



December 2005 Newsletter of the Omaha Astronomical Society Issue 216

Which galaxy is shown here?



General Meeting of the
Omaha Astronomical Society
Friday, December 2nd at 7:30 PM
Durham Science Center, Room 169
UNO Campus

Program: See Page 3

Events

December Club Star Party
Saturday 31 December
Club Site Weeping Water
Mahoney Public Star Parties
Done for 2005

NOTICE

Mr. Bond has asked me to announce that the 2006 Astronomy calendars are in, and that he will be bringing them to the December Meeting. He would greatly appreciate it if members who ordered the would pick them up at that time.

Visit the club web site at: **www.OmahaAstro.com**

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[Http://www.omahaastro.com/DigitalStella](http://www.omahaastro.com/DigitalStella)

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BULLETINS

December Meeting Presentation

Annual OAS Social

**Good December Dates to
Observe at the OAS Club Site or
at any other good location**

Friday 2 Dec, new moon

Saturday 3 Dec, new moon

Friday 23 Dec, last quarter moon

Saturday 24 Dec, last quarter moon

Friday 30 Dec, new moon

Saturday 31 Dec, new moon

Upcoming Events

25th December

Moon occults Spica

Early morning hours

New Years Day

Crescent Moon & Crescent Venus

Side by Side 10 degrees apart & above

South-Western Horizon

December Astronomy Quiz

1. The Pleiades, a large bright open cluster in the constellation Taurus, is the nearest such cluster to Earth. True or False
2. The European Space Agency's Hipparcos satellite catalogued 2.5 million stars (and other objects) about 10 years ago. Currently the Sloan Digital Sky Survey is also mapping with about a) 7 million b) 50 million or c) 100 million objects so far.
3. Now is a good time to observe Mintaka, Alnilam, and Alnitak. What are they?
4. What planet is described by these numbers? Diameter = 9.14 (if Earth is 1), Mass = 95 (if Earth is 1), Average temperature -285 F, Gravity = .92 (Earth is 1).
5. Looking toward the star Castor in Gemini around December 13th what can one expect to see? (Hint: It's not the jolly, old elf in a sleigh pulled by reindeer!)
6. It's constellation is highest in the sky in September and October and this red supergiant pulsates in size, varying in magnitude from 3.4 to 5.1 about every 2 years. What star is it?
7. Cosmic microwave background radiation comes from all parts of the sky, with almost equal intensity, and it's detectable by amateur astronomers. True or False?
8. Which constellation contains Brocchi's Cluster?
9. What 4th largest constellation contains the star Mira (Latin for wonderful)?
10. Which constellation contains the red giant star called Raselgethi, the Kneeler's Head?

December Sky Calendar

1st New Moon
8th First Quarter Moon
15th Full Moon
23rd Last Quarter Moon
30th New Moon

Recent Observing Awards

None

New Members

None

The Mars Rovers Update

NASA's Spirit rover currently exploring Mars completed one full swing around the Sun Monday, giving researchers a year-long look at the Martian seasons. "We feel like, weather-wise, we've just about seen it all," said Sharon Laubach, the rover's integrating sequence team chief, in a telephone interview. "We've gone through all the seasons, we've survived Martian winter and gone through conjunction...yes, we're having a party."

While both Spirit and its robotic twin Opportunity hit the one Earth year mark of their mission in January, researchers said the Nov. 21 Martian anniversary holds far more significance for the long-lived rovers. "It's a big, important milestone," said Steve Squyres, principal investigator of the rover's science mission at Cornell University in Ithaca, New York in an earlier interview. "We'll have acquired an entire year's worth of observations."

One Mars year is longer than Earth's (about 687 Earth days), with Spirit hitting its anniversary on the 670th sol – or Martian day – of its mission. Spirit has rolled across 3.3 miles (5.4 kilometers) of Martian terrain at its landing site inside the planet's Gusev crater. Opportunity will complete its first Martian year exploring the plains of Meridiani Planum on Dec. 11, mission scientists said. Both rovers touched down on Mars in January 2004 on a primary mission that spanned 90

Omaha Astronomical Society
Meeting Minutes

November 4th, 2005
UNO Durham Science Center, Room 169

OAS President Al Dorn called the meeting to order at 7:30 PM.

UNO Observatory--Overcast, no observing tonight.
Five guests and new members introduced themselves.

Secretary's Report. OAS Secretary Kim Moss-Allen read the October, 2005 Meeting Minutes. A motion to accept the minutes was made by Mark Weiss and seconded by Deb Cheney.

