

The Spectrogram

Newsletter for the Society of Telescopes, Astronomy, and Radio

October 2005

Inside this Issue

2

President's Corner
September Meeting Notes

3

Where No Spacecraft Has
Gone Before

5

in the Eyepiece

October's Meeting

The next meeting of S*T*A*R will be Thursday, October 6th.

The meeting will begin promptly at 8:00pm at the King of Kings Lutheran Church, 250 Harmony Road, Middletown.

Please Pay Your Annual Dues at October's Meeting

Membership fees for 2005-6 of \$25 per individual and \$35 per family are due in September. Please make payments to Paul Nadolny at the September meeting so we can collect them quickly. If you can't make the meeting, please mail a check made payable to STAR Astronomy Society Inc to:

STAR Astronomy Society
P.O. Box 863
Red Bank, NJ 07701

November Deadline

The deadline for the next edition of the Spectrogram is Friday September 30th. Please email any contributions to gwarnes1@comcast.net.

Calendar

Sep 1, 2005 – "*The Art and Science of Early Printed Star Atlases*" - Ray Harris, LVAAS

Oct 6, 2005 – "*Searching for Earth-Like Planets: NASA's Terrestrial Planet Finder Space Telescope*" by Dr. Robert Vanderbei, Princeton University

Nov 3, 2005 – "*How does Pluto fit into the scale of the Solar System*" by Jerry Vinski, RVCC Planetarium Director

Dec 1, 2005 – "*Chandra's X-Ray View of Supernova Remnants*" by Dr. John Hughes, Rutgers University

Jan 6, 2006 - "*Ringed Basins on the Moon*" by Charlie Byrne, S*T*A*R

Feb 2, 2006 - "*Science and Art as Viewed Through the Lens of Astronomy*" by Nick Lordi, S*T*A*R

Mar 2, 2006 - "*An Empirical Determination of the Effect of Atmospheric Drag on Orbital Decay*" by Daniel Handlin, S*T*A*R

Apr 6, 2006 – "*Cosmology*" by Dr. Joanna Dunkley, Princeton/Oxford

May 4, 2006 – TBA

Jun 1, 2006 – AGM

S*T*A*R
P.O. Box 863
Red Bank, NJ 07701
On the web at:
<http://www.starastronomy.org>

President's Corner

By Steve Walters

October! What a month October is! There's a chill in the air when you're out at night and at a dark site, the Milky Way looms overhead. What's that you see? Andromeda, easily seen naked eye. And this month brings a special treat – Mars! There are so many beautiful objects to see, so drop whatever you're doing, look outside, and if it's clear put on a jacket and get out there! It'll be time well spent, you'll come back in charged up and refreshed! Give it a try!

The last two months have been very productive for me, in September I made an imaging trip to Cherry Springs and had five clear nights in a row! What wonderful nights! Besides imaging, a group of us tried to spot Einstein's Cross, (a lensed quasar) through Tom Whiting's 30" dob. Then this month, I made a run to the Poconos and had three clear nights in a row there! All total, I've bagged eight new objects with my imaging system, each having between 6 to 8 hours of data collection. These are some of the best images I've ever taken.

This month I have to mention one sad note. Ernie Rossi, one of the most dedicated and knowledgeable astronomers in our club, is moving to Florida and has sold his place in the Catskills. This is a sad moment for many in the club. "Ernie's Place" has been the site of many fine star parties for S*T*A*R and we'll miss having such a convenient location and such a friendly host! I know you all join me in wishing Ernie well in his move, it is always a challenge to move such a distance. I expect some S*T*A*R members will continue to see Ernie in his new haunts, he's going to be near Chiefland Astronomy Village in Florida and no doubt we'll be hearing from him. And he hasn't abandoned us yet, he's still having star parties at his place in Long Valley NJ. Good luck Ernie! Don't be a stranger! Thanks for all the contributions you've made to each of us!

Lastly, I also have to remind you that if you haven't paid your dues already, please get them in. Yes, it's that time of the year again, sorry to be a pest but we really need to be sure we can meet our commitments.

Clear Skies!

Steve

September Meeting Notes

By Steve Fedor

The 2005/ 2006 season for S*T*A*R Astronomy kicked off on September 1st at 8:08 pm. The meeting was attended by approximately 23 members and non-members. President Steve Walters began by welcoming first time attendees and

announcing that Treasurer Paul Nadolny would be collecting the annual dues.

At 8:18 Ray Harris of the Lehigh Valley Amateur Astronomical Society (LVAAS) began the evening's presentation on "The Art and Science of Early Printed Star Atlases." The lecture described the evolution of the art and science of celestial cartography from the early 1500's through present times, focusing on the great atlases from 1540 through 1801.

