

# DENVER OBSERVER

Newsletter of the Denver Astronomical Society

*One Mile Nearer the Stars*



Diamond Ring Anyone? Some lucky folks journeyed to Africa for June's total solar eclipse—one club member shares his memories on Page 4. Image: © Vic and Jen Winter, 2001

### The Sky is Falling!

August—warm nights, a chaise lounge, your choice of beverage, and a clear, dark sky. Does it get any better than that for an astronomer? How about tossing in a generous helping of “falling stars?” Unless you're the one who always has his or her eyeball at the eyepiece when the shadow-casting bolide blows by, how many other stellar events can cause an observer to cheer loudly in the dark when everyone else is sleeping? The Perseids are here! Tell your neighbors, tell the king, and tell Gary Emerson thanks for the Perseid shot in the banner above.—Ed.

## Hot August Days—Cool Perseid Nights

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### AUGUST SKIES 2001

Our morning wanderers—Jupiter, Saturn, and Venus—are beautiful in August. A close (1.2°) morning conjunction of Jupiter and Venus makes setting an early alarm worthwhile on the 6th. Mars is still brighter than any star in the sky, but will dim as the month progresses, and as it pulls away from Antares in Scorpius and moves towards and above the Large Sagittarius Starcloud: By month's end it will be only about one binocular field away from the Lagoon Nebula (M8). Uranus and Neptune reach opposition only two weeks apart. Under dark skies and with the help of a finder chart, Uranus is a naked-eye object. Head for dark skies on the night of the 11–12th. A last quarter moon interferes a bit with the peaking Perseids, but we may still get dozens per hour.—Ed.

- 3 ..... Full moon
- 6 ..... Conjunction of Venus and Jupiter
- 12 ..... Last quarter moon
- ..... Perseid Meteors Peak
- 18 ..... New moon
- 25 ..... First quarter moon



Left: Although a lovely naked-eye site, Mars's low position in the sky has made it a less than stellar performer in scopes and cameras.

Image: ©Ron Pearson, 2001



Club members set up telescopes and prepare for an Open House at Chamberlin.

## PRESIDENT'S CORNER

The Dark Sky Site is coming along just great. We will be installing six new concrete pads this summer. Work should begin soon. Thanks to Ted Cox, Wayne Kaaz, Steve Solon, Greg Marino, and all the rest of you who have donated time and money; the site is developing into a first class observing area. Considerations for the future include a

possible vault toilet, and a club observatory with a 17- and 8-inch scope. The next steps will be to raise more construction money for the site. Since regular club dues cannot be used

for construction, we are embarking upon

a major fund raising effort including a raffle for a new 8-inch "Dobb" telescope. We still need volunteers to work out there.

We also need volunteers for the following activities: Construction work at the Dark Sky Site, school visitations, Open Houses, and Colorado Astronomy Day (See Page 6). Additionally, we need Public Night telescope operators and presenters. You do not need a scope to volunteer for any of the public events. If you wish to use a scope at these events, the club has one you may borrow if you don't have one.

If you would like to volunteer for anything, please send me an **Email at [Lbrooks100@aol.com](mailto:Lbrooks100@aol.com) or call me at (303) 986-5255.**



### DAS Schedule

#### AUGUST

- 3 E-Board meeting, 8 P.M.
- 16-18 WUTS—Fox Park
- 17-19 Dark Sky Site Weekend
- 24 General Meeting at Olin Hall, DU, 7:30 P.M.—Speaker: Roger Clark, "Results from the Cassini Encounter with Jupiter, and Plans for the Saturn Orbital Tour."
- 25 Open House

#### SEPTEMBER

- 7 E-Board meeting, 8 P.M.
- 14-16 Dark Sky Site Weekend
- 13-16 DAS Star Party at North Sterling Reservoir (See Pg. 3)
- 21 General Meeting at Olin Hall, DU, 7:30 P.M.—Speaker, Member of the Mars Odyssey Mission team.
- 22 Open House

*Public Nights are held every Tuesday and Thursday from 8:30 P.M.*

*at Chamberlin Observatory*

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

## DAS Officers

### President:

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

### Vice President:

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

### Secretary:

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

### Treasurer:

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

### ALCor:

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

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Terry Chatterton  
Email: [Kiowapages@aol.com](mailto:Kiowapages@aol.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.**

# www.denverastro.org

## DAS To See Stars at North Sterling Reservoir

Those club members who accepted the Longmont Astronomical Society's (LAS) invitation to join them at North Sterling Reservoir in April, might be happy to hear that the DAS has made arrangements to host its own star party there as well.

