

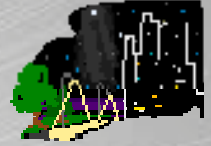


North Central Florida's
Amateur Astronomy Club
29°39' North, 82°21' West

January/ February
Issue 101.1/102.1



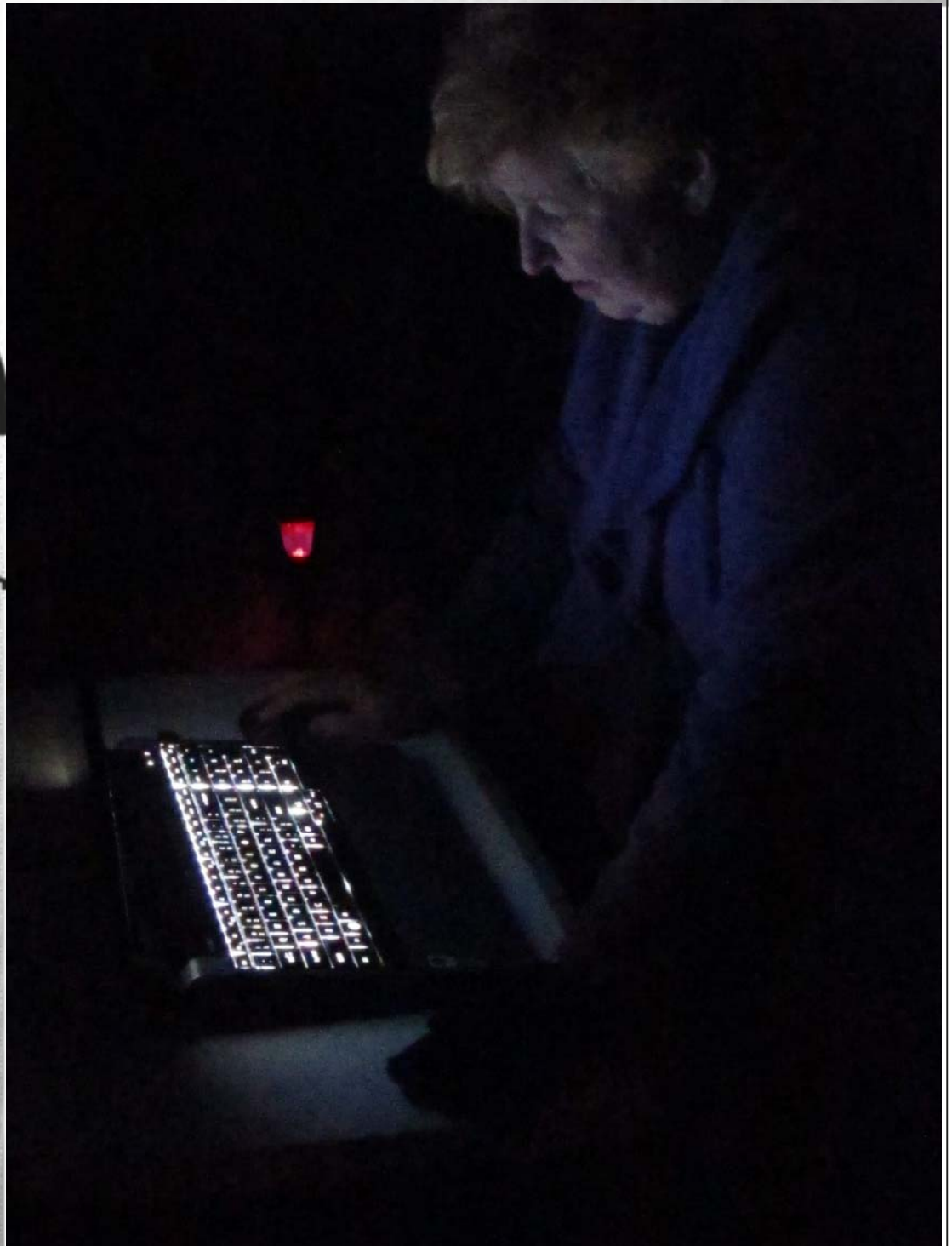
Member
Astronomical
League



Member
International
Dark-Sky Association

First Light

Newsletter of the Alachua Astronomy Club



Our secretary Paula McLain enters coordinates in her computer for her next target at the Rosemary Hill star party. More inside



I am sure many of you have read the book or seen the movie: Lemony Snicket’s “A Series of Unfortunate Events.” If you haven’t, you should. It’s quite entertaining! I feel like my life has been just the opposite; a series of fortunate events. I have had many blessings, one of which is being elected as your new president. When I look at the past presidents of the AAC that are listed on our website, I am humbled. I pray that I may live up to your expectations. I promise you that I will work tirelessly to maintain the level and quality of the AAC. I will try to make the AAC even better—for all, new members, as well as old.

Speaking of old, I was at the very first meeting of the AAC almost 25 years ago. I am very pleased with this club’s accomplishments over the past two and a half decades.

We owe a great deal of gratitude to the folks who made this club great. We also need to thank last year’s hard-working officers who did a fantastic job!

I have been the president of many organizations before. I am now retired and have the luxury of not having to reserve a lot of my free time for vocational requirements. This should afford me ample time to tend to the needs of the AAC.

If you desire to know more about my astronomical background, I will list my astronomy website at the end of these comments. Beyond that, I am an Eagle Scout and former U.S. Army officer. My other interests are HAM radio and keeping up with my 15 year-old son’s high school P.K. Yonge baseball team. I am married and live in Gainesville. My undergraduate degrees are from the UF and my graduate degrees are from Cornell.

Your nominating committee has put together a really outstanding group of officers. I think we are looking strong for this New Year, thanks to the willingness of many capable people desiring to serve the AAC. Please thank each one of them and support them in their new positions.

One thing I would like to accomplish this year is to increase our membership. I have been placing my back-issues of Astronomy, Sky & Telescope, Discover, New Scientist, etc. in waiting rooms all around town. Inside the front cover is info about our club, along with our website address as a tear-off item (see photo). If you have some old issues of magazines, you would like to contribute to this Cause; I would like to recycle them in this manner. The magazine selection in most waiting rooms leaves a lot to be desired as far as I’m concerned. If you’re like me, you’ll understand. It should offer some free advertising for our club -- and relieve some boredom.

Let’s have a great year!

Sincerely,
Bob Lightner
AAC President
<http://members.cox.net/w4gj/index.htm>





Are you interested in Astronomy?

If you are, then the **Alachua Astronomy Club** is a great local organization you might like to check out!

Our club has regular monthly meetings on the second Tuesday of each month (except for the month of December) at 7 PM in the Powell Hall auditorium at the University of Florida's Museum of Natural History.

Visitors are welcome to attend our monthly meetings.

No prior knowledge of Astronomy is required.

The benefits of joining our club are many. You can borrow club telescopes. You may use our observatory; the **Newberry Star Park**, you can participate in school outreach events, star parties, etc.

