

# The Denver OBSERVER

Newsletter of the Denver Astronomical Society  
*One Mile Nearer the Stars*



## Solar Minimum?

Excuse me? Our star has been very active in spite of solar minimum. This image was made on October 3, 2005, and similar prominences were seen by the crowd present for Colorado Astronomy Day at Chamberlin Observatory. Employing eyepiece projection, David used a Canon Rebel XT on a 20mm Tele Vue Plossl through a Coronado MaxScope 40.

Image copyright 2005 David Wolf

# A CELESTIAL CORNUCOPIA

## NOVEMBER SKIES

Inside The Observer

<i>President's Corner</i> .....	2
<i>Schedule of Events</i> .....	2
<i>Officers</i> .....	2
<i>AstroQuiz</i> .....	3
<i>Astronomy Day Recap</i> .....	3,7
<i>Caching In on Cloudy Nights</i> ..	4,5
<i>DSS Information</i> .....	6
<i>Image Processing Class</i> .....	7
<i>Membership Info</i> .....	back page

The stars of summer are bowing toward the west after their usual grand showing. The globular clusters and nebulae are making way for their autumn siblings to take over for a while, and though there's a chill in the air, there's plenty of fire overhead to keep you warm.

### THE PLANETS

Neptune and Uranus are low, but well placed for viewing early in the evening; look carefully for their distinctive green and blue discs, respectively. Magnificent Mars rides high in the eastern sky as it approaches opposition and early reports indicate brighter-than-usual polar caps. The ringed giant, Saturn, vaults the horizon near midnight, showing as a non-twinkling bright beige dot. This

huge lighter-than-water body and its family of rings appears enticing, even in modest telescopes.

### NOVEMBER PREDOMINANT MESSIER OBJECTS

1 .....	New moon
7 .....	Mars at opposition
8 .....	First quarter moon
15 .....	Full moon
17 .....	Leonid meteors peak
23 .....	Last quarter moon

#	Description	RA	DEC
57	Ring Nebula	18h 53m49s	+33° 02'33"
76	Little Dumbbell	01h 42m40s	+51° 35'43"
31	Andromeda Gal.	00h 43m04s	+41° 18'03"
33	Pinwheel Gal.	01h 34m11s	+30° 41'26"
52	Open cluster	23h 24m29s	+61° 36'55"
15	Globular cluster	21h 30m17s	+12° 11'34"
72	Globular cluster	20h 53m50s	-12° 30'44"
103	Open cluster	01h 33m36s	+60° 43'43"
34	Open cluster	02h 42m23s	+42° 48'29"
38	Open cluster	05h 28m42s	+35°50'00"
36	Open cluster	05h 36m06s	+34°08'00"
37	Open cluster	05h 52m24s	+32°33'00"
35	Open cluster	06h 08m54s	+24°20'00"
45	The Pleiades	03h 46m19s	+23°56'54"
77	Spiral galaxy	02h 42m42s	-00°01'00"
1	Crab Nebula	05h 34m30s	+22°01'00"
74	Spiral galaxy	01h 36m42s	+15°47'00"

# PRESIDENT'S CORNER

They came—they saw—and they *experienced*. Such was our October gathering of the astronomical—Colorado Astronomy Day. You know, organizing this day is no easy feat. I am grateful to everyone who provided, displayed, lectured and counted beans, but we all owe a deep debt of gratitude to one Mr. Darrell Dodge for putting together a day that I truly believe was among our best. Darrell, my friend, you assembled one great show. The weather was perfect, right down to the temperature, which, as we all know, can be a little dicey in October; but luck prevailed.

While 'ole man Sol was a bit quiet on the sunspot front, the displays of prominences and faculae in h-alpha were tremendous, and we certainly provided enough scopes for everyone (including the volleyball teams) to take a peek; all this in addition to ingenious spectral-analysis hardware that spiced up the viewing.

We had terrific presentations by the ATOM group of teens from the Denver Museum of Nature and Science on meteor showers, and Aaron Reid provided his always-informative lecture on light pollution and the IDA; my thanks to him and to Dr.



Stencel for keeping dark skies in the forefront of the day's topics.

And the scopes, the scopes, the scopes—somewhere in the neighborhood of 60, by some accounts, and



Frank Mancini and Darrell Dodge at the 2005 Colorado Astronomy Day on October 8.

Photo copyright Steve Solon

personnelled, as always, by the ever-enthusiastic members of the Society. I can tell you that the feedback from guests was very warming—you all did a wonderful job the entire day.

