SIDEREAL TIMES

The Official Publication of the
Amateur Astronomers Association of Princeton

Director *Bill Murray*

Treasurer *Michael Mitrano*

Program Chairman *OPEN*

Assistant Director *John Church*

Secretary *Larry Kane*

Editors *Bryan Hubbard and Ira Polans*

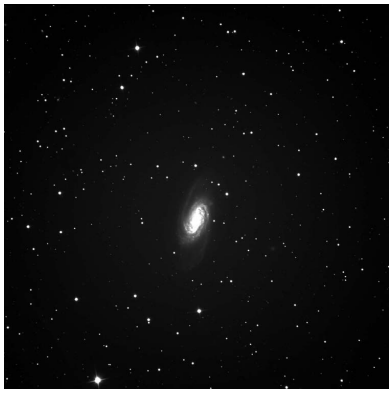
Volume 39 April 2010 Number 4

From the Director

Now that winter is finally behind us hopefully the weather will improve and we will have a chance to do some observing. The omens so far have been good. April began with a taste of summer (not Spring).

I had a chance to try out another of the Web based observatories listed in the March issue of ST. Lightbuckets (www.lightbuckets.com), run by Steve Cullen, operates a set of three telescopes at an observatory in Rodeo, New Mexico. You purchase points from them in order to rent their equipment remotely (basically a point costs $1). Telescope rental costs between 30 and 50 points per hour, depending on the scope and whether you are imaging during the dark of the moon or not. You have full control over the set up of your observing session. You can choose the scope, the time and number of exposures, when the observing session takes place and the filters you wish to use (for color imaging). Once you have set up all of these parameters the imaging session takes place remotely and the image files (as well as calibration files are downloaded to a user account where you can access them.

The image below was a stack of 4 10 minute monochrome images of the galaxy NGC 2903 in Leo on March 13th, binned 1-1, using a 12.5" Ritchey-Chrétian telescope and an Alta U16M CCD camera. It requires 38 lightbucket's points to do this image. No processing has been done on the image. I was very pleased with the result. Using good equipment from a dark site really makes a difference.



The rescheduled board meeting of the AAAP Board of Directors will occur on Thursday, April 8th at 7PM in the Dome conference room at Peyton Hall. All members are welcome to attend.

Super Science Saturday at The New Jersey State Museum will be on April 24th. The event will start setting up around 9:30 AM with solar observing outside. In case of bad weather we will set up inside the State Museum. The event lasts until about 4 PM. Any members willing to bring out a small scope for solar observing will be highly appreciated. Contact Jeff Bernardis if you are interested in participating.

Our next meeting will be on Tuesday April 13th at 8 PM at Peyton Hall. The speaker will be Steve Gorevan of Honeybee Robotics Corporation. The title of his talk is "NASA's 2011 Mars Science Lab Rover".

The deadline for the May issue is:
Friday, April 30, 2010
Send your submissions to:
editors@princetonastronomy.org

Also at the April meeting Nominations Chairperson Jeff Bernardis will present the slate of officer candidates for the 2010-11 Board of Directors. If you are interested in being an officer for the AAAP contact Jeff before the April Meeting. Elections will take place at the meeting in May.

Bill Murray, Director

Membership Meeting Minutes March 9, 2010

The meeting was called to order by Director Bill Murray

Director's Report: Bill announced that he will be calling for a rescheduling of the meeting of the Board of Directors that was post-

poned due to the snow. The folks at Peyton Hall must first be contacted to determine room availability. April 24 & 25 is Super Science Weekend at the State Museum in Trenton. Bill asked that all of the key-holders talk with Gene regarding the upcoming season schedule for the observatory.

Assistant Director: John Church announced the upcoming speakers for the rest of the meetings.

Treasurer: The Treasurer was not in attendance, but his report appears in another section of this edition of ST.

Secretary: The Secretary was not in attendance.

Observatory: Gene Ramsey announced that he will be going to the observatory to check on the status from the snow falls. He also said that we have eight new key-holders, and one in training, many of them were in attendance for this meeting. Gene announced that the up-to-date schedule was given to web-master and Director emeritus, John Miller. Gene suggested that the club buy a solar filter for our 6.5" refractor. He estimated that the filter would cost about $10 plus shipping.

Outreach: Jeff Bernardis spoke about Super Science Weekend and Earth Day in Hopewell Township. This event will be on April 22 and 23 from 6:00 pm to 11:00 pm at the observatory. Super Science Weekend will only require our presence on Saturday.

Website: John Miller announced that he changed the user ID and password needed to gain access to the membership roster. The changes have been made available to the board members and any member who needs access can contact John and he will provide the information.

Old Business: John Church announced that he went to a meeting regarding the cabin that was to be built in Washington Crossing Park. It appears to be a non-starter. A vote of thanks was given to Gene Ramsey for all the work he did in training the new observatory key-holders.