We have a web page at:

<http://floridastars.org/>

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SPECIAL EVENTS - 2011

See the AAC website for details

<u>Event</u>	<u>Date</u>	<u>Location</u> Check the website for directions	<u>Start/End Time</u>
Newberry Star Park Grand Opening	Tuesday, January 11	Newberry Sports Complex	7pm
Stargazing at Hickory Ranch	Saturday, January 22	Hickory Ranch at Paynes Prairie	6:00pm-9:00pm
Starry Starry Night at The Villages	Saturday, March 5	The Villages Polo Grounds	6:00pm-10:00pm
Stargazing at Dudley Farm Historic State Park	Saturday, March 26	Dudley Farm Historic State Park	8:00pm-11:00pm

STAR PARTY / OBSERVATION SCHEDULE: Upcoming Events - 2011

<u>Star Party Event</u>	<u>Date</u>	<u>Location</u>	<u>Start/End Time</u>
AAC Star Party	Saturday, January 29	Newberry Star Park	Sunset approx. 6:02pm ET
AAC Star Party	Saturday, February 5	Newberry Star Park	Sunset approx 6:07pm ET
AAC Star Party	Saturday, February 26	Newberry Star Park	Sunset approx 6:21pm ET

School Outreach Program: Upcoming Events - 2011

<u>School</u>	<u>Date</u>	<u>Location</u> Check the website for directions	<u>Start/End Time</u>
Joseph Williams Elementary	January 6th, 2011	1245 SE 7 th Avenue, Gainesville, FL 32641	Sunset 5:46 pm ET Start: 6:30 pm ET
Westwood Middle School	March 10, 2011	3215 NW 15th Avenue Gainesville, FL 32605	Sunset 6:35pm ET Start 7:00pm ET

Alachua Astronomy Club, Inc.
2011 Officers

President: Bob Lightner
Phone: 352-373-3055
Email: president@floridastars.org

Vice-President: Marlene Grabbe
Phone: 352-732-2767
Email: vicepresident@floridastars.org

Treasurer: Ivo Rabell
Phone: (352) 665-9381
Email: treasurer@floridastars.org

Secretary: Paula McLain
Email: sec@floridastars.org

Board of Directors
Howard Eskildsen
Al Boning
Bill Helms
Pamela Mydock

Chairs and Committees:
Star Parties: Paula & Clint McLain,
Coordinators
Al Boning - Assist. Coordinator
Email: starparty@floridastars.org

Programs/Promotions: Andy Howell
Phone: (352) 505-4852
Email: programs@floridastars.org

Outreach Coordinator: Mike Toomey

School Liaison & Outreach:
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Email: outreach@floridastars.org

ATM SIG: Chuck Broward
Phone: 352-373-7527
Email: ATM@floridastars.org

Astronomical League Correspondent:
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Telescope Custodian: vacant
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Lunar Observing/SIG: Bob O'Connell
Phone: 352-475-1586
Email: lunar@floridastars.org

Webmasters: Mike Toomey
Email: webmaster@floridastars.org

FirstLight Editor: Arne Reykowski
Phone: 352-562-3387
Email: firstlight@floridastars.org

AAC Meeting Location - AAC regular meetings are held on the second Tuesday of each month at **7:00 p.m.** at the Florida Museum of Natural History, **Powell Hall**, in the Lucille T. Maloney Classroom, on UF campus, unless otherwise announced. All meetings are free and open to the public. Join us for some great discussions and stargazing afterwards. Please visit our website for more information (floridastars.org). There is no monthly meeting in December.



Submitting Articles to FirstLight

The AAC encourages readers to submit articles and letters for inclusion in *FirstLight*. The AAC reserves the right review and edit all articles and letters before publication. Send all materials directly to the *FirstLight* Editor.

Materials must reach the *FirstLight* Editor at least 30 days prior to the publication date.

Submission of articles are accepted **by e-mail or on a CD**. Submit as either a plain text or Microsoft Word file. (In addition, you can also send a copy as a pdf file but you also need to send your text or Word file too.) Send pictures, figures or diagrams as separate gif or jpg file.

Mailing Address for Hard Copies or CDs

Note: Since our mailbox is *not* checked daily, mail materials will be before the deadline date. (Hence, submission by e-mail is much preferred!)

c/o FirstLight Editor
The Alachua Astronomy Club, Inc.
P.O. Box 141591
Gainesville, FL 32614-1591 USA

By E-Mail; Send e-mail with your attached files to
FirstLight@floridastars.org.

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February Club Meeting



Date: TUESDAY, FEBRUARY 8, 2011, 7:00 p.m. ET

Speaker: Tim Malles, [Artist Member of IAAA](#) and [AAC](#)

E-Mail: timmalles "at" aol "dot" com

Title: *The Keyhole Project: Voyage of Discovery*

Location: [Powell Hall](#), Florida Museum of Natural History (*Lucille T. Maloney Classroom*), UF Campus, Gainesville FL

Preview: From the constellations to the man in the Moon, the zodiac to the face on Mars, it has always been man's conceit to place himself among the stars. The Keyhole Project rockets off on a flight of fancy targeting man's lofty and unending attempt to anthropomorphize the heavens. From straining to peer through a narrow peephole to unlocking and opening the door wide, the project explores our primitive and psychological need to make a human connection to the abstract and particularly with what we do not understand. Not only do we instinctively attempt to find a human context there, we look for the highest possible meanings.

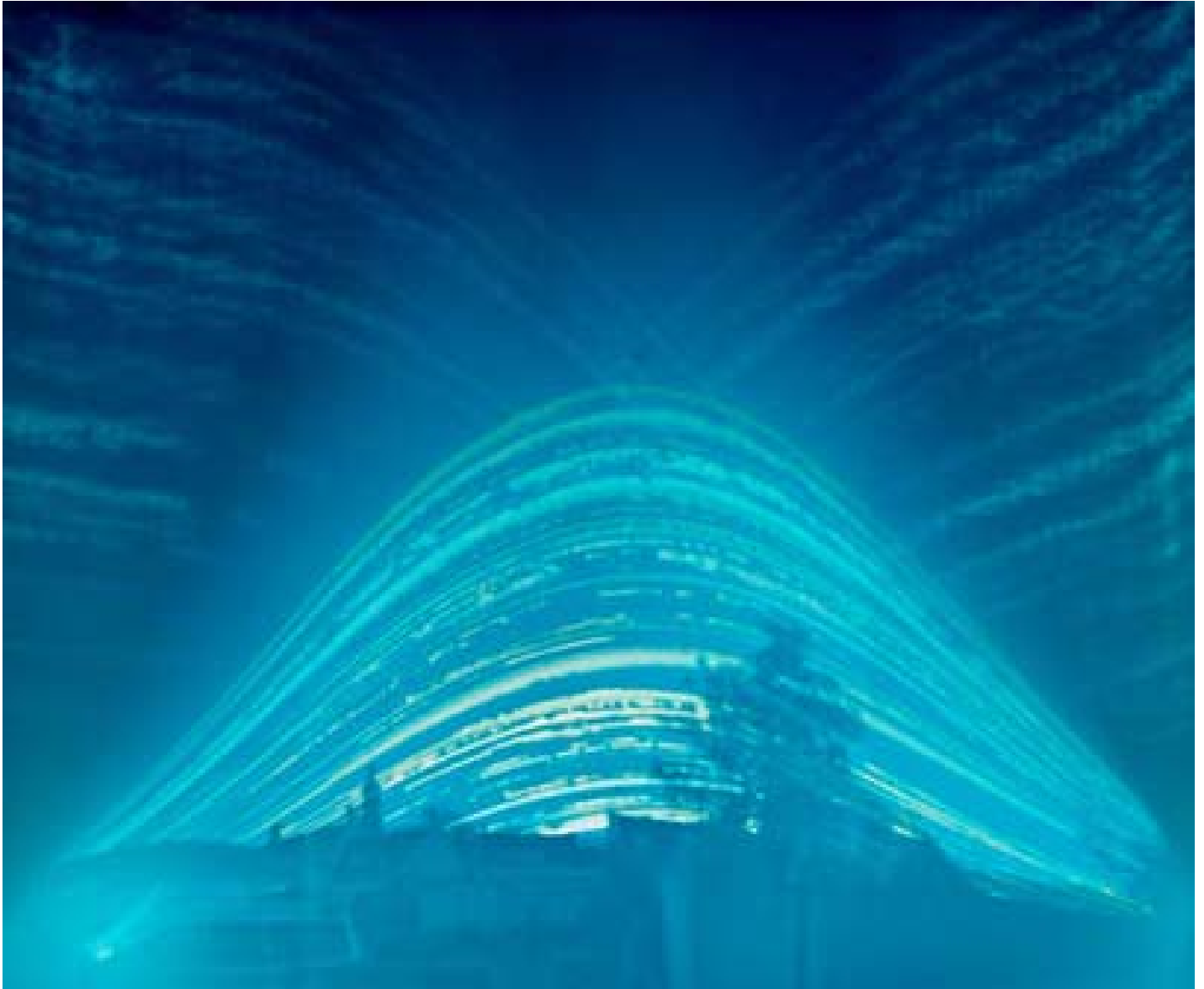
[Space Artist](#) and amateur astronomer Tim Malles has completed a series of 30 paintings that provide a unique and provocative perspective on views of space taken from the [Hubble Space Telescope](#). He turns his trained eyes and computer skills to closely examining the images of stars, swirling gas and dust and creates paintings that reveal his unique vision and interpretation of what he sees there. His talk will cover some of the creative and interpretive aspects and share some of the breakthroughs during seven years of work on the project. This installation of The Keyhole Project will exhibit a selection of the original oil paintings, a multimedia presentation with comments by the artist and a public interactive element...he invites the viewer to make their own connections between inner and outer space. Like peering into a cosmic reflecting pool, you will always see something of your self staring back at you! The goal is to show how much of our selves and our experiences influences not only what we see but ultimately what we believe.

