

# Longmont Astronomical Society

## April 2004



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## **The View From Up Here**

Here is an update on our upcoming activities.

- 1) Sterling Reservoir State Park Star Party, Friday and Saturday, April 16 & 17 hosted by the State Park and the LAS. We hope you all are able to come out and enjoy this event. Please see the website for more information.
- 2) For those of you unable to attend, or wish to stay a little more local, there will also be a star party at Lyons Elementary on Friday, April 16. More info is on the website.
- 3) There is a change for Astronomy Day. The mall gave us a space that was already rented by someone else! So, please note that Astronomy Day will be held on Saturday, May 8th, and we will have a Public Star Party at Flanders Park that evening. We will have the prime location we had last year, which is in the center of the mall (outside of Victoria's Secret). Setup begins at 9:00, and we usually start taking the display down between 4:00 & 5:00. We need volunteers for both the mall and Flanders – please sign up if you have a couple of hours or more to spare!
- 4) Also note that we will have our regularly scheduled Flanders Party on Saturday, April 24th! I'd like to encourage everyone to invite friends, neighbors, co-workers to come to the Flanders star parties – they are very convenient and always a lot of fun!
- 5) Work continues on finding a new home for the LAS meetings. We ran into a couple of roadblocks with Front Range Community College, but we are still trying to get those worked out. We will keep you informed of any progress.

Thanks to all of you for your continued activity and support. We are well on the way to having a great 2004!

Clear skies,

Bob Spohn  
President

## Calendar

April	Meeting New Moon Party 1st Quarter Party	15th 16-17th – Sterling Reservoir Star Party 24th – Flanders and Astronomy Day at Twin Peaks Mall
May	Meeting New Moon Party 1st Quarter Party	20th 15th – New Moon Party at Pawnee 22nd – Public Observing at Flanders Park at dusk
June	Meeting New Moon Party 1st Quarter Party	17th 12th – Rocky Mountain Star Stare 26th – Public Observing at Flanders Park at dusk
July	Meeting New Moon Party 1st Quarter Party	15th 17th – (Grand Junction Star Party), Fox Park 24th – Public Observing at Flanders Park at dusk
August	Meeting New Moon Party 1st Quarter Party	19th 14th – Weekend Under the Stars 21st – Public Observing at Flanders Park at dusk
September	Meeting New Moon Party 1st Quarter Party	16th 11th – Caribou? 18th – Public Observing at Flanders Park at dusk
October	Meeting New Moon Party 1st Quarter Party	21st 9th – New Moon Party at Pawnee 16th – Public Observing at Flanders Park at dusk
November	Meeting New Moon Party 1st Quarter Party	18th 13th – New Moon Party at Pawnee 20th – Public Observing at Flanders Park at dusk
December	Meeting New Moon Party 1st Quarter Party	16th 11th – New Moon Party at Pawnee 18th – Public Observing at Flanders Park at dusk
Jan 2005	Banquet	15th – Wayside Inn

## March 18th meeting notes

Vice President Melinda Diehl called meeting to order.  
Secretary Mark Propp recorded minutes.

Visitors were introduced:

Ralph, and Bill attended February meeting also

Mark, student of Emily Haynes, part of MER student science team (ASIP: Athena Students Interns Programs) at JPL.

Officer's reports:

Vice President report by Melinda Diehl:

Astronomy day coming April 24th. We have obtained spot at Twin Peaks Mall for our booth. Location of previous year not available, we have somewhat less desirable spot, down by Sears.

Melinda called for Astronomy day volunteers, including some different people this year. Share the joy! The setup will start around 9am, and teardown between 3pm or 4pm. Melinda passed around sign up list for volunteers, including preferred times.

Treasurer's report by Monica Martens:

Monica reported account balances.

Monica will be out of town in April. Bob will have club check books for any necessary expenses.

Newsletter editor report by Philippe Bridenne:

Newsletters distributed. Send me articles!

Publicity and fundraising report by Ray Warren:

Ray distributed maps of new viewing site, "Kim's Place" (home of Kim and Lenny Jones and Diane Roberts). Kim was introduced to the club members.

Ray presented results and analysis of member survey.

Secretary Report by Mark Propp:

Mark mentioned new LAS internet domain again: <http://longmontastro.org>

Steve Albers has moved our web site to our new web server, seems to be working well.