Join your fellow members on **September 13, 14, 15, and 16** at the Chimney View Campground at North Sterling Reservoir. Heavenly hot showers, laundry, a meeting room, and warm restrooms are available at the reservoir, as well as power in the campground just below Chimney

*Continued on page 6*

### Note from the editor:

Newsletter contributions (ccd and film astrophotos, members with telescopes, star party candids, 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.

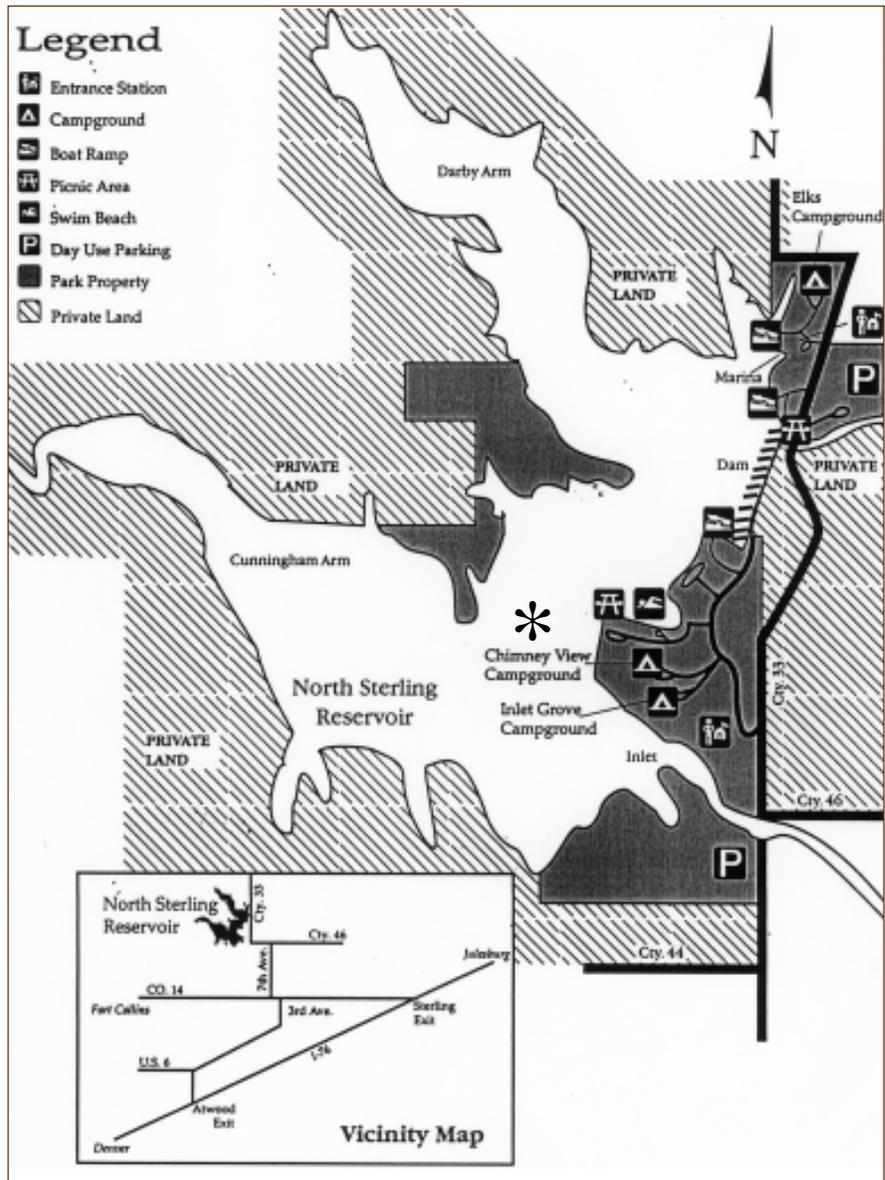
**CCD:** Uploaded to the listserve upload area (resolution as high as possible, please).

**Text:** Articles should be no more than 250 words, please. Paste into an email and send to me at: [pkurtz@starfirecreations.com](mailto: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 (call for mailing address)  
(303) 948-5825

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### North Sterling Reservoir

Directions - From Main Street in Sterling, turn north on North 7th Avenue, follow the sign 12 miles to the reservoir.

