

DENVER OBSERVER

Newsletter of the Denver Astronomical Society

One Mile Nearer the Stars



Tracking a Dodging Saturn

Stargazers have been blessed with a few Saturn/Moon occultations during the last few months—Dr. Roger Clark captured the November 30 occultation with extraordinary pizzazz. The composite shown at left required some Clark magic behind the eyepiece. He “stretched” the images of Saturn in order to properly expose the moon alongside the ringed planet. Using his 8-inch f/11 Cassegrain telescope, he mounted a Canon G2 digital camera on a tripod and pointed it at the eyepiece.

Happy New Year!

Inside The Observer

President's Corner 2
Schedule of Events 2
Officers 2
Notices and Updates 3
Volunteer Opportunities at Chaco Canyon 4, 5, 6
For Sale 7
DSS Information 7
Membership Info. back

JANUARY SKIES 2002

Compared to the last couple of months, January is fairly quiet astronomically. Although Saturn and Jupiter pass extremely close to the moon towards the end of the month, no occultation will be visible for us in Denver. Saturn, however, remains bright and beautiful—its wide-open rings are a delight in even a small telescope. You can't miss Jupiter blazing in the sky. Assure your neighbors it's not a UFO! Mercury and “Luna” team up for lovely dance as the crescent moon swings by the fast-paced planet on the 14th. The first couple of weeks you should be able to spot Mercury about 45 minutes past sunset. Although dimmer, the unquenchable Mars continues to hold its own—it's now between Pisces and Cetus. Stay warm and keep us updated with your winter observations! I wish you all dark skies and bright stars—*Patti Kurtz*

- 3 Quadrantid meteor shower peaks
- 5 Last quarter moon
- 13 New moon
- 21 First quarter moon
- 24 Saturn 0.08° S of Moon
- 26 Jupiter 0.9° S of Moon
- 28 Full moon



Three Leonids were captured in this photo taken from the photographer's Evergreen neighborhood.

Image: © Peter Link, 2001



Everyone had a chance to grab the disposable camera available at the Holiday Potluck and fire away at unsuspecting folks! Left to right are Tom Sorg, Brenda Wray, Jack Eastman, Debra Sorg, and Dan Wray.

DAS Officers

President:

Larry Brooks (303) 986-5255
 Email: LBrooks100@aol.com

Vice President:

Patti Kurtz (303) 948-5825
 Email: pkurtz@starfirecreations.com

Secretary:

Ron Pearson (303) 670-1299
 Email: rpearson@ecentral.com

Treasurer:

Chuck Carlson (303) 744-7331
 Email: chcarlo@du.edu

ALCor:

Jerry Sherlin (303) 680-6894
 Email: SHERLINJ@aol.com

Chief Observer:

Jack Eastman

Executive Board Members

| | |
|------------------------------|-----------------|
| Ted Cox | Jerry Sherlin |
| Jack Eastman | David Shouldice |
| Joe Gafford | Steve Solon |
| Greg Marino | Dan Wray |
| George Jones, Past President | |

DAS Information Line:

(303) 986-5255

DAS Correspondence:

Denver Astronomical Society
 c/o Larry Brooks
 3686 South Depew, #8
 Denver, Colorado 80235

Van Nattan Scholarship Fund

P.O. Box 150743
 Lakewood, Colorado 80215-0743

Webmaster:

Patti Kurtz
 Email: pkurtz@starfirecreations.com

Newsletter:

Denver Observer editor, Patti Kurtz
 StarFire Creations Unlimited
 (303) 948-5825

The Observer is available in color PDF format from the DAS website.

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

PRESIDENT'S CORNER

Best wishes to all for a peaceful and prosperous New Year! In that vein, here is the latest update on the Dark Sky Site (DSS).



Be sure to read the rules for using the site either in the newsletter (See Page 7) or on the website—there have been some minor changes.

The DSS Committee has updated the construction plan to

the following for spring. The first two priorities haven't changed, but we have added one:

Priority 1: Construction of additional pads and additional electrical outlets near the warming hut,

Priority 2: Vault Toilet, and

Priority 3: Additional pads on the south side of the site for photographers. These

Continued on page 3

DAS Schedule

JANUARY

- 4 E-Board meeting, 8 P.M.
- 11-13 Dark Sky Site Weekend
- 19 Open House (How to Use Your New Telescope)
- 25 General Meeting at Olin Hall, DU, 7:30 P.M.—Gary Emerson (Ball Aerospace), "The Deep Impact Mission," and Nominations of officers.