The LAS email server and list server seems to be working well. Anyone not receiving LAS email, please inform Mark.

Webmaster report by Steve Albers:

Steve made several updates made to the website. Check out space weather links!

Equipment report: none

Old business

We had a short open discussion on search for a better (more accessible) meeting room, particularly the status of discussions with Front Range Community College (FRCC). Further discussion was tabled until President Bob Spohn is available with latest information.

New business

Announcement of "StarMyths" star party, Friday March 19th at 7:30pm by Lisa Michel. Location is off of 75th St. (Gunbarrel area) behind Heatherwood. Check <http://AthenasWeb.com>

Fiske planetarium rep. Julie Carmen made two announcements:

There is a star party at Lyons Elementary, Friday night 04/16/2004. 7:30pm-9:30pm. The school is quite excited about giving students a first look at the astronomical sky. It is sponsored by Erica Ellington. It is the same weekend as Sterling star party. Some members are planning on attending Lyons Elementary star party on Friday night, and Sterling on Saturday night.

Sterling reservoir star party, Friday 04/16/2004 and Saturday 04/17/2004. Should be a lot of fun, highlight of LAS star parties! Check web site for details.

Pawnee Star party March 20th. Check web site for details.

Flanders Star party March 27th. Check web site for details.

Boulder Astronomy Society (BAS), next meeting April 10th at Sommers Bausch Observatory. SBO makes CCD cameras and computers available to the club. Check out web site at <http://boulderastro.org>

Melinda announced raffle tickets would be sold to members tonight.  
Banquet videos with David Levy talk, available tonight to those who pre-ordered.

We also auctioned another club patch autographed by David Levy.

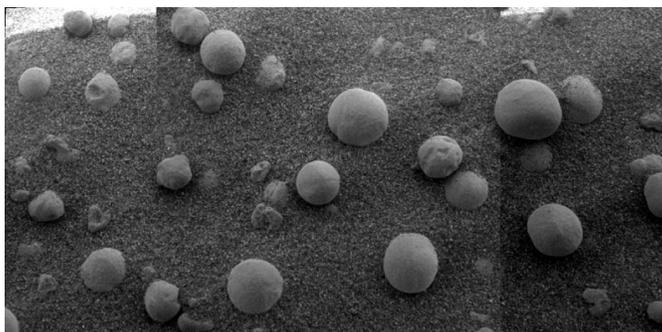
## BREAK

Presentation by Dr. Emily Haynes and student Mark Girard, on their participation and experience at JPL as part of the MER student intern science team (ASIP: Athena Students Interns Programs) at JPL. They visited JPL February 1st through February 7, 2004. They worked with Dr. Farrard, from SSI of Boulder, part of the pancam team. They attended Science Assessment and SOWG meetings for Spirit and Opportunity.

Activities included building test bed (including dirt hill) for testing rover operations prior to attempting drive out of crater and digging trench with wheels.. They were given a tour of JPL. They also attended a press conference. They created false color images for spectrography, and image mosaics, with Photoshop. They also attended lots of science meetings. Living on Mars time was very confusing, especially since they worked with teams for both rovers, on opposite sides of the planet. They had very little sleep at odd times. The windows of JPL space flight ops building blacked out to prevent daylight clues.

Among interesting anecdotes, students were present when first images of hematite spherules "blueberries". Lead scientist Dr. Steven Squyers approached students with images in hand, exclaiming: "look at these amazing freaky hematite spheres!" (See picture below)

Thanks to Dr. Haynes and Mark Girard for the interesting presentation! Mark Girard acknowledged it was an opportunity of a lifetime.



## **My thoughts about the past weekend at CFN...by Michael Hotka**

Yes. It was the largest crowd of people I had ever seen up there. Almost packed ;-)

One thing you can always count on is Gary Garzone showing beautiful views through his 30" to all. I have NEVER seen M51 as detailed through any scope as I did through Gary's. Discarding to the views through the 92" WIRO a couple of years ago, this view is at the top of my all time list. I often setup next to Gary to listen to his comments of the sky throughout the night. Saturday night, with Gary's brother Ed visiting, who, in the dark, sounds EXACTLY like Gary, it was hard to determine if Gary was talking or Ed was talking...made an interesting evening for all who "listened".

It was neat to meet people's other half. It makes our hobby just that much better when all family members can become involved.