### MEMBERS NEED TO KNOW . . .

*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*

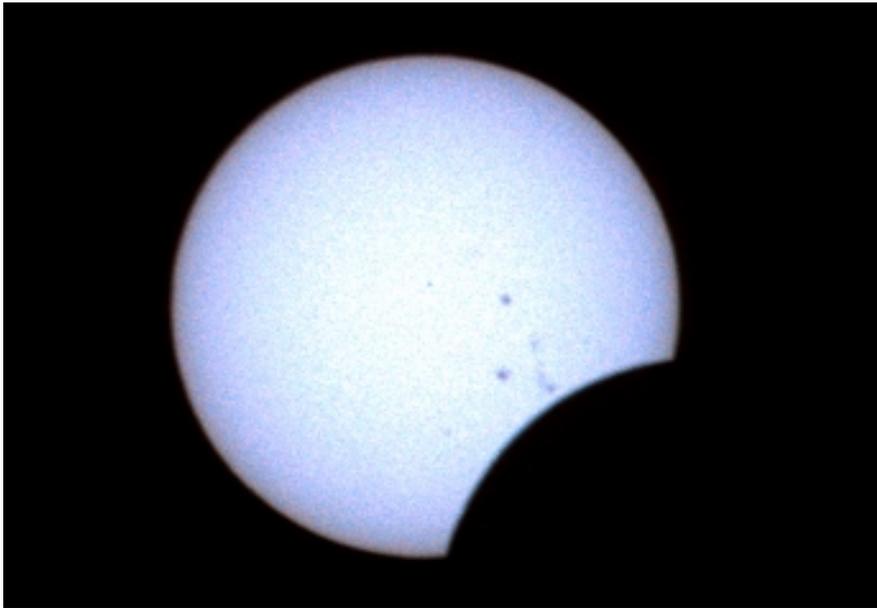
*addition to the annual dues. For questions concerning memberships, please contact DAS Treasurer, Chuck Carlson (chcarlso@du.edu). See the back page of this newsletter for more information.*

### DAS Bookstore and More (!)

*An Intimate Look at the Night Sky* combines practical information with intellectually stimulating essays that blend science and history, mythology and religion. In a review, *Discover* magazine wrote, "Astronomer Raymo's idiosyncratic guide to the night sky. . . will appeal to both amateur stargazers and serious astronomy buffs."



# need to know



The sun made a fine showing the day it was eclipsed by the moon—June 21, 2001. Sunspot features are prominent at first contact. Image: © Chuck Carlson, 2001

## The 2001 Total Solar Eclipse A Personal Report by Chuck Carlson

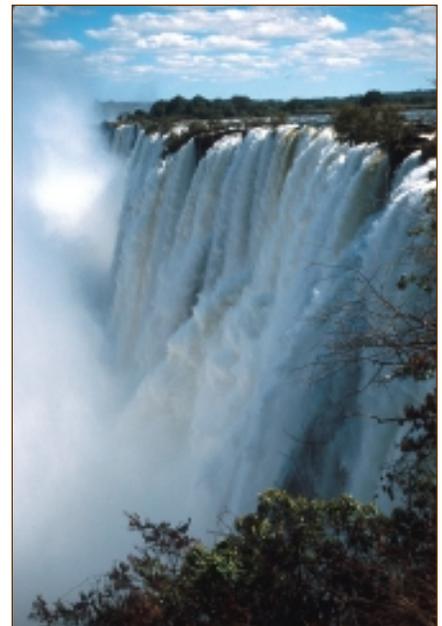
In June, twenty-six American, Canadian and German amateur astronomers were privileged to observe one of greatest events in nature, a total solar eclipse, and also one of the most impressive natural features on the planet, Victoria Falls. But the adventure began badly and came perilously close to disaster, astronomically speaking. After a long but routine flight to Lusaka, Zambia, via Newark, Rome and Addis Ababa, we discovered that our baggage, containing most of our astronomical gear, was not on our flight. Indeed, we later learned that it was pulled off the aircraft at Newark because of weight problems. It was finally delivered one week late and just in the nick of time, a day before the eclipse. In the meantime, it was four days before we were able to get to a clothing store and purchase clean socks, underwear, a toothbrush and other necessities. Needless to say, Ethiopian Airlines is no longer on our

recommended list.