Treasurer's Report. OAS Treasurer Bill Bond presented the October Treasurer's Report. Income was \$535.85. Expenses were \$712.11. Account Balance was \$4302.05

Old Business

1. OAS Outreach Coordinator John Johnson
OAS has received thanks from Glennwood (IA) schools, Rumsey Station. Blair school outreach was clouded out. Upcoming outreach in November: Nov.5th--Hitchcock Nature Center, IA, Nov.8th (cloud date Nov. 10th)--Sandoz Elementary in Millard. NASA Night Sky Network Program doing well.

2. OAS Telescope Loan Program Coordinator John Johnson

Telescopes are loaned out to the following club members:

6 Inch Newtonian	Keith Jones
6 Inch Dobsonian	Nina Baker
8 Inch SCT	Rita Corell
8 Inch Newtonian	Joe Alvarado
13 Inch Dobsonian	Not checked out at this time.

3. Observing Committee Coordinators Clark and Deb Cheney

Discussed-- Leonid Meteors to peak in early morning hours on Nov. 17th and 18th, extra bright Taurid meteors lately, International Space Station (ISS) crossing the night sky at this time, Mars at it's brightest until Nov.7th and still looking good for weeks (dust storm currently).

Two OAS members used the Weeping Water Astro Site in October.

4. PAC/OAS Banquet was October 14th. Those who attended say it went well. OAS member John Johnson won a meteorite as a door prize.

5. 2006 Astronomy Calendars sign up sheet was passed around--sign up if you want one (or 10).

6. December Holiday Party--Sign up was passed around to plan what foods to bring and a reminder--doorprizes donated by members are welcome --bring to Eric Balcom at December meeting.

7. Liability Insurance By increasing our annual premium by \$16 our OAS group liability coverage would be increased to \$1,000,000. After some discussion Eric Balcom made the motion to increase the premium, Howard Boehm seconded and the motion was passed by a vote of hands.

November 2005 Calendar of Events

Nov. 5--Hitchcock Nature Center Star Party, Crescent IA

Nov. 8--Sandoz Elem., Millard, (cloud date Nov.10th)

Nov. 10--Nebraska Star Party planning meeting, 7:30 PM

Nov. 26--OAS Star Party at Weeping Water Astro Site

New Business

1. Appointed Positions

Clark Cheney was re-appointed Observing Chairman, and Deb Cheney was re-appointed as Awards Coordinator. Some discussion took place about Historian and Library (at the Houston home) but these are still "in the worksheet this time.

2. Special Request

Rita Livengood asked OAS members present for any magazines (any topic) that they would like to donate. She is collecting them to send to her son stationed in Iraq. Call Rita or bring to December meeting.

Awards and Recognition None this month.

Next OAS Meeting will be Friday Dec. 2nd, 7:30PM at the UNO Durham Science Center.

Meeting Adjourned at 8:15 PM with a motion from Al Dorn and seconded by Bill Bond.

Reminder

To all members, please remember to bring your food and beverage items to the December meeting.

Also if someone has any item do donate as a door prize please bring it and contact me at the meeting and let me know what it is.

Thanks in advance.

Something from the past.



Saturn Commands the Night

Saturn puts on a nice display next month after dark. By 11 pm. Local time December 1, it stands 20 degrees high in the east. By the end of the month, you will find it well clear of the horizon by 9 pm local time. The ringed planet brightens throughout December, reaching magnitude -0.1 at year's end. It lies among the faint background stars of Cancer the Crab. A quick binocular scan of this region will reveal the eye-catching Beehive star cluster (M44) northwest of Saturn. A waning gibbous Moon passes 4 degree north of the planet December 18.

Saturn ranks among the best telescopic sights in the sky. The rings show up nicely in any scope. Most viewers can spot the Cassini Division, the dark gap that separates the outer A ring from the brighter B ring. This month, the rings span 45". The planet's globe measure 20" across, although few features are visible in its haze-laden atmosphere. The view of Saturn improves as it climbs higher in the sky after midnight. Its light then passes through less of our atmosphere, so you can use higher magnifications with greater success.

Tracking the motions of Saturn's moons can keep you entertained almost every night. Each scoots around the planet with a different period. Occasionally, this brings about curious alignments.