Friday night, the weather did not match the clear sky clock at all. I guess when they pulled the plug on CSKs, they played a trick on us. Tom Teters, Steve Lynch and I waited for the sky to clear, which it did sometime around 1AM, but the seeing was very poor and the wind was wicked. So we spent the evening in Steve's camper. Steve "kicked us out" of his HEATED camper about 2 AM. If he wanted us to leave earlier, he should not have fed us all those goodies and turned on the heat ;-)

Saturday night looked to be more promising than Friday, but by sunset, the clouds (high haze) were everywhere. So I watched the transit of the moons and shadows, and watched Europa disappear and reappear from behind Jupiter. By about 11:00 PM, the sky consistently cleared from the NE and by midnight, the sky was in great shape. By 1 AM, a brisk E wind was starting to blow, and by 3 AM, the wind was making it cold (Yep, I am a wimp ;-). So I packed it in.

As it turned out, I found out my sleeping bag didn't do much to keep me warm, so I watched the sun rise, packed it all up and headed for home. Got to McDonalds at US-14 and I-25 about 7:30 AM for a big breakfast and then hit I-25 south.

The biggest surprise for me of Saturday night was the reappearance of Europa. I had it noted that it would clear the planets' surface at 12:05 AM. I watched and waited...12:30 AM, no moon...12:45 AM...no moon...So I figured I subtracted our time zone from UT incorrectly and I would see it at 1:05 AM. I continued to watch and at 12:52 AM, it "appeared" a LONG WAY from the planet, when it emerged from Jupiter's shadow. This was REALLY COOL!!! If I had given it 1/2 a thought, I would have realized this, for I watched the two moon shadows all night move across the planet. I like these kinds of "ah ha"s. Michael Hotka

### **Cactus Flat North by Gary garzone**

I thought it was ladies night out at Cactus Flats North this Saturday night new moon star party. It was great to see so many of the dark sky marines other halves show up. I think this was the largest crowd to date for CFN new moon event, even Cheyenne club members showed up. Lots of dark sky astronomers showed up, I lost count how many but it was like a summer event almost, except for the cold part ,but heck it was about equal to WUTS at Fox park in summer anyway, about 27 degrees maybe? Well trio transit of moons on surface of Jupiter was spectacular. We all caught the double dot spots then witnessed the third one on other side of dark band, easily seen. New 30 mirror coating on edge on galaxies like NGC 4565 and 5907 and spiral M51 were some of the best views to date for scope. We were blessed with clear skies, most of the night, some clouds early to scare off the doubtful, but stayed up till 2 am, bye, gary

## **Parachutes by Michael Hotka**

I have a friend who sky dives at the Longmont airport. When his parachute deploys, he is going about 120 mph. He glides safely to the ground.

At Mars, when Spirit was entering the atmosphere last January, its parachute deployed 4.6 miles above the ground, while the entry probe was traveling at 152 mph, about 32 mph faster than my friend. The parachute worked as it was designed for we know that Spirit reached the Martian surface successfully.

The above two scenarios are child's play compared to what a parachute is being asked to do at Saturn.

Parachute designs are very specific and unique. At Saturn, the Cassini spacecraft will release the Huygens probe on December 24, 2004 and will start to enter the atmosphere Saturn's moon Titan on January 14, 2005. These dates are based upon current mission forecasts.

The Huygens probe will enter the Titan atmosphere at 13,400 mph. The heat shield and atmospheric drag will slow the spacecraft to 12,427 mph, when a mortar will fire the pilot chute that will guide the main 8.3 meter diameter parachute to deploy. At that speed, Mach 1.5 (1 and a half times the speed of sound), the parachute will behave rather differently than my friend's parachute at the Longmont airport.

In the beginning, mission requirements stated that this main "parachute would sustain no damage". The engineers of the project knew that the parachute would sustain significant damage, so the requirement was rewritten to read the main parachute "will deploy and successfully slow the Huygens probe to 200 mph".

Once the main parachute is deployed, it will open and close like the undulation of a jelly fish in the ocean. It will do this for some time, but within a minute, it will fully deploy and stay open, slowing the probe to a speed of 186 mph. For another minute and 30 seconds, this parachute, or what is left of it, will continue to slow the descent of the probe.