FEBRUARY

- 1 E-Board meeting, 8 P.M.
- 8-10 Dark Sky Site Weekend
- 22 General Meeting at Olin Hall, DU, 7:30 P.M.—Dr. Robert Stencel, (University of Denver) "Update on South American Observatories," and Election of officers.
- 23 Open House

Public Nights are held every Tuesday and Thursday from 7:00-9:00 P.M.

at Chamberlin Observatory

Costs to non-members are: \$2.00 adults, \$1.00 children
 Please call (303) 871-4333 for reservations.

www.denverastronomy.org

Planetary Society Now Accepting Applications for the Next Round of Shoemaker NEO Grants

by Melanie Melton, Planetary Society
December 3, 2001

The Planetary Society is now accepting applications for the next round of Shoemaker Near Earth Object (NEO) grants.

Those amateur or professional astronomers interested in studying

Sky & Telescope sends only one notice before subscriptions end. The DAS sends only one issue of The Denver Observer after dues expire. The cost of magazines (Astronomy and Sky & Telescope) is in addition to the annual dues. For questions concerning memberships, please contact DAS Treasurer, Chuck Carlson (cbcarlso@du.edu). See the back page of this newsletter for more information.

PRESIDENT'S CORNER

(Continued)

sites will have PVC pipes on the four corners of each pad. Photographers can construct their own light shields out of conduit and tarps to be placed in the holders to protect their scopes from light.

Money and time will be tight in order to complete all the work. I encourage members and especially site users to donate money and/or time when construction begins. We have about \$7,000 in the kitty now—that's probably *not* enough to do all the work at the site that we'd like to do.

For those that do not have a telescope or have an inexpensive scope, I encourage you to use the DSS anyway. The vast majority of observers love to share their scopes. The exception may be photographers while they're taking pictures. Take your binoculars, as these are a great way to observe. Happy New Year!—
Larry Brooks, Lbrooks100@aol.com

Near Earth Objects can apply for the grant by filling out an application form and sending it to The Planetary Society by March 31, 2002.

The application form can be found here:

<http://www.planetary.org/html/neo/SocietyProjects/ShoemakerGrantNEOGrantForm.html>

The Shoemaker NEO grant program was established by the Society in 1997, in an effort to advance the study of Near Earth Objects. Grant recipients in the past have been both individuals and groups, amateur and professional astronomers, all interested in studying asteroids and comets in Earth's vicinity.

For this round of grants, the Society's international advisory group reviewing the proposals will be considering three different categories: Observation Programs, NEO Research Programs, and International Collaboration in NEO Observations.

With several asteroid detection programs in place at major observatories around the country, there has been a dramatic increase in asteroid detection within the last year, creating a long list of objects in need

of follow-up observations. As a result, special consideration will be given to observers interested in conducting follow-up NEO observations, especially those capable of detecting objects fainter than magnitude V=19.5 or so.

• For more information about the Shoemaker NEO Grant Program:

<http://www.planetary.org/html/neo/SocietyProjects/ShoemakerGrant/NEOGrantIndex.html>

• For NEO Grant Guidelines:

<http://www.planetary.org/html/neo/SocietyProjects/ShoemakerGrant/NEOGrantGuidelines.html>

• For the application form:

<http://www.planetary.org/html/neo/SocietyProjects/ShoemakerGrant/NEOGrantForm.html>

Note from the editor:

Newsletter contributions (ccd and film astrophotos, members with telescopes, star party candid photos, short observing anecdotes, observing and imaging tips, etc.) are welcome and encouraged. This is your chance to strut your stuff! **Please submit by the 15th of each month as follows:**

Film: Glossy prints by mail** or scanned and uploaded (high res.) to the listserve upload area.

CCD: Uploaded to the listserve upload area (resolution as high as possible, please).

Text: Articles should be no more than 250 words, please. Please paste article(s) into an email and send to me at: pkurtz@starfirecreations.com.

If you don't receive a confirmation email from me, I didn't get your email. Also, be sure to let me know if you've uploaded a file. Thank you!