Our first destination was an excellent resort in Livingston, Zambia. We enjoyed a fine tour of “The Water That Thunders”, a game drive, and a dinner cruise on the Zambezi. As for astronomy, one member of our group fortunately brought a C-8 tube assembly as carry-on and two others had suitable tripods. So we had two exciting nights under very dark skies observing the major showpieces in the southern sky, including Eta Carinae, the Jewel Box, the Coal Sack, and the incomparable Omega Centauri cluster. We experienced some disorientation, however—Mars was brilliant but located due north and all the familiar constellations in the northern half of the sky were upside-down!

We returned to Lusaka two days before the eclipse, settled in at our spartan but adequate motel located several kilometers from the city itself.

Conditions on June 21<sup>st</sup> could not have been better—a completely clear sky, pleasant weather, and the sun at a thirty-degree elevation for very comfortable viewing. Cheers broke out with first contact. With Baader filters on my binoculars and camera, I observed and photographed the moon moving across a fine show of sunspots on the solar disk. The temperature and light gradually dropped over the next ninety minutes until the climax—a short burst of the diamond ring effect and then totality. I was surprised by the abruptness of the event. Very suddenly the sky turned a very dark blue, the occulting lunar disk took on a profoundly dark appearance, and the streamers forming the solar corona flashed out in majestic splendor, together with several prominences. For me the sight was literally breathtaking. Another major impression: as many others have observed, time passes so quickly! The eclipse lasted for three minutes and thirty seconds, but psychologically only thirty seconds. And hard luck struck again! Amid the cheers and in my excitement I committed the



Victoria Falls: “The Water That Thunders.” Image: © Chuck Carlson, 2001

o b s e r v e r s   d e c k

classic first-timer's error—I failed to pull the Baader filter off my telephoto lens and ended up with a dozen blank exposures. My disappointment is somewhat allayed by the fact that others in our group—including one of the world's best and most experienced eclipse photographers—got good totality shots and have posted them on the Internet. I plan to assemble a pictorial panel, which I will mount together with the set of commemorative stamps issued the day before by the Zambian postal administration.

I also learned that there is another subset of slightly unbalanced people in the astronomy hobby: eclipse chasers, also known as coronaphiles. I fear I am in imminent danger of becoming one. Turkey in 2006, anyone?

For some great imagery, three Internet sites are recommended:

[www.icstars.com](http://www.icstars.com) / Mad , [www.wendycarlos.com](http://www.wendycarlos.com), and [www.SpaceWeather.com](http://www.SpaceWeather.com). On the latter, look for Tony Simon's great images—he was shooting away right next to me.—*Chuck*

*Carlson is treasurer of the DAS. He's a Professor Emeritus at the University of Denver and is quickly becoming an eclipse chaser extraordinaire.*



Image: © Vic and Jen Winter, 2001

While Chuck experienced some technical difficulties during totality, this third contact photo (below) was made without a hitch. In Madagascar, *Reflector* editors Vic and Jen Winter (ICSTARS), also photographed the eclipse. Above is one such image—Vic and Jen's photo shows totality in all its glory. Prominences are more visible in the color photo within the PDF edition of the newsletter on the DAS website. Thanks to Chuck, Vic, and Jen for sharing!



Image: © Chuck Carlson, 2001

## MARS In Grand Junction

The Western Colorado Star Party, hosted by the Western Colorado Astronomy Club, will take place on September 14 and 15. This is also the Astronomical League's MARS region convention. The star party will be held atop Grand Mesa, about 40 miles east of Grand Junction. The mesa is at an altitude of 10,000 ft. and on clear nights the seeing is usually great. For more information visit the MARS website at [www.mars-al.org](http://www.mars-al.org) and click on the Western Colorado Astronomy Club link.

Between 12:00 noon and 5:00 P.M. a series of professional and amateur talks and poster papers, along with a MARS regional business meeting, will take place at Mesa State College in Grand Junction. There are speaker openings for this session and I'd like to encourage anyone who would like to give a talk, or get more information about this meeting, to contact me at [sherlinj@aol.com](mailto:sherlinj@aol.com). We hope to see many of you atop Grand Mesa, and at Mesa State College, in September. Clear Skies—*Jerry M. Sherlin, MARS Regional Chairman*