At the end of the main chute phase of the descent, the heat shield will be let go and the main chute will "pull" the descent probe away from the heat shield. Within an instant, the main chute will be let go and a second chute will be deployed.

This is a much smaller parachute, measuring 3.03 meters in diameter. With all the instruments exposed to the Titan atmosphere since the heat shield is gone, this chute will slow the descent of the Huygens probe for the next 2 to 2 and a half hours, at which time, the probe will land on the surface of Titan at a speed of 5 meters per second. During this time, the Huygens probe will take 1100 pictures and the 5 onboard instruments will directly sample the atmosphere to determine its composition.

While researching this topic of parachutes, I came across another interesting parachute design, called a ballute. This type of parachute is used by the military to deploy ordinances while traveling really fast. This parachute is more of a conical shaped balloon, filled by a gas when deployed, which uses atmospheric drag on this balloon, to slow the descent of the object.

The parachute used on the Titan probe is the limit of what a parachute can do. Any speed faster than 12,500 mph would use other unique parachute designs, like the ballute.

## **Thank Goodness for Astronomy Clubs by Bill Travis**

Watching the video of David Levy's wonderful banquet speech (many thanks to all who produced it), I couldn't help but think back to the first astronomy club I belonged to, some forty years ago. The Astro-Gators

Astronomy Club was a kids group sponsored by the Children's Museum in Jacksonville, FL, during the 1960s and 1970s. There was a grown-up club in town, too, and I hadn't given much thought to why a junior club was started until I heard Levy talk about his own club, but I'm sure glad it was there. I joined when I was 12. We met every other Friday night in an old mansion that was the Museum's first building. The club thrived because several adults, and some of the more grown up members, put a big effort into keeping it going and teaching us kids the stars. And we members were all expected to provide programs, edit a newsletter, and plan activities. My first public speaking ever was to explain Kepler's laws of planetary motion to the group one Friday night.

The Astro-Gators' "dark sky site" (we didn't call it that then) was an abandoned airfield near a small town with the slightly exotic name of Switzerland (Florida was peppered with airfields used for training in World War II and afterward). Other observing sites included the backyard of a church north of town (offered by the pastor), a public park or two, and even the edges of active Naval Air bases (which were open country, often quite dark, and featured occasional visits from armed guards who accepted our late-night presence once they figured what we were up to). Parents, mine included, seemed happy to drop us off at such places and leave us all night, as long as a responsible grown-up would deliver us back the next morning!

Observing experiences that stand out during my stint in the club include:

- Dozens of meteor watches filling out IGY meteor report forms; arrayed in a circle of lawn chairs, we'd yell out "mark" with each meteor. Also, of course, the 1966 Leonid Meteor storm. It was a school night so we didn't have a club watch, and the storm did not peak until after dawn on the East Coast, but I saw hundreds of meteors through holes in the cloud cover that mysteriously hung over my back yard.
- A club trip to Eleuthera Island in the Bahamas to time a grazing occultation of Mars (most members' first trip outside of the US).
- Telescope views of the Apollo spacecraft in trans-lunar coast: 9th magnitude flecks of light with the occasional bright flash as a shroud or window caught the sun.
- Catching a glimpse of Explorer I just before its orbit decayed.
- The 1970 total solar eclipse, with a glimpse of the corona through miraculously thinning clouds near Waycross, Georgia.

Club leaders made a big difference in the lives of several young amateurs. A few who stand out were Karl Simmons, active today in the American Meteor Society and editor of Meteor News; Richard Hart, who kept the 12 inch reflector (then quite a large scope) owned by the adult group (the Jacksonville Astronomical Society) and let us use it; and Richard Sweetsir, co-author of the AL's Observe Eclipses (with another club alumnus, Mike Reynolds, director emeritus of the Cabot Space Science Center in Oakland, CA), who taught us all so much about astronomy, rockets, and cosmology.

The Astro-Gators changed many lives, mine included, and offered a bunch of kids not only an excuse to stay out all night, and to travel, but taught us an appreciation of the night sky that has stuck with me all my life.

Thank goodness for astronomy clubs!



Bill Travis

## Announcements



### *Events, Lectures, and Programs*

Monday, April 19

What's New on Mars?