**Patti Kurtz

(303) 948-5825

All articles and images are © the author or photographer, and may not be reproduced without their written permission—Ed.

S & S OPTIKA
Colorado's Premier Astronomical
Supply Store
5174 So. Broadway, Englewood,
CO 80110
(303) 789-1089
Hours: Tuesdays, Wednesdays, and
Fridays: 10 A.M. - 6 P.M.
Thursdays: 10 A.M. - 8 P.M., Saturday:
10 A.M. - 4 P.M.
Closed Sundays and Mondays
www.sandsoptika.com

NOTICE:

Elections in February

The Bylaws have been amended concerning the elections of officers and members of the E-board. The new Section 4.0 of the bylaws now reads: Election of officers and Board members shall be held at the regular meeting of the membership in February. The board has eliminated the option for proxy/absentee voting.

updates

An Astronomer's Chaco Canyon

by
Tommy Taylor

For ten thousand years, humans have roamed Chaco Canyon, located high on the San Juan plateau in northwestern New Mexico, hunting bison, elk and other game. For three thousand years, ancestors of today's Pueblo resided there while they experimented with squash and corn agriculture, first in cave-like overhangs amid the cliffs, then in pit houses and finally in seven hundred room "great houses" that were the largest buildings in North America before the late nineteenth century. For four years, amateur astronomers have volunteered to stay in the canyon, now Chaco Culture National Historical Park, staffing an observatory that was given to the people of the United States by John Sefick, a retired probation officer from Chicago, Illinois.

Volunteers "work" about 20 hours per week hosting public programs interpreting the night sky and observing the solar

surface with visitors to the park. The rest of the time they are free to explore. Some choose to explore the artifacts and cultural history of the Ancestral Pueblos by wandering the ruins of 1000-year old buildings; some explore the night sky using one of Chaco's four astronomical telescopes or the observatory's imaging system, built around an ST-7E ccd camera with adaptive optics; others explore themselves amid the silence and wonder of the high desert world. Many combine all three.

Amateur astronomers, who spend from a few weeks to a few months living in Chaco Canyon, are given, without charge, an RV site with full hook-up adjacent to a VIP campground equipped with showers and kitchen facilities. They are trained in the use of the astronomical equipment and are encouraged to participate in the Chaco Culture interpretive training provided to student interns and seasonal rangers. The

park is presently inviting interested persons to apply for volunteer status in its astronomy program. More information may be obtained by contacting Tommy Taylor, the present volunteer coordinator, at *thomas.w.taylor@att.net*, or using the contact information at the end of the article.

CHACO OBSERVATORY ASTRONOMY VOLUNTEERS

Chaco Observatory was donated to Chaco Culture National Historical Park as a private gift and unpaid volunteers to the Park operate it. The Observatory provides astronomy and archeo-astronomy programs for Park visitors, including:

- ★ slide shows featuring information about astronomy as it was practiced by the Ancestral Puebloans who are believed to have inhabited Chaco Canyon during the period from 800 to 1200 A.D.;
- ★ computer image shows built around images of celestial objects taken at Chaco Observatory by the volunteers past and present; and
- ★ night sky and solar observing opportunities using the Observatory's mounted binoculars and five telescopes and, in some cases, private instruments brought by some volunteers.

Observatory volunteers are asked to commit to a minimum of six weeks during the Park's principal season, April 1 to November 1 each year, and must provide their own recreational vehicle suitable for their housing during that period. The Park will make available at no charge a full hook-up in the Park maintenance area, adjacent to a VIP campground that has running water toilets, showers and a kitchen facility with refrigerator and stove. While housing at the Park is extremely limited, arrangements for a room in a shared mobile home or "dormitory" may be available for volunteers making a commitment longer than the minimum. Depending on the Park's needs during any particular period, volunteers may, in some



Image © Tommy Taylor, 2001

The dramatic Fajada (banded) Butte rises 300 feet from the canyon floor at Chaco Canyon. On a rock wall behind three upright slabs there, a dagger of light slices through a spiral petroglyph at midday during solstices and equinoxes.

observers deck

cases, be accepted for shorter periods. Due to space and facilities limitations, the Park will limit the number of volunteers accepted for any particular dates and will accept a particular volunteer only if the dates during which that volunteer is willing to participate coincide with Park needs. In general, dates will be filled from qualified volunteers on a "first come, first served" basis, with a preference given for returning volunteers.