About the Speaker: Tim Malles is a [professional artist](#) living in Gainesville, Florida. Astronomy themes, landscapes and public art are some of the targets of his work. He was accepted as a Juried Artist Member of the [International Association of Astronomical Artists](#) in May 2009. Tim has been an active AAC member since 2001, serving as Star Party Chair, Board Member, Special Events Coordinator and the last 3 years as Programs and Publicity Chairs. As a volunteer of the AAC, Tim created the artwork for the 10 bronze science plaques for the [Gainesville Solar Walk](#). He also contributed efforts to its construction and installations. Tim has a passion for astronomy outreach at AAC sponsored events and reaching out to thousands more through his own brand of sidewalk astronomy at outdoor art festivals. This is Tim's third presentation to the club, following his earlier talks, "[Space and Astronomy Art—An Artist's Impression](#)" (Apr 2008) and "[An Artist in Residence—Celebrating the 50th Anniversary of Kitt Peak National Observatory](#)" (Jan 2010).

SUN IN A BEER CAN:

(From Spaceweather.com)

Last July, Jan Koeman of Middelburg, the Netherlands, poked a tiny hole in an empty beer can, inserted a piece of photographic paper, and pointed the pinhole toward the sun. Six months later (Dec. 23, 2010) he extracted the paper and beheld the result:



"This is called solargraphy," explains Koeman. "Every day the sun makes a track across the photographic paper--high in the summer and low in the winter. Daily tracks are interrupted by clouds and, occasionally, absent altogether because of rainy days." It's a low-tech but beautiful way to record the seasons; browse the links below for more examples.

More solargraphy: [from Becky Ramotowski](#) of Tijeras, New Mexico; and [from Rijk-Jan Koppejan](#) of Middelburg, The Netherlands;

We had saved one last BIG present from the holidays to unwrap this night and it was a whopper! The Newberry Star Park is now open for general use by our club members. Everything but the weather cooperated on the night of January 11th. All day long the weather reports from many on-line weather sites predicted clearing skies, but it never happened. What *did* happen was that we had a great turnout of members as well as many residents of Newberry for this event. It was only a year ago that Doug Engh first came to us with the idea for a Star Park at the [Easton Newberry Sports Complex](#). Chuck Broward and [UF Civil & Coastal Engineering](#) student Jesica Rigdon drew up a couple of plans for the Park. We next got the support of the Newberry schools and senior citizens. After that, we presented a proposal to the Newberry City Commission. They unanimously supported the concept and we went about getting donations to build the park. Many of the donations came from Newberry, but not all. Our club members generously donated almost \$2,800 to the facility. Ivo Rabell, Mike Toomey, Rich Russin, Chuck Broward, Dr. Howard Eskildsen, Bob O'Connell, Pam Mydock and Ralph Bowden made major contributions, and we are all thankful for your generosity!

Our grand opening may have been dimmed a bit by the bad weather, but it wasn't enough to keep about 80 people from walking out and seeing our new facility. We had new members show up with telescopes, as well as old. The City Manager, a City Commissioner and many [City of Newberry](#) officials also attended. In addition Thomas Dobbins, a contributing editor of [Sky & Telescope](#) magazine, Dr. Francisco Reyes from [UF astronomy](#) and Dr. Sally Hoffman from [SFC astronomy](#) were also in attendance. So if someone ever tells you that astronomy people can't have fun under cloudy skies and in cold weather, don't believe them. We did, and these photos will prove that.

Special thanks go to Tandy Carter, Ivo Rabell, Gregory Beckner, Luis Villazon, Rich Russin, Marianne Gamble and Tim Malles who set up their telescopes in spite of the cloud layers above them! They went the extra mile and stood around in the cold telling people about their telescopes, our club activities and what it means to be a member of the AAC.

Three Santa Fe College astronomy students came out to act as guides for this event which was well publicized by our club's new public information officer, Lisa Eager.





Bob O'Connell accepting his STAR award



City Manager Keith Ashby and City Commissioner Alena Lawson



Larry Friedberg accepting his STAR award



Tippy and Thomas Dobbins from Sky & Telescope magazine



Doug Engh by the building with his name



Edna Lightner, Linda Canlas, Yolanda Mama, Jerry Canlas and Alena Lawson



Keith Ashby and Alena Lawson with Ivo Rabell and his Lightbridge Dob



Chuck Broward and Mr. & Mrs. Gary Cook looking at the RLT



Jerry Stewart cutting out the letters for the side of the building in his carpentry shop



Bob Lightner, Mike Toomey and Tandy Carter putting up the insulation and walls



Marianne Gamble painting the walls



Arne Reykowski putting up the letters on the side of the building



"First Light" from the red LED's flanking the walk ways

NSP WISH LIST

It never hurts to ask—that is why we have compiled a short wish list for the NSP.

The list below contains items that would be useful for our new observatory site in Newberry.

If you happen to have one of the items on the list and don't need it anymore, or if you want to make a donation for the NSP, please contact Bob Lightner or any member of the NSP committee.

ITEM	ESTIMATED COST
1. Large AAC LOGO for side of the building (Tim & JoAnn ?)	\$??.??
2. <u>Outdoor 2.4GHz Yagi antenna</u>	\$ 60.00
3. <u>2-section push-up antenna pole</u>	\$ 60.00
4. <u>Contractor's tripod work-light</u>	\$ 45.00
5. <u>One floodlight with motion-detection sensor</u>	\$ 90.00
6. <u>Flat screen computer monitor</u>	\$100.00
7. <u>Replacement graphics plug-in card for the Dell 4500 computer</u>	\$ 50.00
8. <u>Small microwave oven</u>	\$ 70.00
9. <u>Doormat</u>	\$ 40.00
10. <u>Heavy Duty 100' Extension cord</u>	\$ 50.00

In addition to the items on the list, we also need some help to improve the access to the wireless network in the Newberry Sports Park. We do have a Linksys WRT54G router with DD-WRT firmware that can be set up as a wireless router (hence also the 2.4GHz Yagi on our wish list).

Newberry Star Park Rules for Use

1. This facility is maintained by the Alachua Astronomy Club, Inc. Observing and use of this facility is restricted to members in good standing of the AAC. Visitors are welcome when accompanied by a current member.
2. Keys will be provided to members who are approved to have access to the storage facility. The key holder may not deny access to the observatory to any other club member who wishes to join him there. However, the key holder has first choice over the use of telescopes and other equipment.
3. Add your name to the wall calendar {by date} which hangs by the entrance door whenever you open and use the facility. Please note any suspicious activities to the AAC president.
4. Clean up after yourself. We do not have any custodial service at our observatory. If the trash can gets full, take it out to the dumpster and empty it. Don't leave trash or empty soda cans that might attract insects. Be considerate of the other members who use this observatory and don't make them clean up after you. **SMOKING IN THE OBSERVATORY BUILDING IS STRICTLY PROHIBITED!**
5. If you cook food in the microwave, make coffee, tea or cocoa, please clean up any mess. If you bring drinks, take them with you or leave them in the refrigerator-- not lying on the desk or work bench.
6. Although you aren't required to be "checked out" on specific equipment before you use it, please don't use anything if you don't know what you are doing! Manuals for our equipment are located in the file cabinet and will usually explain things in enough detail to get you going.
7. Don't take anything out of this facility that isn't yours! This observatory is frequently stocked with assorted eyepieces, adaptors, filters, tools, and test equipment so that things can be reconfigured or repaired whenever necessary. Somehow this stuff sometimes seems to disappear. This is THEFT, folks! Likewise, don't "borrow" anything without getting permission in advance and leaving a note stating what you have and when it will be returned.
8. Leave the air conditioner on LOW -- during the summer months when you leave the facility. It will keep the humidity down.
9. Turn the computer, monitor and printer off prior to leaving the facility. Make sure the heater is turned off prior to departure also -- during the winter months.
10. Securely lock and bolt the doors prior to leaving.