On a political note, although it's a few months away, it's time to starting thinking about elections for the Executive Board. Serving the Society is invigorating, among many other things. We are the fourth largest astronomical Society in the country; thus, there are opportunities to shape the way we govern ourselves, present to the public and look to the future of the Society and our home, Historic Chamberlin Observatory. If you have experience and enthusiasm to offer, consider running for one of the Officer or Board seats. Your valuable time and contributions will be much appreciated.

Best to all.—*Steve Solon*

## DAS Officers

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Jack Eastman

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Frank Mancini

Dan Wray

Carla Swartz, Past President

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**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.**

## DAS Schedule

### NOVEMBER

- 5 Open House at Chamberlin Observatory (begins at 7:00 P.M.)
- 11 E-Board meeting, 8 P.M.
- 18 General Meeting (Members Show 'N Tell, 7:30 P.M.)
- 24 Thanksgiving

### DECEMBER

- 3 Holiday Potluck (Takes the place of the General Meeting)
- 3-4 Dark Sky Site Weekend
- 10 Open House at Chamberlin Observatory (begins at 7:00 P.M.)
- 16 E-Board meeting, 8 P.M.
- 25 Christmas Day  
Hanukkah begins at sundown
- 31-1 Dark Sky Site Weekend

Public nights are held every Tuesday and Thursday evenings beginning at the following times: October 1 - March 31 at 7:00 P.M.  
April 1 - September 30 at 8:30 P.M. at Chamberlin Observatory  
Costs to non-members are: \$3.00 adults, \$2.00 children.  
Please call (303) 871-5172 for reservations.

the das . org

# Colorado Astronomy Day Recap

by Darrell Dodge

All images copyright Steve Solon

By all accounts, the 2005 version of Colorado Astronomy Day was a big success. The DAS is a truly amazing volunteer organization, and the flexibility and commitment of its members was really on display this year. For a change, even the weather cooperated!

Visitors during the daytime were rather sparse, perhaps because people driving up to Observatory Park were confronted with a huge, noisy, 12-court DU club volleyball tournament on the lawn in front of the observatory. Even this worked out, however, when Frank Mancini started promoting CAD 2005 through the tournament's DJ and groups of curious students came over to look through our solar telescopes. In appreciation, the clubs treated DAS members to a tasty lunch from Quiznos.

With almost no sunspot activity, the small flotilla of H-Alpha Coronados was a lifesaver this year, showing the spectacular prominence and filament activity. John Anderson's spectroscope and display, Stuart's infrared demonstration, Jim Holder's field-of-view project, and the DAS Collimation Team (which tried to answer the question "how many male astronomers does it take to adjust a pretty female astronomer's telescope?") provided some additional outside activities.



Bryan White displayed his fabulous 3-D photos.

Brad Gilman gets ready for "customers" at the "business end" of the 20-inch Alvan Clark refractor in the Chamberlin Observatory dome.



Inside the observatory, the Active Teens of the Museum (ATOM) staffed an outreach table; Dan Wray's meteorite display cases were set up; Wayne Green and DSES displayed a solar radio telescope; Dr. Stencel's dark sky lighting display was featured; and Steve, Rich and Brad kept the Clark trained on the three tiny sunspots for observers. Well-attended presentations were made by Naomi Pequette of the ATOM group, who discussed the Draconid meteor shower; Aaron Reid, who went over dark sky lighting equipment; and Steve Solon, who entertained in his usual inimitable way on the night's sky and this year's Mars apparition.

The evening observing session attracted a big, diverse and appreciative crowd and was staffed by literally dozens of DAS telescope operators. Several members provided special computer software and video demos.

An expected change of weather held off just long enough to give us a fine evening of observing, ending with fuzzy views of Mars over the trees to the East before the clouds closed in after 10 pm.

Special thanks go to Dr. Stencel and DU; Patti for DAS newsletter and Web site support; Cathy and S&S staff for word of

mouth promotion and handing out dozens of brochures; Bill Ormsby, for being there with the key at 7:45 A.M.; Chuck Carlson for many hours staffing the DAS Table in Chamberlin; Michael, Naomi, and Adrienne of the ATOM group for their outreach table and day-long participation; Steve Solon, Rich, Brad and other tireless Clark opera-

*Continued on page 7*



Dan Wray's meteor display made quite an impact on visitors.

## AstroQuiz

(Look for the answer in this issue.)

Q. Where is the largest canyon system in the solar system and how did it get its name?

AstroQuiz is contributed by Sandy Shaw.