# observers deck

## 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.

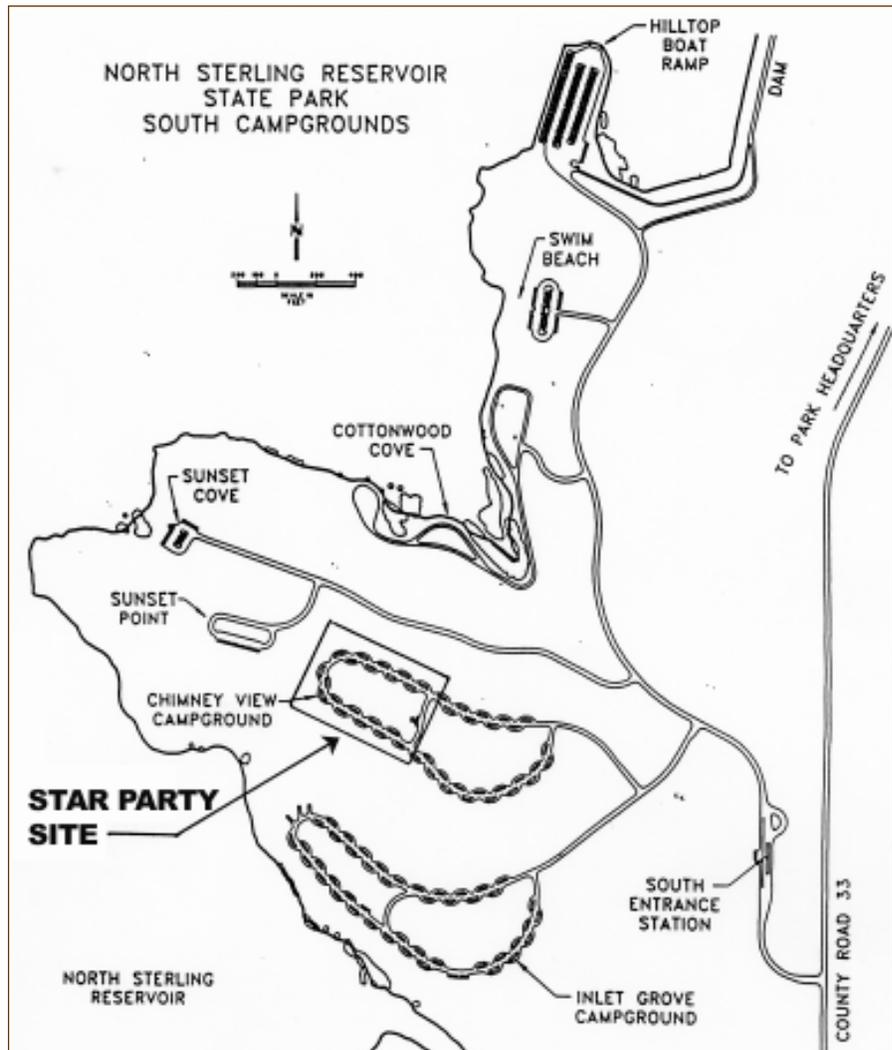
*Directions to DSS from Denver, arrival from the North (for after-dark arrivals):*

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.



## DAS Star Party:

*Continued from page 3*

View (Inlet Grove) for those needing it.

Ranger Bob Loomis said that each campsite offers a table, grill, shade shelter, and a roomy tent pad. Gary Garzone, Vice-President of the LAS said, "This site is almost as dark as Fox Park, and darker than Pawnee—great for the diehard dark-sky lovers."

The reservoir is a three-thousand acre lake with three campgrounds located about 15 miles north of Sterling. While the water may be low during the DAS event, daytime activities include fishing, boating, and plenty of hiking trails.

Camping fees are \$10/night at Chimney View and \$14/night at Inlet

Grove. All vehicles entering the park must display a state park pass (\$4/day or \$40/annual).—Ed.

## S & S OPTIKA

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Englewood, CO 80110  
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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](http://www.sandsoptika.com)

# observers deck

# Colorado Astronomy Day

The Denver Astronomical Society will host the best-ever Colorado Astronomy Day on October 20, 2001. Mark your calendars now—this promises to be a terrific full day and evening for the entire family. Besides high-profile speakers, astronomical vendors, door prizes, and activities and prizes for kids, we'll have food and a star party following (weather permitting). All proceeds from ticket sales for daytime events will go toward improvements at the Dark Sky Site. We'd appreciate volunteers. If you can help, please fill out the following form and mail to Larry Brooks at 3686 So. Depew Street #8, Denver, CO. 80236, or contact Patti Kurtz at (303) 948-5825 or e-mail: [pkurtz@starfirecreations.com](mailto:pkurtz@starfirecreations.com).