Mission Update on the Mars Exploration Rovers

Dr. Steven Lee, curator of planetary science

7:00 p.m., Phipps IMAX Theater, Denver Museum of Nature & Science

Cost is \$10 member, \$13 nonmember, \$8 student

The twin Mars Exploration Rovers, Spirit and Opportunity, successfully landed on Mars in January 2004 and have been roaming across Gusev Crater and Meridiani Planum looking for signs of ancient water. Dr. Steve Lee will provide an update on the mission's progress, using the latest images and high-definition video

received from NASA. He will describe the scientific results and discuss how our understanding of the history of the Red Planet is being rewritten by these remarkable “robotic field geologists.” Call 303-322-7009 for reservations.

Wednesday, April 28, 11:00 a.m.

NASA Mars Exploration Rover Press Briefing  
Space Odyssey, Denver Museum of Nature & Science  
Admission is free with Museum admission.

NASA has scheduled a press briefing about new results from the Mars Exploration Rover Opportunity. View the live briefing in Space Odyssey. Call Jennifer at 303-370-6073 for more information. (Please note: Times for press briefings frequently are subject to change. Please check with Jennifer to confirm times 12 to 24 hours before the scheduled briefing.)

Friday, April 30

60 Minutes in Space: Beyond the Headlines  
Dr. Dimitri Klebe, curator of space sciences  
7:00 p.m., VIP Room, Denver Museum of Nature & Science  
Admission is free.

Dr. Dimitri Klebe will take you behind the headlines and give you details of breaking news in space science. Find out what’s happening in the cosmos with up-to-the-minute reports of breakthroughs and events in astronomy and space exploration. Call 303-322-7009 for reservations.

### *Upcoming Events*

Sunday, May 2

Star Station Fun  
Grades 2 & 3  
9:00 a.m.-3:00 p.m. (6-hour workshop), Denver Museum of Nature & Science  
\$50 member, \$60 nonmember

Join us for some far-out fun as we check into the “International Space Station.” How do we get there? How long will we stay? What do we know about living in space? Learn this and more during your journey through the Space Odyssey experience. Please bring a sack lunch and drink. Call 303-322-7009 for reservations.

Tuesday, May 4

Buying a Telescope  
Bryan White, Museum telescope operator and amateur astronomer  
6:30–8:30 p.m., Ricketson Auditorium  
\$20 member, \$25 nonmember  
Call 303-322-7009 for reservations.

Thursday, May 6

Space Day  
9:00 a.m.–5:00 p.m., Denver Museum of Nature & Science  
Come to the Museum for solar viewing, space crafts for kids, space science curator lectures, and other special activities. Activities are free with Museum admission. Call Jennifer at 303-370-6073 for more information.

Tuesdays, May 11 & May 18

Using Your Telescope  
Bryan White, Museum telescope operator and amateur astronomer  
7:00–9:00 p.m., Classroom 301, Denver Museum of Nature & Science  
\$30 member, \$40 nonmember

Learn more about using your telescope. Spend the first session in the classroom, learning the ins and outs of using your telescope. During the second class, bring in your telescope and get some hands-on help with using it. Call 303-322-7009 for reservations.

Wednesday, May 26

Mars Exploration Update

Dr. Steven Lee, Curator of Planetary Science

12:15 p.m., Ricketson Auditorium, Denver Museum of Nature & Science

Admission is free.

Dr. Steve Lee will give an update on recent results from the Mars Exploration Rovers, Mars Global Surveyor, Mars Odyssey, and Mars Express missions. Dr. Lee will also give a progress report on the Mars Color Imager and Context Imager, two camera systems that will be launched to Mars in 2005 aboard the Mars Reconnaissance Orbiter. Steve is a member of the Science Team building the cameras. Call 303-322-7009 for reservations.

### **Classified**

*To sell:*

I am trying to sell 10" Sears Craftsman table saw

Price: \$200 sends email to Brian [bnimball@msn.com](mailto:bnimball@msn.com) or calls him at 303-678-0525

I am trying to sell a Celestron Ultima 9.25. If the deal were local I would expect closer to \$1,600 or so and accept credit cards.

<http://www.astromart.com/viewad.asp?cid=233874>

Jared Workman

JMI NGF-DX1 focuser. Has 2 inch to 1 ½ inch adapter. \$150.00. Contact Mike Hotka at [mhotka@yahoo.com](mailto:mhotka@yahoo.com)

*To buy:*

Wanted: Large dob, say 14-15 inches, in good working order, preferably with digital settings circles. Thanks!