# colorado astronomy day

# Caching in on Those Cloudy Nights

by Sandy Shaw

**F**rustrated by a spell of cloudy nights that have kept you from observing? Are you wild to embark on yet another astronomical treasure hunt? And, in a seemingly unrelated problem, have you exhausted the uses for your GPS receiver? Now that you've GPSed your front yard, back yard, favorite observing sites, and all of your friend's and relative's houses, what next?

There's a simple solution to both problems: geocaching, a sport that nicely complements astronomy. This relatively new game began in 2000 when one GPS user hiked into the woods, hid a container with a logbook and prizes, and then posted the coordinates on an internet GPS users' group. Within days others had used their GPS receivers to find the cache and sign the logbook. Today the game is worldwide, with caches in 218 countries.

During its first five years, geocaching has expanded far beyond the traditional concept of searching for a container, signing a logbook, and trading prizes. Multi caches direct you to a preliminary set of coordinates; once there, you retrieve clues or coordinates to the next waypoint and solve or follow them to find the final container and sign its logbook. Puzzle caches challenge the brain with riddles, mathematical problems, or knowledge quizzes in order to figure out the coordinates that will guide you to the logbook. Virtual caches take you to a scenic or historic spot where

there is no logbook or container of trading items; instead, you explore the site and email information you see there to the cache owner to verify your find. Webcam caches require you to locate a particular camera, position yourself in its view, wait until the camera catches you, and post the photo. Traditional caches have evolved: many are astonishingly tiny (less than 1/2" x 1/2" x 1/2"), containing only a miniature logbook; many are highly camouflaged, making them difficult to find; many are hidden in surprisingly unusual places, earning the esteemed praise of being "devious;" many are best done at night, either because they have been designed to be reflective and show up better when it's dark or because throngs of people won't be present to impede the search.

Many caches are dedicated to astronomy themes. "The Amazing Spacewalk Adventure" (GCNF73) invites cachers to be astronauts for an hour as they tour the Colorado Scale Model Solar System in Boulder. Extending about half a mile from a pyramid topped with a golden sphere representing the Sun, the walkable outdoor model illustrates the relative sizes and distances of our star and nine planets with plaques marking the location of each object. (While in Boulder, astronomical history buffs can visit the grave of physicist and cosmologist George Gamow at N 39° 59.649' W 105° 16.168.) "Grant Ranch Scale Solar System" (GCHZDJ) in southwest Denver tours another walkable planetary map. Starting with a yellow circular paving stone representing the Sun, walkers stroll along an urban greenbelt where hidden film canisters mark the planet's positions. "On a Clear Night You Can See Forever" (GCPXTG) explores historic Chamberlin Observatory. Beginning at the main building with a description of the dark night sky a hun-



A benchmark and GPS unit.

Photographer unknown

o b s e r v e r s d e c k

dred years ago, the cache takes visitors through the dramatic history of the observatory, stops at the student observatory, and ends with a logbook in a container stocked with celestial themed trading items. “Charlie’s Nemeses” (GCPJX1) presents a rhyming puzzle that will seem oddly familiar to amateur astronomers. Solving the poem’s secret takes cachers to a lovely panoramic view where they will find the logbook. “Starry, Starry Night” (GC68FE) invites people on a tour of astronomy, art, music, and maps. Although the cache is located in Massachusetts, you don’t need to travel farther than your computer to solve it. “The Right Stuff” (GCQM2B) presents another puzzle for amateur astronomers to navigate.

Sundials are featured in various geocaches. To see some beautiful solar timepieces, visit “What Time Is It?” (GCJ2X7), “Rock Through Time” (GCFB9O), and “Sundial” (GCPK1O).

Geocaching dovetails perfectly with star parties. Clear nights devoted to observing and pleasant days reserved for exploring the surrounding landscape by looking for caches make a delightful vacation. Non-observing family members especially appreciate the diversion of cache-seeking side trips. Coincidentally, the first geocache placed in Colorado, “Tarryall” (GC18), is within a few miles of the area used by the annual star party Rocky Mountain Star Stare!

Excellent caches are not necessarily devoted to astronomy. “Algebra 101” (GCQ68B) hones math skills and rewards seekers with two scenic areas. “Desktop triangulate” (GCFC32), now archived, turns geometry into fun; successful calculations take you to the right spot. “Cache Free GDM” (GCN2BB) requires trigonometric functions to help seekers zero in on the container.