Name: \_\_\_\_\_

Phone Number for best contact time: \_\_\_\_\_

Best time to contact you (circle one):                      Day                      Evening

Email Address: \_\_\_\_\_

Within which area(s) are you most interested in volunteering (circle those that interest you)

- Speakers (are you able to transport speakers if necessary?)
- Kid Stuff
- Vendors and Sponsors
- Food vendor
- DAS Booth
- Registration Table
- Star Party
- Website
- Printing and Publications
- Freebies (Door prizes, etc.)



The Trifid Nebula (M20) in Sagittarius is a must-see object for summertime observers. Image: © Tom Shaul, 2001

## August Speaker Is One of Our Own

Dr. Roger Clark, a graduate of the U. of Washington and M.I.T., earned his Ph.d. in astronomy from the U. of Hawaii. He has been a member of the DAS for many years, and has served on the E-board several times. As a professional he has been “instrumental” in developing infra-red (IR) spectroscopic imaging instruments for several spacecraft missions including the Mars Observer, and the Cassini mission to Saturn. He is a co-investigator for the Thermal Emission Spectrometer (TES) instrument on Mars Global Surveyor, which has been orbiting Mars since 1997. Roger heads up the Mineral Spectroscopy laboratory at the US Geological Survey in Lakewood. He is a recognized world class expert in IR mineral spectroscopy and developed the “Tetracorder” software to identify and map minerals from imaging spectrographic instrument data. Tetracorder surpassed the previous software known as “Tricorder” developed by the Unified Federation of Planets (UFP) for identification of lifeforms and minerals where no man has gone before . . .

An “amateur” astronomer, Roger is an avid deep-sky observer, sketching hundreds of faint fuzzies, and advancing the amateurs’ knowledge both of what to observe and how best to observe the faintest of galaxies and nebulae. His observing techniques, descriptions, and drawings were produced in his book *Visual Astronomy of the Deep Sky*, published in 1990 by Sky Publishing Corp. and Cambridge University Press.—Ron Pearson

## Dark Sky Site Guidelines

The Dark Sky Site (DSS) is for the use of DAS members and their guests. If you are neither, please contact an officer of the DAS for a “guest pass,” and read the DSS Guest Policy (below). Please remember that any light disrupts your eye’s dark adaptation and can ruin astrophotography. Most members (astrophotographers may be the exception) are happy to share views from their telescopes, however, please introduce yourself and ask permission upon approaching a telescope owner. Please follow these simple guidelines to maintain a positive experience for everyone:

- ★ Try to arrive before dark. If you must arrive after dark, please turn off headlights when turning into the site, and try to arrive from the north.
  - ★ Don’t park on the graded graveled roads.
  - ★ Turn off or disable all dome and trunk lights in your car (or cover with layered red tape or duct tape)
  - ★ Use only dull RED FLASHLIGHTS.
  - ★ NO OPEN FIRES. NEVER.
  - ★ If you’re the last person to leave, close the gate.
  - ★ If you leave before everyone else, ask for assistance in getting out of the site without headlights.
- Other suggestions:**
- ★ Wear warm clothing.
  - ★ Bring your own toilet paper in case that in the porta-pottie has run out.

### DARK SKY SITE GUEST POLICY

The DAS Dark Sky Site, while for the exclusive use of the membership for serious observing, will allow visitors on a limited basis. Groups or classes wishing to use the DSS may do so only with prior arrangement through the DAS president or vice president.

updates

## 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 (Age 22 and younger)
..... \$ _____	
Astronomy Magazine/\$29	
Sky & Telescope Magazine/\$29.95	
..... \$ _____	
Dark Sky Site Fund Donation ..... \$ _____	
Van Nattan Scholarship Fund ..... \$ _____	
Chamberlin Restoration Fund ..... \$ _____	
Total Amount Paid ..... \$ _____	
<p><i>Complete this form, or a copy, and mail it with your check or money order payable to The Denver Astronomical Society;</i>                      DAS Treasurer, Chuck Carlson; 1521 So. Vine St.; Denver, CO 80210</p>	



## Denver Astronomical Society

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

**AUGUST'S SPEAKER:**  
 Dr. Roger Clark,  
*"Results from the Cassini Encounter with Jupiter, and Plans for the Saturn Orbital Tour."* See Page 7.

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