Written by: Bob Lightner 09.15.2010

Cool Links

The internet is very rich in information and resources.

“Cool Link” is a new column in the newsletter.

This is a corner where we can share findings we made on the internet.

If you happen to come across an interesting internet site or a cool software download:

Send the link with a short synopsis to FirstLight@floridastars.org

As a start, I will list a few sites that I visit frequently:

www.spaceweather.com

This is a site that I visit almost daily. It contains daily information about the sun and a host of transient astronomical phenomena like comets, meteorites, northern lights, and other.

www.calsky.org

This is an online resource for astronomical data tailored to your observation location.

apod.nasa.gov/apod

This site is called “Astronomy Picture of the Day”. Every day you will find a new picture with educational information attached. Cool pictures and cool information.

www.stellarium.org

The best free astronomy software ever!

www.stoff.pl

This is the download site for **Orbitron**, a great satellite tracker software. It allows to predict visible passes of a host of satellites, including ISS, STS missions, or Iridium flares. It also provides information on ham radio frequencies and even could steer an antenna to track the satellite.

deepskystack.free.fr/english/index.html

Free image stacker / post processing software for deep sky imaging.

IS ALPHA CHANGING OR IS OUR THEORY OF THE BEGINNING OF TIME WRONG?

The 2011 February issue of Astronomy magazine had an article by Bob Berman, "The Dimensionless Constant."

Mr. Berman wrote that four forces are woven into every crack and crevice in the universe. Two influence mainly within atoms. The other two – gravity and electromagnetism — manifest in everyday life throughout the cosmos.

Mr. Berman explained electromagnetism as a force that is intimately involved with electrons. When a distant star's electrons move, photons materialize like magic, traveling light-years to deliver the star's electromagnetic force to our retinas, and the result is a visual image — and knowledge of the universe.

Mr. Berman also wrote that the electromagnetic force has a strength. The strength of this force is known as the "fine-structure constant" but denoted as alpha (α), and the value of this constant is roughly 1/137. This constant is as fundamental as the constant for the speed of light. However, it goes deeper than the speed of light because it is a "dimensionless constant". This means its value is always the same even when you switch from metric units to another scale. It is always 1/137. This force is so finely tuned that if it were 4 percent different, carbon would never form, thus I would not be here to write this and you would not be here to read it.

In 1998 a team led by John K. Webb of the University of New South Wales / Australia studied the light from distant quasars (compact region-massive black holes-of very distant massive galaxies) as it passed through ancient nebulae. The way this light was absorbed in the northern sky indicated that the value of the α constant billions of years ago was slightly smaller than it is today.

A few months ago researchers studying 153 more quasars using the European southern Observatory VLT in Chile and Keck telescopes in Hawaii found that in the southern direction, α appeared to be one part in 100,000 larger 10 billion years ago than it is today. This violates one of the tenets of Einstein's special theory of relativity, which states that a constant must be identical no matter where and when it is measured. Some physicist suggest the cosmos may be far larger than many now believe, and support growing evidence that the universe is actually infinite in size and content.

It is my view that this is incorrect for wrong reasons. In 1948 Fred Hoyle and a few others developed the "Steady State Theory" as an alternative to "The Big Bang Theory." Hoyle's idea was that new matter is continuously created as the universe expands, and that the universe has no beginning and no end. Could this theory be right on one of its claims — that the universe has no beginning and no end?

Could the difference in α billions of years ago which resulted in different measurements in the northern and southern hemisphere of the universe as seen from Earth be the result of more than one Big Bang?

It is my opinion, that if the answer to the above question is a "yes", then matter is continuously created through a series of big bangs and thus the universe has no beginning and no end.

If above opinion comes to fruition, then Mr. Hoyle and others had it at least partially right.

One of my takes on science is that nothing is 100% absolutely wrong and nothing is 100% absolutely right 100% of the time. If it's either one or the other, it's not science.

Stay tuned!

Ivo Rabell

2010 Closes With More Outreach Opportunities Ahead

We had an active autumn in and around Gainesville, including star parties at Stars Shine in East Gainesville, Other Worlds in Melrose, Starry Night at the Florida Museum of Natural History, and Stargazing at Dudley Farm Historic State Park. In all, we provided nearly 2,000 views of the moon, stars and planets!

The following members contributed to the aforementioned activities in one capacity or another: Gregory Beckner, Preston Beckner (and his fellow scout Tyler Lukasik), Al Boning, Richard Bourdout, Chuck Broward, Tandy Carter, Howard Cohen, Marian Cohen, Lisa Eager, Howard Eskildsen, Marianne Gamble, Bill Helms, Andy Howell, Bob Lightner, Don Loftus, Tim Malles, Clint McClain, Paula McClain, Bob O'Connell, James Quinlan, Ivo Rabell, Andrew Rollins, Jeff Rollins, Rich Russin, Neil White and a few other folks I forgot to write down.



I'd especially like to thank Lisa Eager and Neil White for selflessly hosting a welcome table at FLMNH's Starry Night. It's contributions such as theirs that keep these events running smoothly.

On Tuesday, January 11, 2011, we'll hold our general meeting at the Newberry Star Park (see the related article in this newsletter). On Saturday, January 22, we'll head to Hickory Ranch for an outreach event benefiting Friends of Paynes Prairie. Chuck Broward will be the Event Coordinator for that event. Finally, we'll return to The Villages on Saturday, March 5. Ivo Rabell will serve as our recruiter for that event. Don't forget to keep an eye out on the school star parties as well!

In the future, our event coordinators will not be passing out a sign-up sheet at the general meetings. Instead, we've found it much more effective to use the AAC-L to recruit for these activities. Generally, we'll send these notices 10 to 20 days in advance of an event.

Mike Toomey has served the AAC in many capacities since 1998, including President, Secretary,

Starry Night at UF

A perfect sky, sun, moon, Jupiter, Uranus and a few deep sky objects entertained the crowd that came to get a first hand taste of astronomy. Inside the building, visitors could touch a real meteorite, enjoy Tim Malles space art, get a first hand view of the UF Cube Sat satellite, have some fun with liquid nitrogen or inform themselves about the planned giant telescope to be build on the Canary island of La Palma.

Not only the weather was nice to us, but the lawn sprinklers stayed turned off, which supposedly wasn't always the case in the past...



Bob Helms introduces a young crowd to solar observations



This picture shows the essence of a public star party.



Telescope alley



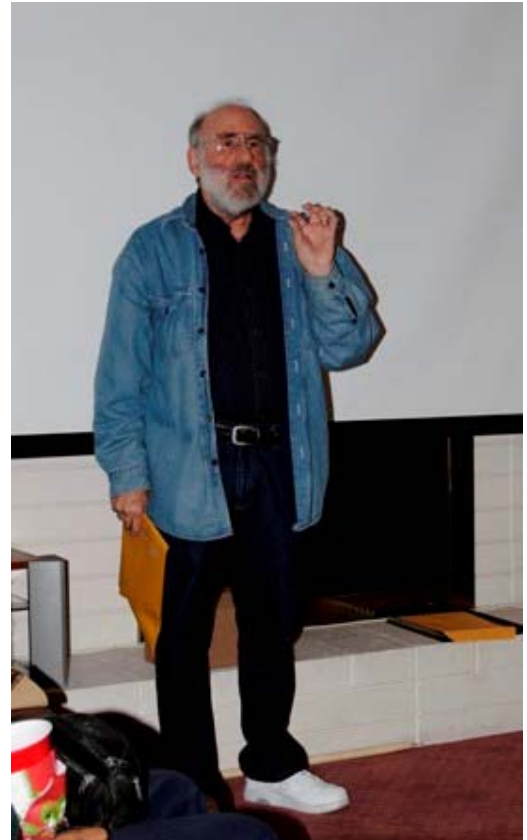
Chuck Broward and company hanging out and having fun.