“Accordion a lobefin” (GCN5K7) provides an entertaining and challenging puzzle with a photograph for its primary clue. “Mondo’s Star #1” (GCNCJM) and the growing list of Mondo’s Star caches offer different puzzles each time; after solving one, you’ll know what the final destination of each will include. The amusing “Hootie’s Patootie” (GCJJCC) will keep you smiling for the rest of the day. Numerous caches take you on scenic trails, to local historic sites, through gorgeous urban parks, to outdoor sculptures, and to unusual places that would have been missed without geocaching. While traveling, caching introduces visitors to beautiful views and memorable places that most tourists never see.

To enter the geocaching game, visit <http://www.geocaching.com> to read descriptions of caches all over the world and helpful hints on finding them. Each cache has a unique waypoint name beginning with GC to identify it. Every cache description lists the type, whether traditional, multi, virtual, puzzle, webcam, or other; lists the initial coordinates (if not puzzle); shows the size of the container (if not virtual or webcam); rates difficulty level and ter-

rain; provides a mini-map of the general location; may offer clues or pictures to help searchers; and shows logs of previous finders. Register a user ID (it’s free), print out a cache listing, and take your GPS receiver to enjoy your first high tech treasure hunt. There’s probably a cache near you.

Geocaching is uncannily similar to astronomy: you’re searching for things you may not find, you’re enjoying beautiful views, you’re exploring new ideas and mental challenges, you’re often in a lonely spot performing rituals that might appear bizarre to onlookers, you’re frequently out at night in odd locations and may find yourself explaining your presence to the police! But there is one big difference between astronomy and geocaching: when it’s too cloudy to use your telescope to hunt for treasures in the sky, you can use your GPS receiver to find treasures beneath the sky.

*When Sandy is not observing the night sky or performing her duties as DAS Treasurer, she can often be spotted on the caching trail. Sandy has found more than 300 caches in seven states and has placed nine caches, including three with astronomy themes.*

### Astro-Quiz Answer

**A:** Valles Marineris, the largest canyon system in the solar system, is located just south of the Martian equator. The system is about 4000 km (2400 miles) long, and, if superimposed on earth, would extend all the way across the United States. The central individual troughs, generally 50 to 100 km (30 to 60 miles) wide, merge into a depression as much as 600 km (360 miles) wide. In places the canyon floor reaches a depth of 10 km (6 miles), 6 to 7 times deeper than Earth’s Grand Canyon. Part of the canyon was mapped as one of the so-called Martian “canals” by Schiaparelli, Lowell, and others in the late 1800s. Originally named Coprates by Lowell, the true extent of the feature was revealed when Mariner 9 began the first close-up mapping of Mars in 1971. As a dust storm abated, an unexpected whitish streak appeared in the position of Coprates and grew until it stretched 1,000 kilometers (600 miles) east-west. The mystery was solved when the dust settled further, exposing the canyon’s rim and showing the bright band to be airborne dust swirling in an enormous system of parallel and cross canyons. Mariner 9 scientists wanted a grander name than Coprates for this grandest of all canyons and renamed it Valles Marineris (Valleys of Mariner) after their own spacecraft.

—AstroQuiz is contributed by Sandy Shaw.

## Directions to the E.G. Kline Dark Site

*The DAS Edmund G. Kline Dark Site 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.

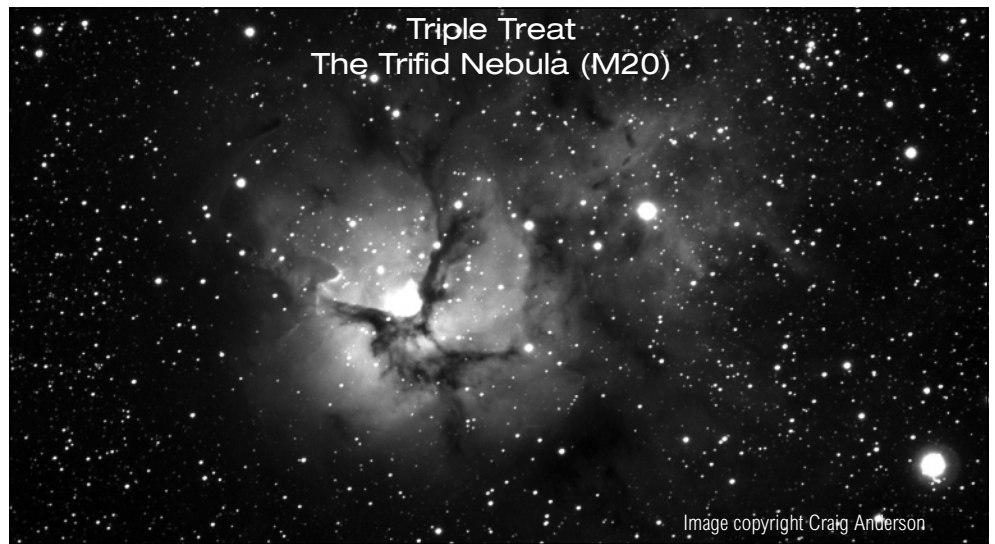
*Directions to the site from Denver, arrival from the North (for after-dark arrivals):*

Take I-70 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.