Larry Kane, Secretary
With help from Bill Nagel

Community Outreach

Again a slow month as far as community outreach is concerned, but there are a couple of events upcoming for April:

- On the evenings of April 22 and 23 (Thursday and Friday) Rex Parker has set up that we would work "Hopewell Valley Come Outside…" day in conjunction with Earth Day. This takes place at our observatory. The kicker here is that this starts at 6:00 both evenings—so there will be some daylight activities—we can just show them the equipment, etc. The event ends at 11:00 both nights. Friday the 23rd is a normal duty night (for team 4 I believe). If you can help, please let me know; I am especially concerned about getting people there for the early start.
- On Saturday April 24, we have Super Science Saturday on the quad at Trenton State Museum. This event is from 10:00AM until 4:00 PM, although they have asked us to arrive at 9:30 to set up. If it is raining, we will set up indoors; otherwise, it is outside. This is a solar viewing event.

As usual, if you want to help out with either (or both) of these, please let me know. Even if you are cannot help with these specific events, if you would like to receive notifications (via email) of upcoming events, just contact me. I can be reached at

Jeff Bernardis, Outreach Coordinator

Interested in keyholder training?

or

Treasurer's Report

A recent mailing to last year members who did not renew has thus far prompted 16 additional renewals. Membership is now at 83 compared with 101 at this time a year ago.

Total revenue for the fiscal year to date is $3,743. Expenses have been modest in recent months, so the AAAP now has a year-to-date surplus of $251.

The Association's cumulative surplus is $18,445, so we are in a good long-term position.

Michael Mitrano, Treasurer

April's Program

The keynote speaker at the April 13, 2010 meeting of the Amateur Astronomers Association of Princeton (AAAP) will be Stephen Gorevan on "NASA's 2011 Mars Science Lab Rover"., Chairman and co-founder of Honeybee Robotics Corporation located in New York City.

The next step in the surface and subsurface exploration of Mars will be led by the 2011 Mars Science Laboratory. The use of the word laboratory is apt as the in-situ instrumentation on board the MSL rover resembles the sophisticated sample preparation laboratories found in government and pharmaceutical labs. For a Mars mission this means a science package is being sent to Mars in 2011 that will be of unprecedented capability and complexity. The circulatory system of the in-situ science instrumentation package on the 2011 rover is called the SMS or sample manipulation system. This SMS mechanism, consisting of more than 500 moving parts, will acquire samples from the rover sampling systems and deliver the samples to various instruments that compose the SAM instrument suite. Nothing like the SMS has ever flown before and the story of the MSL science suite and the dramatic SMS development is the subject of his talk.

Steve is the lead scientist for the Mars rover team which developed the RAT, or Rock Abrasion Tool, for NASA's Spirit and Opportunity rovers. The RAT has drilled into numerous Martian rocks and helped provide crucial scientific evidence for the past existence of liquid water on the surface of Mars. Honeybee also provided the scoop for the Phoenix Mars lander which in 2008 discovered water ice in the Martian Arctic region.

SIDEREAL TIMES

Newsletter of the Amateur Astronomers Association of Princeton, Inc.

DIRECTOR: Larry Smith APRIL 1990 EDITOR: JWHS

The April meeting of the AAAP will be held as usual at Peyton Hall on Tuesday April 10, at 8:00PM. This will be members' night; any member is invited to address the club at this meeting, and although it is not necessary, it would be helpful if speakers could let me know of their plans before the meeting. Please call me at 609-882-1257. There will be no pre-meeting dinner.

And finally, also related to our meetings in general: to any members who arrive after the beginning of the meeting; it's a good idea for late-arrivers to enter the Auditorium at the back, not to disturb our guest speaker. Just turn right after entering Peyton---instead of left to go to the main entrance---and go down to the end of the hallway and turn left. You'll see a door with stairs that go up to the rear door of the Auditorium. If you come in this way, our guest speaker won't be disturbed. As the saying goes: "A bit of politeness goes a long way". (Are you listening, JWHS? ? ?)

Finally-finally: realize that a major topic at this meeting will be the impending arrival of Comet Austin, and how Bill Murray's installation of the Lumicon piggyback mount is a major factor in our abilities to capture Austin astrophotographically. Bill will give a brief talk about the advantages of piggybacking with the 12.5", aided by Chip Yuill and John Simpson, all three of whom have spent some time familiarizing themselves with the procedure of piggybacking with their cameras, using the main optics of the 12.5" for guiding. A pre-Murray-talk "teaser": Bill indicates that astrophotographs taken via piggybacking produce astrophotos that have: 1. PINPOINT STAR IMAGES, and 2. NO STAR TRAILING, AT ALL!

-Don Monticello

AAAP FIELD TRIPS

The next scheduled AAAP field trip is to the NASA-Goddard Space Flight Center in Greenbelt, Maryland (before you get to Washington) on Saturday April 14th. We'll meet at the

Visitor's Center at 12:30 PM and our group tour will start at 1:00 PM. That evening, we will join members of the local astronomy club for an on-site star party. There is a maximum of 40 people to a group, so I'll need a head-count. Sign-up sheets will be circulated at the beginning of our April AAAP meeting. If you can't make the meeting but would like to make the trip, please call me evenings after 7:00 PM at 609-443-6191.