Tim Malles Space Art Gallery @ Starry Night 2010.

The AAC's 2010 December Holiday Party

Our annual holiday party was held at the home of Mark & Cindy Barnett. We have met at their home many times in the past and this year's party was one of the best! There were many members in attendance, several guests and TONS of food and drink!



Everyone got a glimpse at Tim Malles Keyhole Project video, and Dr. Howard Cohen challenged the brave ones with a special astronomy quiz, given to college level astronomy students. It wasn't an easy exam for many of us who took it at the party. Perhaps it was the wine... Rumor has it that next year you will have to pass the exam before you will be admitted to the buffet.



The club gave Rich Russin a standing ovation for his work as our president and he was presented with a special framed certificate of appreciation. The two 2010 AAC STAR recipients were mentioned; Larry Friedberg and Bob O'Connell. Their awards will be presented at the grand opening of the Newberry Star Park (also our January meeting).



Rich gave a short speech before presenting vice president Bob Lightner with a "silver hammer" (Maxwells?) for the construction work at the NSP.

Thanks to everybody who helped organizing this event! See you there next year again.

AND ALCOR, TOO.....

Hello fellow observers, telescope makers and bashers, and astronomical experimenters.

First, January's meeting will be a planning meeting for 2011. I have received some suggestions (all positive) about some activities to work on this year. Please plan on attending. Third Tuesday at 7 P.M. at my house at 2240 NW 14 th Avenue, Gainesville. Brownies and ??? will be available. We are a social group as well as a cutting edge experimenters group. Nuff sed.

Here are a few ideas I think would be good for our ATM Meetings. The following are a response to a plea I made about ideas for this coming year. Two people responded. Here are ideas from Clint (I will comment!):

"How to build a Denver observing chair . I would furnish the material's needed to actually build one . This was one of Paula's ideas. **Clint, a good idea...we did this in the past, and have some wood left, and some hardware....so I am for it!**

Actually build a telescope from scratch to use at the NSP all ATM'ers could contribute . **If not building a scope from scratch, we do have one or two that need a lot of help, including the RLT (more comments about that later).**

Build a small workshop area at the NSP inside the shed for repairing scopes, and even teaching scouts etc, how to build a telescope. **Clint, we are one step ahead of you. A workbench is in place. It has, right now, a bench vise, magnifying lamp, and darned few tools.**

Cleaning of an telescopes glass primary and secondary lenses and cleaning of eyepieces using some kind of homemade solutions. **This is a yearly request, and we will do it again this year. I also plan to demonstrate a cleaning kit for digital imagers.**

Astrophotography : actually have those with knowledge show those of us that want to learn the basics of setting up our gear for taking picture's using our scopes and camera's. **We will have at least one imaging session this coming year, maybe more. Arne and I have acquired low cost programs to enable remote control of Nikon SLRs from a laptop or remote computer, and I have acquired some additional hardware to use with DSLRs and telescopes. Hopefully, we can all be doing some beginning good imaging by the end of the year.**

Building a small portable observing dome using PVC and a waterproofed tarp. **I have a special request to David Liles for hints on building a tarp-dome (and hopefully he will demonstrate a Pod-Dome for us! We can, if someone wants to help, look at various ideas for permanent or semi-permanent observatories.**

A lot of people made the NSP happen. I am hesitant to try and name them all, because I just don't know everyone that showed up to do the basic hard work that makes such a place grow from a idea to reality.



For you who have not been involved, it is many things; a site that will enable some reasonable (not great, but good) observing skies, a place that can house equipment, tools, a library, and a coffee pot for cold nights, and, it is a vehicle for sharing the Earth's sky with many, many people. Congrats! To all, Congrats! The Newberry Star Party has a page on Facebook. Just go to Facebook and do a search on Newberry Star Park. You should find it. The images start with a dirt field, and end up with a site that one person said "looks like a UFO landing site..." I contend that it is not a landing site, but a launching site, for ideas and imagination in the years to come...

I think I want to begin the year with two activities. first, lets have the January introductory meeting to kick things off. Then, lets start by building observing chairs in February. I have all the tools needed, and additional expenses will be minimal. For those of you who don't want to build observing chairs we can do some additional activities too. We won't know this until the meeting in January.

We do need to look at AAC's Rather Large Telescope. This is a 17.5 inch Newtonian, built several years ago by various club members. The mirror is a 17.5 inch Coulter. It is on the thin side. The mount (which I built) may not be up to the task of supporting the mirror properly. I would like to see the ATM group test this mirror this year, and correct its deficiencies. Anyone interested in working on a really big scope? Now is your chance!

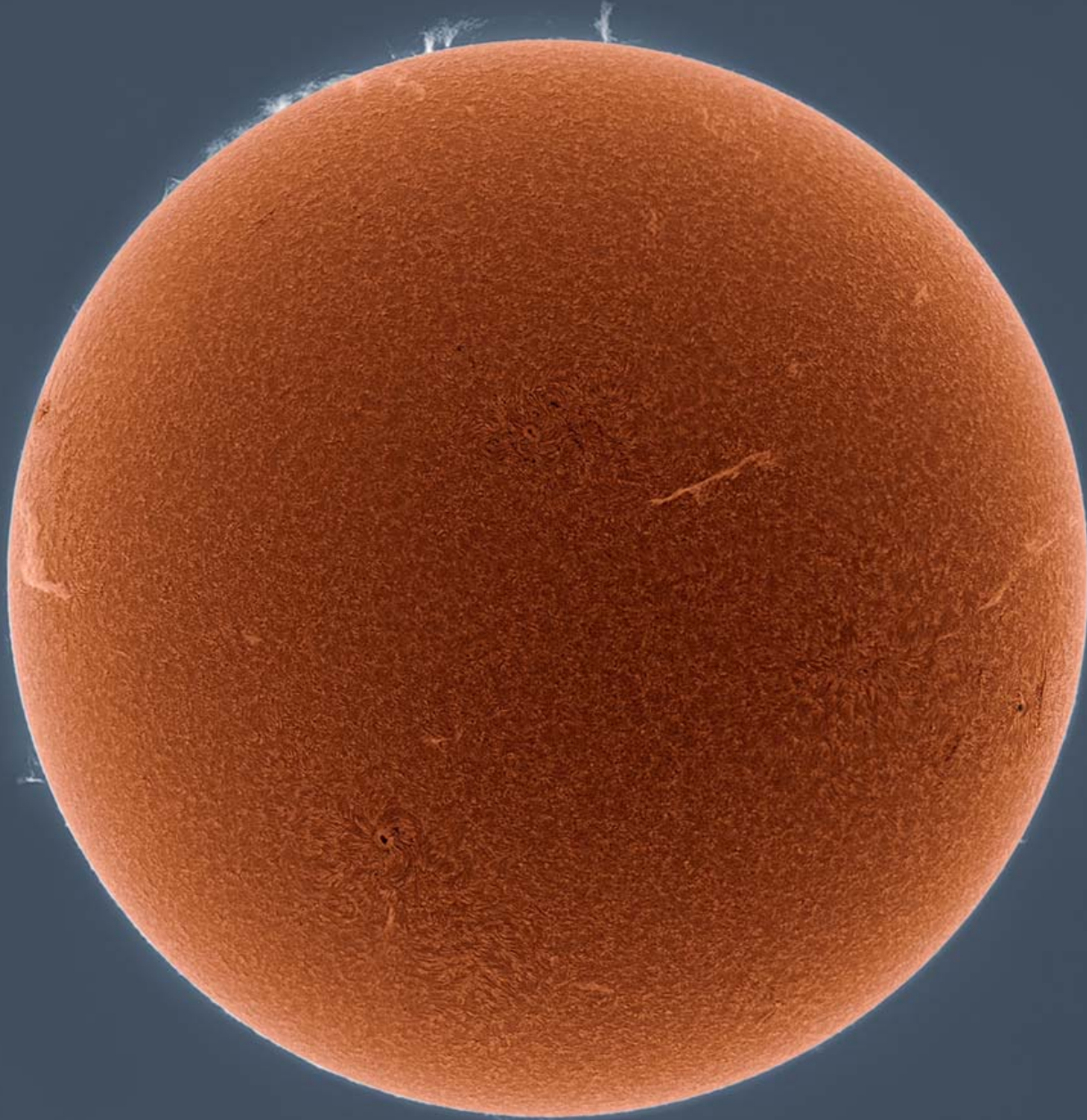
I would like to look at a few other activities...Is anyone interested in Sundials? Is anyone interested in designing and building a good alt-az mount for small scopes? How about the ultimate eyepiece or telescope case? Who would like to prove that their 'scope is better than all the rest!