Triple Treat  
The Trifid Nebula (M20)

Image copyright Craig Anderson

## 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:*

- ★ Upon arrival at the site, check to see if sign in has been instituted at the warming hut. We hope this will help alleviate problems members may be experiencing in trying to find a place to set up.
  - ★ 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.

# edmund g. kline dark site

# Astronomy Day Recap

*Continued from page 3*

tors; those who provided displays and exhibits; the mirror-grinding group; the presenters (Steve, Naomi, and Aaron Reid); Ted Cox and Carla Swartz for help with the pizza dinner; the two Brians for providing participation from Boulder and Colorado Springs societies; and especially the members who shared views through their equipment all day and evening, communicating their knowledge and love of astronomy to our visitors.



Some of the folks who make Colorado Astronomy Day a success: (From lower left to upper right: DAS President Emeritus Larry Brooks with John Johnson; Frank Mancini,



Darrell Dodge and Dan Wray inside Chamberlin Observatory; and Jerry Self with his telescope setup prior to the Open House.



Image copyright Ron Pearson

Are you ready for the Lion?  
Don't forget the Leonids this month!

## Note from the editor:

I feel extremely fortunate for the generous contributors this month—many thanks to Sandy Shaw for this month's feature article and "AstroQuiz," Darrell Dodge for the Colorado Astronomy Day recap, and Steve Solon for the President's Corner and fab photos of Astronomy Day. Thanks again to the Public Night Team 3: Norm Rosling, Bill Ormsby, David Shouldice and Steve Solon for writing "November Skies."

Newsletter contributions (ccd and film astrophotos, star party candid, short observing anecdotes, feature articles, observing and imaging tips, etc.) are welcome and encouraged. This is your chance to strut your stuff! Please contact me with submission questions.

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

## Image Processing Class Announcement

Over the past year or so, there have been many requests for a class on how to process images taken with CCD cameras—what do you do with them once you've taken them and how do they all come together?

On Saturday, November 5th at Olin Science Hall, Room 105, your questions will be answered. DAS President and astro-imager Steve Solon will present, "CCD Imaging - The Basic Process", a 2-hour "how do you do it?" class which will take images from raw FITS files through the myriad of steps to the finished product, black and white or color.

This is a free class and is open to everyone, but pre-registration is requested by calling (303) 932-7613 and leaving your name and the number in your party.

There are no knowledge or equipment prerequisites, just the desire to squeeze every bit of data and beauty out of the images you've worked so hard to acquire (a notebook and pen certainly won't hurt.)

So come one, come all on Saturday, November 5th from 1 to 3 p.m. (length approximate) to Olin Science Hall, room 105, two blocks west of University on Iliff. Parking is free on the streets around Olin, but watch signs carefully to avoid tickets.

If you know there is much more to the images you've been taking, this will be a terrific opportunity to learn some tricks you may not have known before and have your questions answered. See you there.

NGC 4565 (nicely done), Image copyright Steve Solon

o b s e r v e r s d e c k

## 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       Renewal

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

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

City, State, Zip: \_\_\_\_\_

Phone numbers: Home (    )      Work (    )

E-mail Address: \_\_\_\_\_

Occupation: \_\_\_\_\_

Other Interests: \_\_\_\_\_

(Students 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      Students: \$12 (*Students age 22 and younger*)  
..... \$

Astronomy Magazine/\$34  
Sky & Telescope Magazine/\$32.95  
..... \$

Van Nattan Scholarship Fund ..... \$

Chamberlin Restoration Fund ..... \$

Total Amount Paid ..... \$

*Please mail Dark Sky Site donations to: DAS Treasurer, Sandy Shaw, at the address below. (Make checks payable to the Dark Sky Site Fund).  
Please complete this form, or a copy, and mail it with your check or money order payable to The Denver Astronomical Society.  
DAS Treasurer, Sandy Shaw; 1095 Yank Street.; Golden, CO 80401*



## Denver Astronomical Society

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