A good example comes December 1 and 2 when all the planet's bright moons cluster near Saturn's disk. This includes Titan and Iapetus, two moons that spend most of their time far from the planet. Through a telescope, 8th-magnitude Titan appears brightest, Iapetus is more intriguing visually, however, because it has a dual personality. When it lies west of the planet, Iapetus shows us its brighter face, glowing at 10th magnitude. The moon appears 2 magnitudes fainter when it's east of Saturn and its dark side faces us. Iapetus grows brighter through most of December, as it moves toward western elongation on the 22nd.



Pluto's Moons?

Using NASA's Hubble Space Telescope to probe the ninth planet in our solar system, astronomers discovered that Pluto may have not one, but three moons. If confirmed, the discovery of the two new moons could offer insights into the nature and evolution of the Pluto system, Kuiper Belt Objects with satellite systems, and the early Kuiper Belt. "If, as our new Hubble images indicate, Pluto has not one, but two or three moons, it will become the first body in the Kuiper Belt known to have more than one satellite," said Hal Weaver of the Johns Hopkins Applied Physics Laboratory, Laurel, Md. He is co-leader of the team that made the discovery.

Pluto was discovered in 1930. Charon, Pluto's only confirmed moon, was discovered by ground-based observers in 1978. The planet resides 3 billion miles from the sun in the heart of the Kuiper Belt.

The candidate moons, provisionally designated S/2005 P1 and S/2005 P2, were observed to be approximately 27,000 miles (44,000 kilometers) away from Pluto. The objects are roughly two to three times as far from Pluto as Charon.

The Hubble telescope's Advanced Camera for Surveys observed the two new candidate moons on May 15, 2005. "The new satellite candidates are roughly 5,000 times fainter than Pluto, but they really stood out in these Hubble images," said Max Mutchler of the Space Telescope Science Institute and the first team member to identify the satellites. Three days later, Hubble looked at Pluto again. The two objects were still there and appeared to be moving in orbit around Pluto.

"A re-examination of Hubble images taken on June 14, 2002 has essentially confirmed the presence of both P1 and P2 near the predicted locations based on the 2005 Hubble observations," said Marc Buie of Lowell Observatory, Flagstaff, Ariz., another member of the research team.

The Institute is operated for NASA by the Association of Universities for Research in Astronomy, Inc., Washington, under contract with Goddard.

December Astronomy Quiz Answers

1. False Actually, it's another open cluster in the same constellation, the Hyades that are the closest open cluster to Earth at about 150 light years away.
2. c) 100 million, and the number may double before the project is finished in 2008.
3. They are the 3 "belt stars" in the constellation Orion. Also known as Delta, Epsilon and Zeta Orionis.
4. Saturn
5. The Geminid Meteor Shower with an estimated 100 bright meteors an hour visible at peak.
6. Mu Cephei, also known as the Garnet Star.
7. True This radiation, also known as the "Big Bang Afterglow," and is an estimated 13.7 years old. Cosmic microwaves are strong at the frequencies used to broadcast UHF channels. So by tuning to an empty UHF station, part of the static you hear is microwave noise from "the birth of the universe."
8. Vulpecula, the Fox (formerly known as Vulpecula com Anser, the Fox and the Goose.)
9. Cetus, the "Sea Monster" or "Whale".
10. Hercules, who is depicted in a kneeling position.

The galaxy is shown on the front cover is;

M33—NGC 598



Club Officers

President: Al Dorn 291-5595

al1@ditol.com

Vice President: Mark Weiss 291-5322

mweiss4@cox.net

Treasurer: Bill Bond 491-4135

bill.bond1@cox.net

Secretary: Kim Moss-Allen 291-7887

dallen@novia.net

Program Chair: Eric Balcom 491-3502

ecbalcom@msn.com

Outreach Coordinator: John Johnson 333-5460

jwjohanson@opd.com

Stella Editor: Mark Weiss 291-5322

mweiss4@cox.net

BENEFITS OF MEMBERSHIP

- ◆ Members receive the STELLA, our monthly newsletter.
- ◆ Each member is automatically a member of the Astronomical League, the only nation-wide organization for amateur astronomers.
- ◆ Use of the observing site at Weeping Water, NE
- ◆ The opportunity to borrow one of several club-owned telescopes.
- ◆ Organized trips to local observatories, planetariums and museums.
- ◆ Significant savings on subscriptions to **Sky & Telescope** and **Astronomy** magazines.
- ◆ Savings on astronomy books and printed materials.

ANNUAL MEMBERSHIP DUES

Regular/Family
\$25.00

Junior/Student
\$10.00

Newsletter Only
\$10.00

Send your check to:
The OAS
c/o Bill Bond
12835 Aurora Plz,
Lot 237
Omaha, NE 68164