Although all Park user fees are waived for volunteers and their families, no stipend, pay or reimbursement of expenses is available for observatory volunteers. Expenses incurred, including travel expenses, in connection with the provision of voluntary services to the Park, as a unit of the federal government, are generally deductible from an individual's income for federal income tax purposes. Each taxpayer should consult his or her own tax preparation professional with respect to the availability of such a deduction, the record keeping necessary to obtain the deduction and any state or local income tax deductions that may be available.

Public night sky programs are generally given four nights per week, on Tuesday, Thursday, Friday and Saturday starting at approximately dusk, and open solar observing occurs during the day on Tuesday, Thursday, Friday, Saturday and Sunday. On holiday weekends, an additional night sky program may be added on Sunday night and solar observing may be available on Monday. Except as prior arrangements may have been made and except in cases of illness or other unforeseen event, volunteers are expected to work at all night sky programs during their tenure at the Park and to serve at least four two-hour stints per week operating the solar telescope. This approximates a twenty-hour per week commitment to the Park's public programs. During all public programs, volunteers are expected to wear insignia identifying them as National Park Volunteers. This may include a uniform hat, vest or shirt, each of which will be provided by the Park.

Volunteers arrive for programs one-half hour before the public and are responsible for opening the dome and setting up the



Image © Tommy Taylor, 2001

The observatory at Chaco Canyon houses four astronomical telescopes including a 25-inch Obsession telescope, and an imaging system built around an ST-7E CCD camera with adaptive optics.

telescopes, arranging the public areas for slide show presentations or image shows, operating the telescopes during public viewing (including finding and interpreting objects for viewing), presenting image programs and assisting with take-down at the end of the evening. The volunteers also manage and maintain the observatory facilities. Depending on each person's physical ability, skills and inclination, some help with regular maintenance and special projects at the observatory may be requested.

Volunteers should be experienced amateur astronomers who are capable of manually operating telescopes on Dobsonian and equatorial mounts, equipped with Telrad finders, to locate a reasonable selection of objects for observation during public viewing sessions. They should be familiar with and able to comfortably discuss the Solar System, single and multiple star systems, the Milky Way and external galaxies, nebulae, galactic (open) clusters, globular clusters, constellations, and asterisms. They must be able to deal politely, competently and enthusiastically with a public that will include a broad cross

section of Park visitors including young children, UFO buffs, "New Agers," Native Americans, retired astrophysicists, and active professors of astronomy.

Volunteers should be familiar with the current scientific astronomical literature such as is available to the non-specialist public through magazines such as *Astronomy* or *Sky & Telescope*. It is highly recommended that all volunteers take advantage of Park tours, hikes, videos, and general training sessions to familiarize themselves with the culture and history of the Park. Many visitors will ask general questions about recommended trails to hike or ruins to see or may want to discuss theories of early human adaptation to the environment. As a first contact person operating in front of the Park visitors center, the solar telescope volunteers will receive many such questions and can be best prepared to answer them by participating in the interpretative programs offered by Park rangers.

It is expected that all persons representing the Observatory, and, through it, the Park, will present generally accepted

Continued on page 6

observers deck



An Astronomer's Chaco Canyon

Continued from page 5

scientific information and explanations in a form and manner that is consistent with federal policies affecting separation of church and state, treatment of genders and minorities, and the sensibilities of Native Americans, especially those whose ancestors have occupied Chaco Canyon from time to time. Use of Park facilities for the aggressive presentation of personal views or in violation of these standards may cause a volunteer's status with the Park to be terminated.

In exchange, after suitable training or demonstration of competence, volunteers may have access to the Observatory and its equipment at times when it is not in use for public programs. This includes all nights when public programs are not scheduled and nights with programs after the public has left. Cooperation among volunteers for limited resources, taking into account weather and Moon phases has, to date, been smooth and informal. An inventory of the principal Observatory resources, as of October, 2001, is available.

Volunteers may also be invited to participate in special training events that allow them to see parts of the Park or to attend lectures by visiting specialists that are not open to the general public. They are encouraged, but not required, to participate in aspects of Park operations other than astronomy. For example, a good way to see ruins that are not open to the public is to volunteer to spend a day as a laborer for the Preservation Crew when they are working on such a structure.