We have much we can do. It will not happen without YOUR help and input! I will supply the brownies and libation of choice. I will supply the venue, and a tiny bit of planning. But it will be all of you that make ATM-Observers work.

ALCOR COMMENTS!

*AICor is short for ASTRONOMICAL LEAGUE CORRESPONDENT. The Astronomical League offers a number of observing programs and awards that we all should be taking part in. Lunar observing programs, deep sky object lists, double stars. There is something for everyone. The AL also provides us with insurance coverage, and a nice printed newsletter several times a year. In the past, a few AAC members have taken part in completing observing lists, but I would like to see many more take part this coming year. If someone out there would like to help coordinate AL activities, please let me know!
Nuff Sed! Clear Sky.*

**Chuck Broward, ATM-Observer Coordinator. AICor
atm@floridastars.org
alcor@floridastars.org**

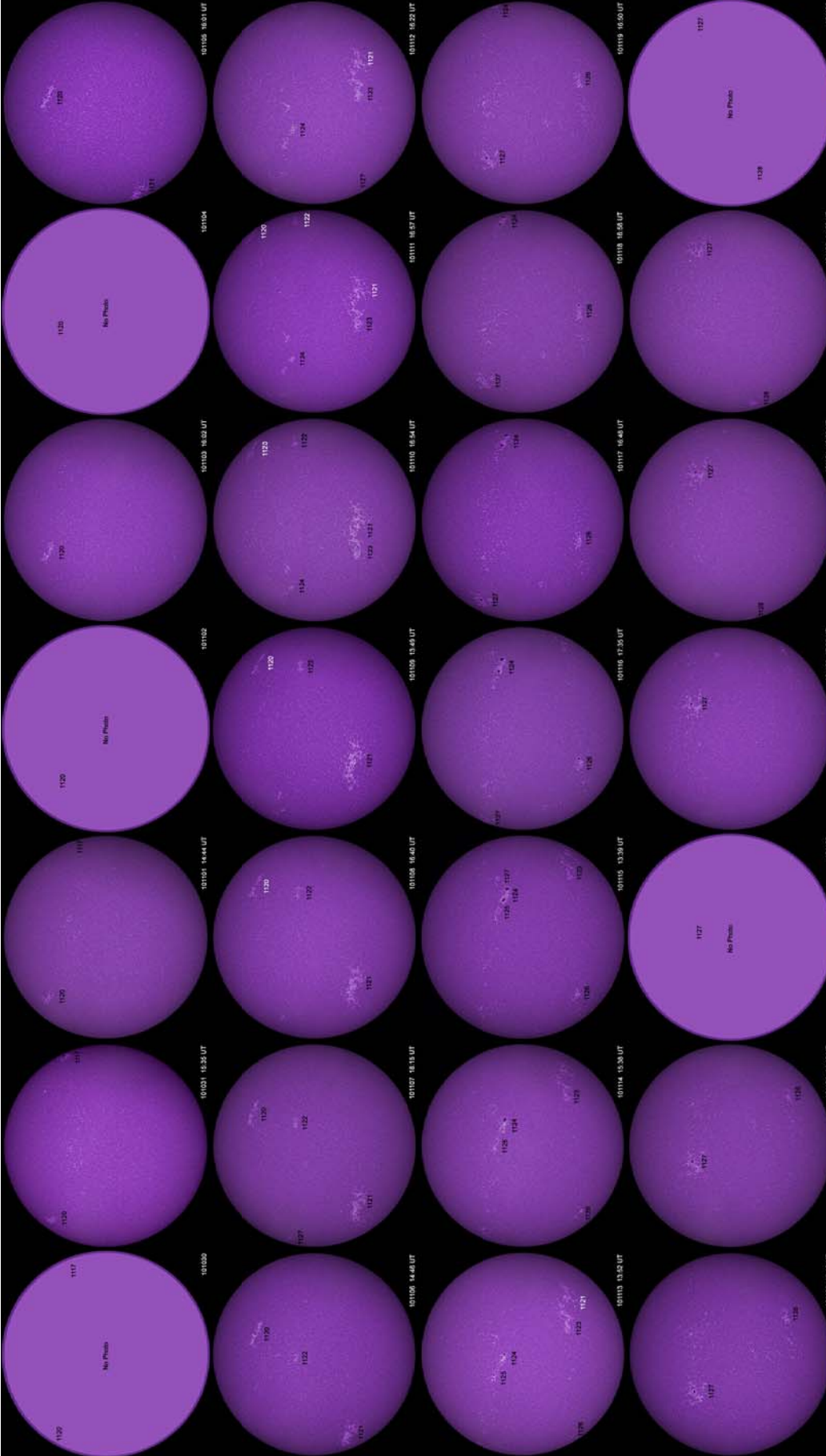
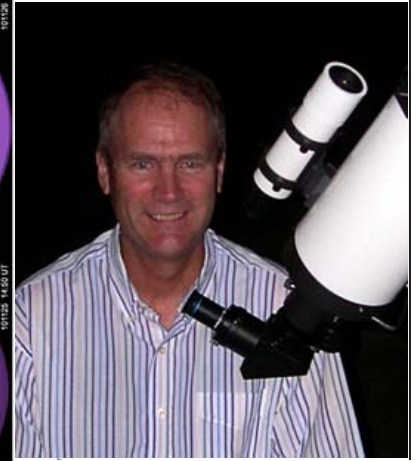


No, it's not the great pumpkin Charlie Brown, just a portrait of our sun in the wavelength of hydrogen alpha light taken by Alan Friedman on October 20, 2010 just in time for Halloween.

I stumbled over this picture on spaceweather.com and it immediately caught my attention. This image does not show the blazing star that we are used to, but depicts a more fragile, almost living, breathing, organic view of the central object of our solar system. Doesn't it look more like a planet with an atmosphere than a star?

But how did Alan take this picture that looks so different? The answer is so simple and surprising at the same time. He used a method that is common in other areas of astrophotography: He created a "negative" image thus turning bright areas into dark ones and vice versa. Now that I gave away the hidden secret, look at the picture again and it all will make sense, in particular when you look at the sunspots that turned into bright donuts. It is remarkable to me how a simple photographic "trick" can create such a stunning new view on a well known object.

Arne Reykowski, First Light Editor



Here is my latest Carrington rotation report based on observations in CA-K. I have been doing these reports for the past 3 years and this is my 41st Carrington Rotation Report. A Carrington rotation is defined as 27.2753 days, the mean time it takes for one complete rotation of the sun as viewed from earth (synodic period). This number is imprecise due to differential rotation of the sun (the equator of the sun rotates faster than the poles), and due to the eccentricity of earth's orbit. The first rotation was arbitrarily designated to start in November 9, 1853 and we have just entered rotation number 2104. It is named after Richard Carrington (1826-1875), noted solar observer who in the 1850's determined the rotation rates of the different solar latitudes. Report Data: Carrington Rotation 2103, Start Date 2010/10/30 10:01 UT, End Date 2010/11/26 17:23 UT, North Up, East Left, Orion ED 80 Refractor, Lunt B600 CaK-Line Filter, DMK 41AU02.AS (2-image composites), Sunspot data from days I am not able to observe are from SOHO and Spaceweather.com

Our November 6th, 2010 Rosemary Hill Observatory star party had a great turn out.