The talk concluded at 8:57 at which time coffee break began.

Coffee break "Scope and Tell" was by S*T*A*R member Nick Lordi who displayed educational pamphlets from "the educational Universe of Celestia," a free space simulation program to explore the universe. The software can be found at <http://www.shatters.net/celestia/>. At approximately 9:15 the meeting resumed.

Jordan Feder was not available for his monthly "Object of the Month" presentation. However per Jordan's suggestion Steve Walters presented NGC 6822 "Banard's galaxy" and charted its position.

Announcements:

Randy Walton announced the following:

-On 9/22 there will be a lecture on Einstein at the planetarium at Ocean County College.

- A.S.T.R.A. will be taking orders to achieve a group discount on The Observer's Handbook. The price is discounted to \$12.95 from \$18.95 with a 4-6 week delivery.

- A.S.T.R.A. will be holding a public observing session.

Randy desires to use the S*T*A*R club's 25 inch Obsession and asked for Q.O.'s to volunteer.

Nick Lordi gave a brief report on the International SciArt (Science & Art) conference he attended last June in New Brunswick. Speakers included Carter Emmert who demonstrated the Digital Universe software and Dr. Michael Norman, an Astrophysicist at Univ. of California at San Diego, who is doing large scale simulations of galaxy formation.

S.I.G. Reports

ATM – Gordon Waite announced the upcoming ATM meeting and invited everyone to join in the fun of building a telescope, grinding a mirror or working on any astronomy related work at his shop.

Imaging – Steve Walters reported there will an imaging SIG meeting on 9/15.

Beginner's – Nancy McGuire indicated she would like to conduct a beginner's night, possibly at Burke Rd, if there were enough people to attend.

Observing. – No Report. V.P Dennis Olearly indicated there would be no public pstar party at Allaire State park.

Outreach – Steve Walters asked that someone take over the chair of this committee and stressed the need to grow the club’s membership.

After the 50/50 was drawn the meeting was adjourned.

Although the skies were clear no observing took place afterwards due to lack of an available telescope.

Where No Spacecraft Has Gone Before

By Dr. Tony Phillips

In 1977, Voyager 1 left our planet. Its mission: to visit Jupiter and Saturn and to study their moons. The flybys were an enormous success. Voyager 1 discovered active volcanoes on Io, found evidence for submerged oceans on Europa, and photographed dark rings around Jupiter itself. Later, the spacecraft buzzed Saturn’s moon Titan—alerting astronomers that it was a very strange place indeed! —and flew behind Saturn’s rings, seeing what was hidden from Earth.

Beyond Saturn, Neptune and Uranus beckoned, but Voyager 1’s planet-tour ended there. Saturn’s gravity seized Voyager 1 and slingshot it into deep space. Voyager 1 was heading for the stars—just as NASA had planned.

Now, in 2005, the spacecraft is nine billion miles (96 astronomical units) from the Sun, and it has entered a strange region of space no ship has ever visited before.

“We call this region ‘the heliosheath.’ It’s where the solar wind piles up against the interstellar medium at the outer edge of our solar system,” says Ed Stone, project scientist for the Voyager mission at the Jet Propulsion Laboratory.

Out in the Milky Way, where Voyager 1 is trying to go, the “empty space” between stars is not really empty. It’s filled with clouds of gas and dust. The wind from the Sun blows a gigantic bubble in this cloudy “interstellar medium.” All nine planets from Mercury to Pluto fit comfortably inside. The heliosheath is, essentially, the bubble’s skin.

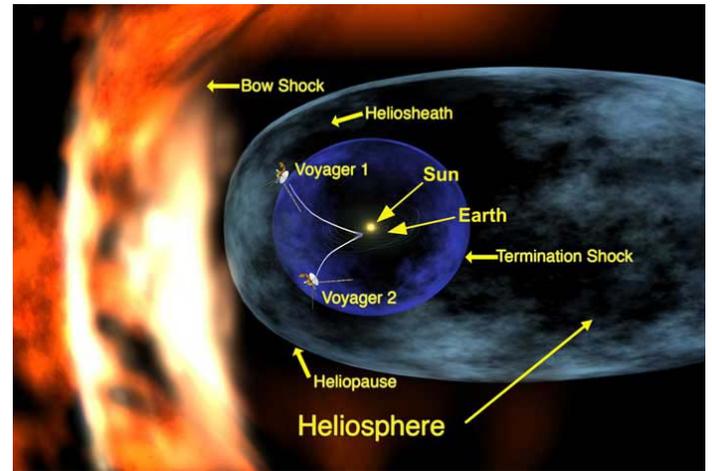
“The heliosheath is different from any other place we’ve been,” says Stone. Near the Sun, the solar wind moves at a million miles per hour. At the heliosheath, the solar wind slows eventually to a dead stop. The slowing wind becomes denser, more turbulent, and its magnetic field—a remnant of the sun’s own magnetism--grows stronger.