Chaco is within a few hours drive of Albuquerque, Santa Fe, and the Four Corners area where New Mexico, Arizona, Colorado, and Utah meet. There are many national parks and scenic areas within a half days drive. It is expected that volunteers may want to take advantage of regional tourist attractions while volunteering for the Park. However, Chaco, set in a desert terrain, is a remote and isolated park with no amenities and

few residents. Volunteers will have access to laundry facilities, pay telephones, and office computers on a limited basis. Television and radio reception is poor. Access is by a sixteen-mile rough dirt road, and full grocery stores are ninety minutes away. Cellular phones don't work and mail delivery is periodic rather than daily. There is no food concession in the Park, not even a coffee shop. Total staff in residence is often less than twenty. But, it is at 6,000 feet, has long open horizons, is quite free of light pollution and sometimes has early morning transparency and seeing conditions that rival any. And, it has the Observatory with its opportunity for astronomy volunteers.

The Park is currently accepting applications from interested persons for the 2002 and 2003 seasons. Through March, 2002, contact Tommy Taylor, volunteer coordinator, at (978) 263-0904; email: thomas.w.taylor@att.net, or by mail at: 737 Main St., Acton, MA 01720. After April 1, 2002, contact the Park directly at (505) 786-7014 and ask for the astronomy coordinator, Interpretive Ranger G.B. Cornucopia, or the Head of Interpretive Services, Russ Bodnar.



Image © Tommy Taylor, 2001

Near the great house Penasco Blanco at Chaco Canyon is a pictograph of a crescent moon with a starlike object. Astronomical calculations have shown that the supernova that created the Crab Nebula (M1) and the crescent moon were seen very close together from western North America on the morning of July 5, 1054. Is this painting a recording of the stellar event so bright it was seen during the day for three weeks?—Ed.

THE SOUTHERN SKIES STAR PARTY 2002

Get ready for the high altitude, southern hemisphere, ultimate observing event. On the shores of Lake Titicaca in Bolivia you'll be treated to the southern skies experience of a lifetime.

June 8-15, 2002

68° West, 16° South

Altitude: 12,500 feet

For more information, contact Patti Kurtz at (303) 948-5825, e-mail pkurtz@starfirecreations.com, or visit <http://www.icstars.com/southernskies/>.

Cost is \$1649pp—includes R/T air from Miami, all meals, transportation, hotel accommodations, attractions at the resort, and all star party activities. Limited to 50 participants. Please refer to code DASPK.

Welcome New Members!

The following folks joined the Denver Astronomical Society during the last month. Welcome new members!

- Nancy Dorland
- Daniel G. Dunbar
- Amelia Horswill
- Ron Huggins
- Larry Tougaw

updates

For Sale

★ 12.5-inch f/4.8 solid-tube Dobsonian ★

Discovery prototype.

Contact Dennis Cochran, Home phone: (720) 870-0465,

Work phone: (303) 677-4721

INCLUDED:

- 12.5-inch f/4.6 solid tube (64 inches long)
- Crayford focuser
- 34mm ocular (45X magnification)
- Telrad

Dark Sky Site Courtesy

Please remember that white light disrupts the eye's dark adaptation and can ruin Astrophotography. Following these simple guidelines will improve the experience for all:

- ★ Drive carefully on the road, there are blind spots in the low area and you will find cattle on the road at times.
- ★ Try to arrive before dark.
- ★ If you have to arrive after dark, turn off headlights when turning into site.
- ★ Turn off all dome and trunk lights. If a light can't be turned off, pull the fuse, use layered red brake light tape or just duct tape over it.
- ★ When you drive in, position your car so you can drive out directly instead of using your back up lights.
- ★ Use only dim red flashlights. Never shine a flashlight in someone's face or on their scope.
- ★ Please wipe your feet carefully before using the warming hut.
- ★ Please chip in and do some cleaning up in the hut or at the observing sites. It is the responsibility of all users to keep the place nice.
- ★ Serious astrophotographers may wish to use the South field since it is somewhat isolated from the rest of the area.
- ★ If you are the last person to leave the site, turn off the lights and the heaters in the warming hut. Then, lock the warming hut and close the gate to the site.
- ★ Members are responsible for educating their guests as to the rules.
- ★ Prospective members, out of town astronomers, and others may be guests one time.