The Goddard Space Flight Center is a key facility for many space-related programs. Much of the forthcoming space-station is being designed here. It is a critical center for ground-to-space communications for both manned and robotic space flights. It is also the control center for the Hubble Space Telescope and such other missions as the Cosmic Background Explorer and future gamma and X-ray observatories.

Getting there is simple: take I-95 to the Baltimore-Washington Parkway; take the Parkway south to Route 193 east; remain on Route 193 for 2 miles and the facility will be on your left. See you there!

-Jay Albert

THE WASHINGTON'S CROSSING EQUATION:

$$\frac{35}{317.5} = \text{INFINITY}$$

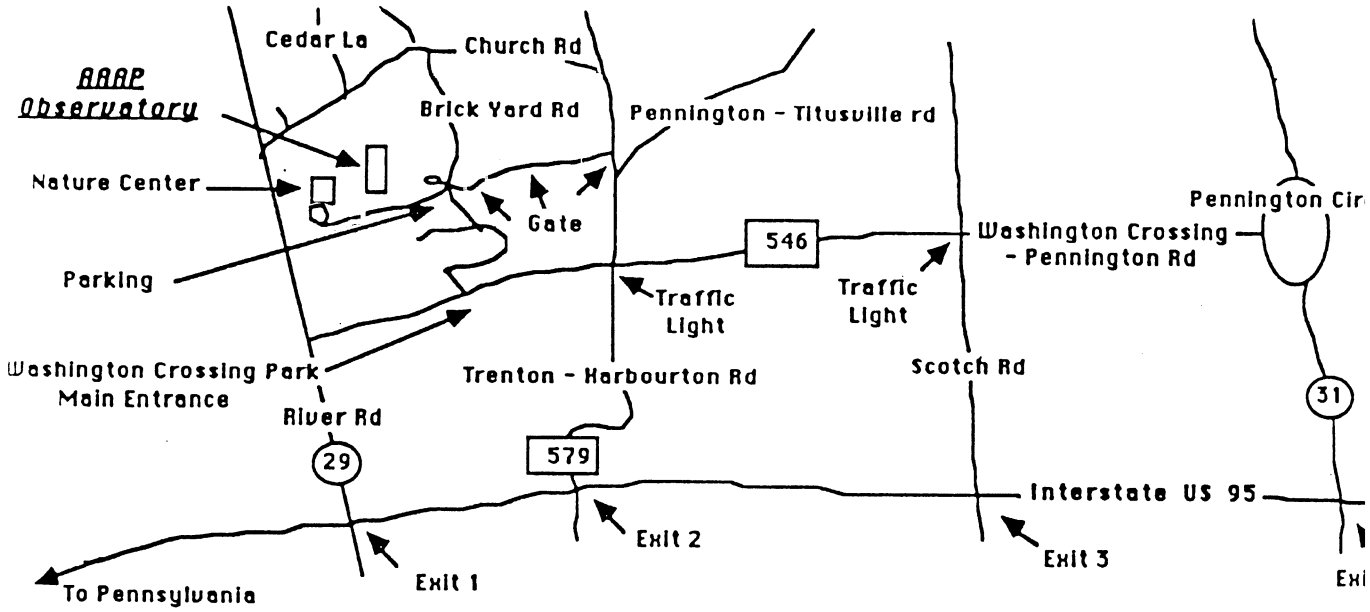
O.K. Don and Pat, I know you're both asking "where's THE PROOF?". Calm down; let me explain.....

First, understand that "35" is the format of a 35mm camera. And "317.5" is the aperture of our 12.5" reflector at the Observatory, in millemeters. And note that 35 is ABOVE (sitting on top, that is) 317.5. And the results of putting a 35mm camera ON TOP of the 317.5/12.5"---PIGGYBACKED, that is, results in PERFECTION. And what mathematical term is best? You guessed it---INFINITY! (NEAT, HUH?)

This slightly off-the-wall equation (I know, Albert A. is shaking is head up in Heaven) is my "proof" that when one of us uses his/her 35mm camera piggybacked on the 12.5", the result is a PERFECT astrophotograph! Now let me elaborate a tiny bit. And I do not intend to steal Bill Murrayy's thunder during his talk at our April meeting; I simply want to pass on to all of you that we now have virtually ALL that we needed to take ABSOLUTELY SUPERB astrophotographs.

And here's the neat part: Bill (and I, and Chip) has discovered that the procedure in taking really breathtaking astroshots

20 Years Ago In Sidereal Times...



The best way to get to the observatory is to take Interstate 95 South towards Pennsylvania. Then take Scotch road at Exit 3 and proceed north (this amounts to right). Then, at the third traffic light take a left onto the Washington Crossing-Pennington road (County Route 546). Take this road to the first traffic light and take a right onto Trenton-Harbourton road (County Route 579). Take this road to the first driveway on the left, this is the Phillips Farm/Soccer Field entrance to the park. There is a series of three gates with club combination locks. If the gates are not open, you will need the lock combination to open the gate or be accompanied by a Keyholder member. The Simpson (AAAP) Observatory's phone number is (609) 737-2575.

See us on the Web: www.princetonastronomy.org

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