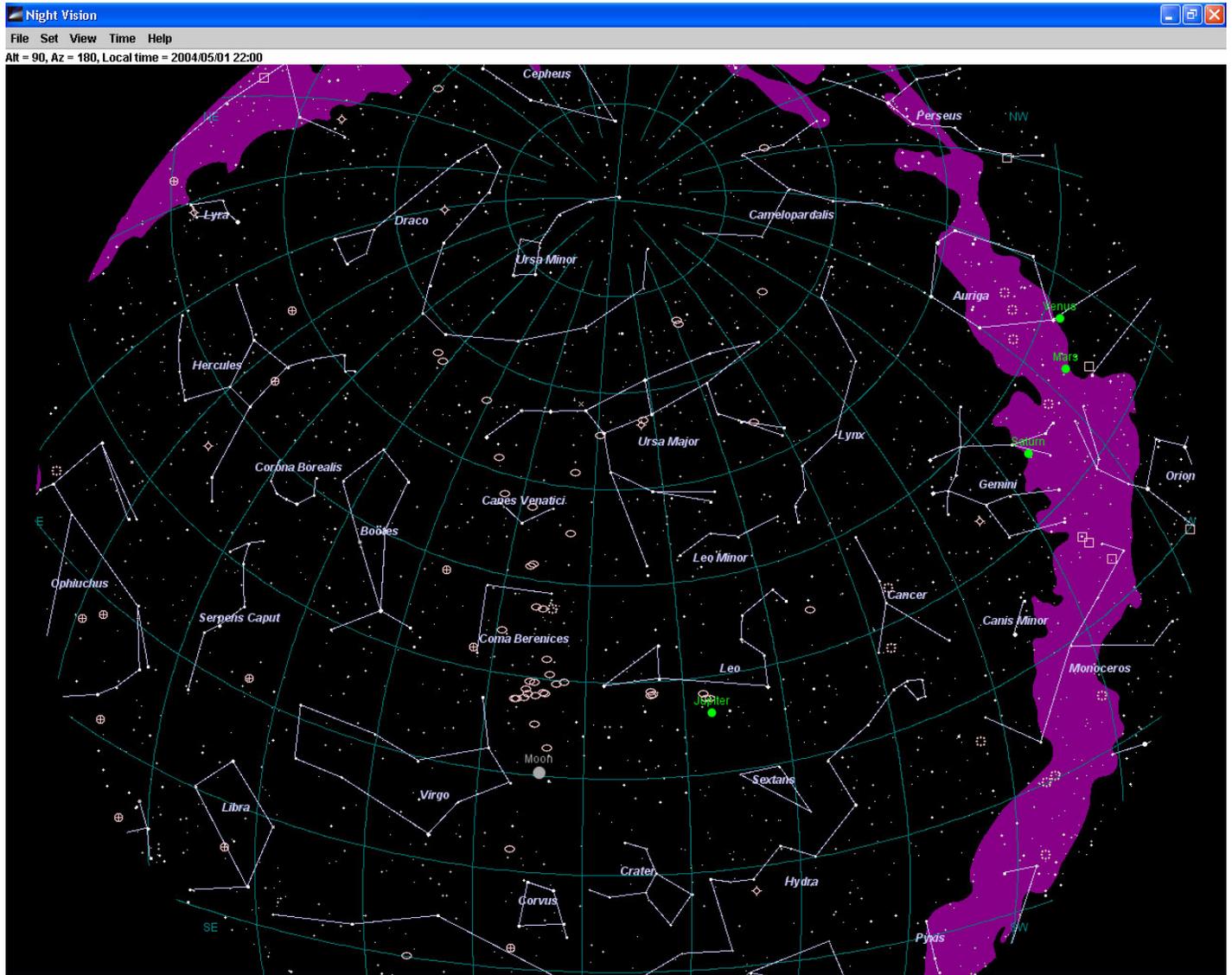
Bill Travis, 303-530-5010, [wtravis@colorado.edu](mailto:wtravis@colorado.edu)

If you have stuff to buy or to sell, send an email to your newsletter editor [philippe\\_bridenne@yahoo.com](mailto:philippe_bridenne@yahoo.com)



**M66**

# May Sky Map



Orion Nebula