If you count a baby, a total of 29 AAC members, guest, students plus 2 dogs, a bag of cookies and sugar-coated peanuts showed up. Most members and guest came to see the observatory. I believe I saw a total of 6 telescopes, 3 binoculars and lots of lounge chairs. It was clear, windy and cold. As the night progress I had such a brain freeze that I couldn't even make out Cassiopeia and Pegasus. With Lisa's help I was able to get my bearings again.

Professor Cohen gave a lecture on the history and name behind the Observatory. The Observatory land was donated. In the parking lot that leads into the 30" dome telescope, a circle has been drawn to exact dimensions of the optical mirror (10.4 meter-world largest) telescope in the Canary Island, which UF has a 5% ownership in. Rosemary Hill Observatory is name after a shrub with narrow and pointed leaves that flowers in winter and spring. Its flowers are red and pink which are rich in nectar.

After some of us set up our telescopes we went inside the dome that holds the 30" telescope. Rickie, an undergraduate astronomy student, and Amanda, a serious astronomy graduate student, explained how they use the CCD camera to image a pulsating star. The two ladies explained how they use the CCD camera and what pulsating star they were imaging. I'll bet anyone a nickel and a doughnut (I'm not a gambler) that Amanda will make headlines in astronomy some day.

Amir and wife Mary with their dog came with lounge chairs. Al's dog wanted to either lick Amir's dog or eat him. I couldn't tell. They were separated before anything happen.

Al brought a friend. Do not remember name but hopefully a future member.

Our future President Bob came with two friends (recruits), which Bob claims, will become AAC members, Tim and Louis. Louis brought along a 10" Meade but I believe he ended up with frostbite and left early. Chuck brought along his telescope and was referee in an argument on who had darker skies, Stargate or Gold Head. Al, Clint and Paul made their point, Gold Head won.

While Paula was looking for the Ring Nebula, I think her right eye froze on her eyepiece. I believe someone needs to invent heated eyepieces. Some of the rubber around the eyepieces became so stiff it felt like frozen concrete.

Tim, Lisa, Paul and Sriram helped out on my telescope. Tim found the Pelican nebula. Sriram showed M22 both were very impressive. Sriram will hopefully join AAC. All he needs is a few more quarters to be able to afford our very expensive \$12 a year dues for students. I think I saw him looking for coins in the parking lot after everyone left last night.

Dale pointed out the little dumbbell in Pegasus. (If it's not in Pegasus, do not e-mail me. E-mail Dale). I've got to say, the dumbbell, was very impressive looking through my scope with the 8mm Ethos eyepiece. I don't understand how Dale's wife and Marian were able to sit on a lounge chair as long as they did. They must have been the smart ones and layered themselves correctly for the cold.

H. A. and Marlene were busting my chops how the Ring Nebula looked so much better in the 30" dome telescope (Amanda had an image of Ring Nebula on laptop) than my 12". Let see! 30" 12", 30" 12" naw!!! Arne showed up with his friend, Charlie. Arne pointed to where Neptune or Uranus (close to Jupiter) was supposed to be. Jupiter was so bright I couldn't see anything else but its moons. Either that or my eyes are as bad as Chuck claims his are.

By this time I was shaking in my shoes. I ran to my truck for a jacket and on the way stopped by the observatory dorm. Francisco was basking in heated dorm with his lovely friend Joelle. Joelle had the finest sugar peanuts I've ever had. I ran out to my truck, put on my jacket and thought about going back and begging for rest of peanuts. They would have made a great meal.

Thanks to everyone that showed up. I know I left some names out.

I hope next year everyone supports our star party coordinator as much if not more than the support I received this year.

Again thank you all for your support and for giving me the opportunity to be your star party coordinator. You do not know how much I appreciated it.

Ivo Rabell

Star Party Coordinator





Jupiter hangs over the dome of the 30 inch telescope at the Rosemary Hill Observatory. (Photo Tim Malles)



RHO SP2 - AAC club members receive a guided tour by UF professors and students of the 30 inch telescope and instrumentation. (Photo Tim Malles)



The night sky seen from inside the dome

Desert Aliens



Mike Toomey with 12.5" Portaball at Doney Peaks, Wupatki National Monument, Arizona, August 2010



Larry Friedberg taking in Barringer (Meteor) Crater, Arizona, July 2010



Rich Russin visiting Walnut Canyon National Monument, Arizona, August 2010



Mike Toomey outside the Discovery Channel Telescope, Happy Jack, Arizona, June 2010



Chuck and Judy Broward at Wupatki National Monument, Arizona, July 2010



Summary Information Sheet

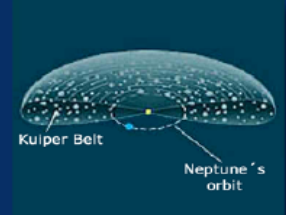
Kuiper Belt and Oort Cloud

The disk-shaped Kuiper Belt is located outside Neptune's orbit and contains thousands of icy bodies, known as "Trans-Neptunian Objects (TNO's)". Some measure more than 1000 km and some move in highly elliptical orbits. Much further out, a vast number of icy comet nuclei form the Oort Cloud, a spherical halo around the solar system. The comets we observe in the inner solar system originally come from the Kuiper Belt or the Oort Cloud.



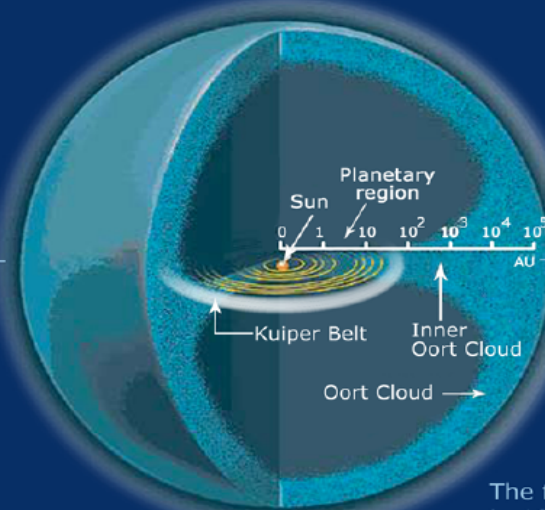
Oort's Cloud is named after the Dutch astronomer Jan Oort who described it in 1950

The Kuiper Belt is also referred to as the Edgeworth-Kuiper Belt after astronomers Kenneth Edgeworth and Gerard Kuiper



Comets come from the Oort Cloud or the Kuiper Belt

This comet sphere was proposed in 1950 by the Dutch astronomer Jan Oort



Pluto and its moon Charon, and possibly some of the moons of the outer planets are similar to TNO's

1 AU = 150 mio km

Some TNO's have moved inwards and are now found in orbits between Saturn and Neptune - they are known as "Centaurs"

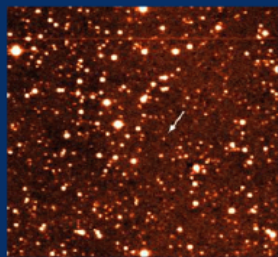
The first TNO was discovered in 1992 and more than 1000 TNO's have been observed until 2005



Sedna's orbit

TNO "Sedna", the most distant solar system object known, moves in a highly elliptical orbit. Closest point to the Sun is 11,250 mio km and the orbital period is about 10500 years

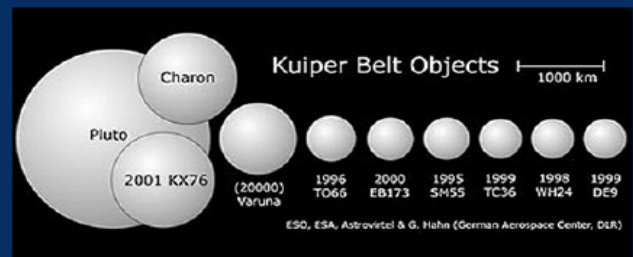
Pluto's orbit



TNO in front of a stellar field



TNO Quaoar (Artist's impression)



Relative sizes of some TNOs in the Kuiper Belt

Physical Data

Property
Distance from the Sun
Main characteristic
Number of objects
Mass
Density

Kuiper Belt
4500 - 7500 mio km
Disk-shaped, TNOs
> 10,000
?
?