So far from Earth, this turbulent magnetic gas is curiously important to human life. “The heliosheath is a shield against galactic cosmic rays,” explains Stone. Subatomic particles blasted in our direction by distant supernovas and black holes are deflected by the heliosheath, protecting the inner solar system from much deadly radiation.

Voyager 1 is exploring this shield for the first time. “We’ll remain inside the heliosheath for 8 to 10 years,” predicts Stone, “then we’ll break through, finally reaching interstellar space.”

What’s out there? Stay tuned...

For more about the twin Voyager spacecraft, visit voyager.jpl.nasa.gov. Kids can learn about Voyager 1 and 2 and their grand tour of the outer planets at spaceplace.nasa.gov/en/kids/vgr_fact3.shtml.



Voyager 1, after 28 years of travel, has reached the heliosheath of our solar system.

Moon Phases



Are you a S*T*A*R Member?

S*T*A*R is a member of United Astronomy Clubs of New Jersey (UACNJ) and the International Dark Sky Association (IDA). Meetings are the first Thursday of each month, except July and August, at 8:00 PM at the King of Kings Lutheran Church, 250 Harmony Rd. in Middletown . Meeting generally consist of lectures and discussion by members or guest speakers on a variety of interesting astronomical topics.

Memberships: Individual....\$25
 Family...\$35 Institutional \$25

Name _____

Address _____

City _____ State _____ Zip _____

Phone _____

Email _____

Make checks payable to: STAR Astronomy Society, Inc. and mail to P.O. Box 863, Red Bank, NJ 07701

In the Eyepiece

Here is a list of objects for this month. This is reproduced from www.skyhound.com with the kind permission of its creator and author of SkyTools Greg Crinklaw.

Object(s)	Class	Con	RA	Dec	Mag
Andromeda Galaxy	Galaxy	Andromeda	00h42m44.3s	+41°16'09"	4.3
The Sculptor Galaxy -- NGC 253	Galaxy	Sculptor	00h47m33.1s	-25°17'18"	8.2
NGC 7789	Open Cluster	Cassiopeia	23h57m01.9s	+56°43'42"	7.5
NGC 278	Galaxy	Cassiopeia	00h52m04.4s	+47°33'01"	11.5
NGC 288	Globular Cluster	Sculptor	00h52m38.2s	-26°35'43"	8.9
NGC 247	Galaxy	Cetus	00h47m08.7s	-20°45'38"	9.7
IC 10	Galaxy	Cassiopeia	00h20m23.1s	+59°17'35"	11.8
The Bubble Nebula	Diffuse Nebula	Cassiopeia	23h20m42.0s	+61°12'00"	--
NGC 40	Planetary Nebula	Cepheus	00h13m01.0s	+72°31'19"	10.7
The Blue Snowball	Planetary Nebula	Andromeda	23h25m53.9s	+42°32'06"	9.2
NGC 246	Planetary Nebula	Cetus	00h47m03.3s	-11°52'19"	8.0
NGC 7640	Galaxy	Andromeda	23h22m06.5s	+40°50'45"	11.8
NGC 7606	Galaxy	Aquarius	23h19m04.8s	-08°29'08"	11.7
NGC 128	Galaxy	Pisces	00h29m15.1s	+02°51'51"	12.7
Jn 1	Planetary Nebula	Pegasus	23h35m53.4s	+30°27'36"	15.1
NGC 281	Open Cluster	Cassiopeia	00h52m50.1s	+56°37'17"	7.4
NGC 381	Open Cluster	Cassiopeia	01h08m21.0s	+61°35'00"	9.3
NGC 289	Galaxy	Sculptor	00h52m42.4s	-31°12'22"	11.8
Gamma Cassiopeia Nebula	Diffuse Nebula	Cassiopeia	00h57m30.0s	+61°09'00"	--
Hu 1-1	Planetary Nebula	Cassiopeia	00h28m15.0s	+55°57'54"	13.3
M 2-55	Planetary Nebula	Cepheus	23h31m51.3s	+70°22'11"	--
NGC 7492	Globular Cluster	Aquarius	23h08m28.7s	-15°36'28"	11.2
Hickson 94	Galaxy Group	Pegasus	23h17m18.2s	+18°43'31"	13.1
Gyulbudaghian's Nebula	Variable Reflection Nebula	Cepheus	20h45m54.2s	+67°57'51"	14