- ★ Members can bring family any time and personal friends on a limited basis, but should not abuse the privilege.
 - ★ Groups of five or more guests must be cleared through the President or Vice President prior to visiting the Dark Sky Site.
 - ★ There is no sleeping in the warming shed overnight. However if you need to nap for a short period, you can use the shed. We would rather you fall asleep there rather than at the wheel on the way home.
 - ★ You may warm drinks in the microwave—it is not there for warming food and cooking since we have no water to clean up. If you spill, please clean up after yourself
- OTHER SUGGESTIONS:**
- ★ Wear warm clothing. The nights can be extremely cold in the winter and surprisingly cold in the summer.
 - ★ Bring your own power such as a battery and/or an inverter since the power sites are limited. Also bring extension chords.
 - ★ Hot drinks can help you survive the night!
 - ★ When approaching the telescope of someone who does not know you, introduce yourself and ask before looking through the scope. Most members (with the exception of astrophotographers when they are taking pictures) will be happy to share their scopes.
 - ★ Bring your own toilet paper in case that in the porta-potty runs out.

Directions to the Dark Sky Site

The DAS Deer Trail Dark Sky Site (DSS) is about 60 miles east of the "mousetrap" in downtown Denver.

Take I-70 east to the Deer Trail exit (exit 328), turn left at the end of the exit ramp, and turn left again on CR 217 (after the Texaco station). Take CR 217 just over 1/2 mile, and turn right (east) onto CR 34. Stay on CR 34 about 6 miles until you get to CR 241. Turn left (north) onto CR 241 and continue about 1.5 miles – you'll see a culvert with a wide gate on the right (east) side of the road.

Directions to DSS from Denver, arrival from the North (for after-dark arrivals):

Take I-25 eastbound to exit 316 (Byers). Turn left at end of ramp which puts you on eastbound US-36. Take US-36 east 17.2 miles to CR 241. Turn right (south) onto CR 241 and continue for 6.2 miles. The DSS entrance is on the left between two tall posts.

Note: Travel distance from Denver using the North route is actually 3.9 miles shorter than the traditional route. The first 5 miles of CR 241 going south from US-36 is narrow and somewhat rough. Be careful.

Warming Hut Rules

- The last people on the site must turn off the lights and the heat.
- A microwave will be provided for warming food. Please clean up after yourself.
- No pots and pans, appliances, or other supplies are to be left in the shed.
- No personal supplies are to be left in the shed overnight.
- Do not donate furniture or other things unless you clear it with the D.S.S. committee first.
- No food left overnight in the shed.
- No sleeping overnight in the shed.
- Quick naps are permitted if you feel you might fall asleep on the way home. We would prefer you get your nap rather than falling asleep on the road. However, we don't want it to become a tent for camping.
- Clean up after yourself before you leave the site.
- Please clean up all food that drops or is spilled, otherwise it will attract mice and insects.

for sale

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 Science and Nature 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 | <input type="checkbox"/> |
| Renewal | <input type="checkbox"/> |
| 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 | <input type="checkbox"/> |
| No | <input type="checkbox"/> |
| Do you want the above information excluded from the yearly roster? | |
| Yes | <input type="checkbox"/> |
| No | <input type="checkbox"/> |
| <i>Please Circle All That Apply:</i> | |
| Regular Membership: \$30 | Associate: \$10 (<i>Age 22 and younger</i>) |
| \$ _____ | |
| Astronomy Magazine/\$29 | |
| Sky & Telescope Magazine/\$29.95 | |
| \$ _____ | |
| Van Nattan Scholarship Fund | \$ _____ |
| Chamberlin Restoration Fund | \$ _____ |
| Total Amount Paid | \$ _____ |
| <i>Please mail Dark Sky Site donations to: DAS Treasurer, Chuck Carlson, at the address below. (Make checks payable to the Dark Sky Site Fund).</i> | |
| <i>Please complete this form, or a copy, and mail it with your check or money order payable to The Denver Astronomical Society: DAS Treasurer, Chuck Carlson; 1521 So. Vine St.; Denver, CO 80210</i> | |



Denver Astronomical Society

c/o Chamberlin Observatory
2930 East Warren Avenue
Denver, Colorado 80208

JANUARY'S MEETING
JANUARY 25:
Gary Emerson, "*The Deep Impact Mission*," and Nominations of officers.

join us