For comparison

Oort Cloud
7.5 - 15 10^{12} km
Spherical, Comet nuclei
> 10^{12}
?
?

Pluto
5966 mio km
-
-
1.3×10^{22} kg
1100 kg/m ³

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Concept: Bernhard Madkowiak

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Falling December Stars — Howard L. Cohen

I would rather be a superb meteor, every atom of me in magnificent glow,
than a sleepy and permanent planet (~Jack London)

Most sky watchers have heard about the November Leonid Meteor Shower or the August Perseids. Yet it is the December Geminids that usually put on the best show of the year. Meteor showers occur when the Earth passes through the debris field of interplanetary objects as comets. Although the shower meteors enter Earth's atmosphere along parallel paths, perspective makes them appear to radiate from a particular spot on the sky. The constellation containing this location gives the meteor shower its name, the constellation of Gemini ("The Twins").

Peak activity for the 2010 Geminids occurred in the United States on the morning of December 14. Absence of moonlight in morning hours and a high radiant for Northern Hemisphere observers helped the shower live up to expectations with zenith hourly rates (ZHR) about 100–120 per hour. (ZHR is the number of meteors an observer would see under a very dark sky with the radiant of the shower overhead.) These meteors result from particles left by 3200 Phaethon, regarded as a strange rocky object since it seems to shed insufficient particles to explain the strength of the Geminid Shower.

A photograph of a 2010 Geminid in the constellation of Eridanus ("The River") is shown here. The meteor appeared over the southern horizon looking toward Kanapaha Prairie south of Gainesville at 11:15 p.m. EST, 2010 December 13. The meteor appears to come from the well-known constellation of Orion ("The Hunter"). Can you find Orion and the brightest nighttime star, Sirius, in Canis Major?

However, the radiant is actually in Gemini to the upper left of Orion and out of the picture. The bright "shooting star" appeared for only about a second or less. So, anyone looking away would have missed the meteor but the camera eye did not. This momentary streak is really the bright, glowing gas trail and melted particles from a pebble size or smaller particle that entered Earth's atmosphere and probably became visible at an altitude of 40 to 75 miles.

Note: An animation of this meteor is on the web. This animation covers approximately five minutes using fifteen sequential exposures. Stars appear to move slowly westward due to the Earth's daily motion. For the animation see <http://tinyurl.com/23fcgey> .

Both the still photo and the animation were made with a DSLR camera (Canon EOS 5D Mark II) mounted on a fixed tripod. The lens was a Canon EF 20-35mm f/3.5-4.5 USM set at 28 mm. All exposures were 20 seconds at f/4.0, ISO 1600 with white balance set at Daylight. The frame widths were slightly cropped and image contrast and sharpness slightly enhanced.



Howard L. Cohen is an emeritus professor in the University of Florida's Department of Astronomy and a founding member of the Alachua Astronomy Club, Inc.

Yes, you read correct, this article is about Radar and not Radio Astronomy.

So what is the difference?

Well, Radio astronomy is a subfield of astronomy that studies celestial objects at radio frequencies. Radar astronomy on the other hand is a technique of observing nearby astronomical objects by reflecting microwaves off target objects and analyzing the echoes. This immediately begs the question, how old is this technique, how far can it reach and what measurements can be achieved?

During the 1940s, investigators in the United States and Hungary bounced radar waves off the Moon for the first time, while others made the first systematic radar studies of meteors. The U.S. Army Signal Corps under leadership of Lt. Col. John H. DeWitt, Jr., successfully bounced radar echoes off the Moon on January 10th 1946. Less than a month after DeWitt's initial experiment, Zoltán Bay replicated his results with a radar in Hungary. This was particularly impressive since Zoltán had to conduct his research in war-torn Budapest, first under German and then under Soviet occupation. Later measurements by other researchers included lunar surface roughness and mapping of shadowed regions near the poles.

The next easiest target after the moon was Venus. This was a target of great scientific value, since it could provide an unambiguous way to measure the size of the astronomical unit, which was needed for the nascent field of interplanetary spacecraft. In addition such technical prowess had great public relations value, and was an excellent demonstration to funding agencies. So there was considerable pressure to squeeze a scientific result from weak and noisy data, which was accomplished by heavy post-processing of the results, utilizing the expected value to tell where to look. This led to early claims (from Lincoln Laboratory, Jodrell Bank, and Vladimir A. Kotelnikov of the USSR) which are now known to be incorrect. All of these agreed with each other and the conventional value of AU at the time.

The first un-ambiguous detection of Venus was made by Jet Propulsion Laboratory (JPL) on 10 March 1961. A correct measurement of the AU soon followed. Once the correct value was known, other groups found echoes in their archived data that agreed with these results.

The following are a list of planetary bodies that have been observed by this means:

Mars - Mapping of surface roughness from Arecibo Observatory. The Mars Express mission carries a ground-penetrating radar.

Mercury - Improved value for the distance from the earth observed (GR test). Rotational period, libration, surface mapping, esp. of polar regions.

Venus - first radar detection in 1961. Rotation period, gross surface properties. The Magellan mission mapped the entire planet using a radar altimeter.

Jupiter System - Galilean satellites

Saturn System - Rings and Titan from Arecibo Observatory, mapping of Titan's surface and observations of other moons from the Cassini spacecraft.

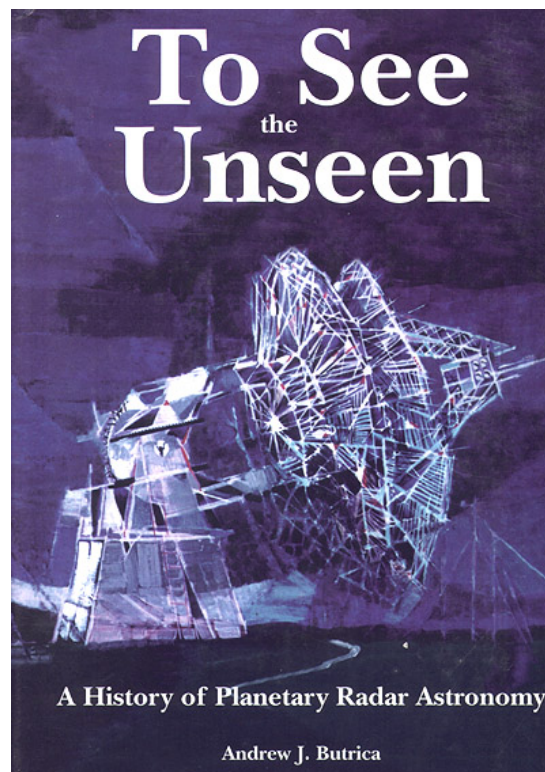
Earth - numerous airborne and spacecraft radars have mapped the entire planet, for various purposes. One example is the Shuttle Radar Topography Mission, which mapped the entire Earth at 30 m resolution.

More to read at:

<http://history.nasa.gov/SP-4218>

<http://history.nasa.gov/SP-4218/contents.htm>

http://en.wikipedia.org/wiki/Radar_astronomy





Seen from central and northern Asia, the Sun and New Moon set together on January 4, in a partial solar eclipse. Close to its maximum phase, the eclipse is captured near the moment of sunset in this wintry scene from the bank of the Berd River near Novosibirsk, Siberia, Russia. An evocative view in fading light, the picture looks toward the western horizon across a snowy, frozen landscape. Along with offset Sun and Moon, the dimly lit sky includes an industrial smoke plume and airplane contrail. Image Credit & Copyright: Aleksandr Yuferev



FirstLight
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