescope makers, will be the coordinators and instructors for these activities. The structure of these workshops will be flexible and informal to accommodate amateurs of varying experience and projects in various stages of completion. This will be not a crash course, but an on-going program of support for DAS amateurs making their own telescopes and related instruments. Mirror blanks and supplies are available at very competitive cost for anyone who does not already have their own.

Participation is open to all interested DAS members. If you would like to learn the historical art of optical glassworking, polish and figure your old partly completed mirror, understand telescope optics better, and make a superb instrument with your own hands, this is the place! Please contact me or Wayne by e-mail or at a meeting. Let me know which nights will work for you, and what size telescope you have in mind. More information is available for those who may be interested.

Stuart Hutchins
stuart-atm@earthlink.net

OFFICERS AND E-BOARD of THE DENVER ASTRONOMICAL SOCIETY

The Executive Board conducts the business of the DAS at 8 pm. at Chamberlin Observatory. Please see the Schedule of Events for meeting dates. All members are welcome.

OFFICERS

President Emeritus

Larry Brooks

President:

Steve Solon (303) 932-7613

galaxyshots@att.net

Vice President:

Frank Mancini (303) 414-0300

frank.mancini@jpl.com

Secretary:

Ron Pearson (303) 670-1299

rpearson@ecentral.com

Treasurer:

Sandy Shaw (303) 234-0264

m6m7@earthlink.net

EXECUTIVE BOARD

Jack Eastman Wayne Green

Joe Gafford Dan Wray

David Shouldice Ted Cox

Ron Mickle Norm Rosling

ALCor: (Astronomical League

Correspondent)

Sandy Shaw; m6m7@earthlink.net

Past President: Carla Swartz; orion42@comcast.net

DAS Contact Info

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303-871-5172

DAS CORRESPONDENCE:

Denver Astronomical Society

Chamberlin Observatory

C/O Steve Solon

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Denver, Colorado 80208

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Denver Astronomical Society Website:

www.thedas.org

Newsletter Editor: Patrick Ryan

(pluto6@qwest.net)

About the Denver Astronomical Society

The DAS is a group of amateur and professional astronomers that share a mutual interest in the heavens. The DAS operates the University of Denver's Chamberlin Observatory, along with its prized 1894 Alvan Clark 20-inch refracting telescope. Our members have been involved with the first public planetarium at the Denver Museum of Nature and Science and the Smithsonian Astrophysics Observatory's "Moon Watch" program. The DAS successfully petitioned to have the Chamberlin Observatory listed on the National Register of Historic Places.

Our Credo is to provide members a forum for increasing and sharing their knowledge, to promote and educate the public about astronomy, and to preserve the historic telescope and observatory in cooperation with the University of Denver. To these ends we have established three tax deductible funds: the Van Nattan Scholarship Fund, the Chamberlin Restoration Fund, and the DAS Dark Sky Site Fund. This last fund was established in order to construct and maintain observing facilities near Deer Trail in eastern Colorado.

Please call our Info Line at (303) 871-5172 and drop by the General Membership meetings. Become a member and enjoy speakers, facilities, events, and our monthly newsletter, *The Denver Observer*.

Application for membership to the Denver Astronomical Society

New _____ Renewal _____

Name: _____

Address: _____

City, State, Zip: _____

Phone numbers: Home () _____ Work () _____

E-mail Address: _____

Occupation: _____

Other Interests: _____

(Associates Only) School: Grade: _____

Do you want to download the newsletter in PDF format from our website instead of by postal mail?

Yes _____ No _____

Do you want the above information excluded from the yearly roster?

Yes _____ No _____

Please Circle All That Apply:

Regular Membership: \$35 Associate: \$12 (Age 23 and younger)

*****\$ _____

Astronomy Magazine/\$29

Sky & Telescope Magazine/\$32.95

*****\$ _____

Van Nattan Scholarship Fund *****\$ _____

Chamberlin Restoration Fund *****\$ _____

Total Amount Paid *****\$ _____

Please make **Dark Sky Site** donations payable to the **DAS EGKDS Fund** and mail to **Steve Solon, 9774 W. Elmhurst Place, Littleton, CO 80128**. Please make other amounts payable to the **Denver Astronomical Society** and mail with this completed form or a copy to: **Sandy Shaw, DAS Treasurer, 1095 Yank Street, Golden, CO 80401**



Denver Astronomical Society

C/o Chamberlin Observatory
2930 East Warren Avenue
Denver, CO 80210



Membership expires 1/1/2005

Bradley D. Gilman
7003 S Cherry St
Centennial CO 80122-1179

