



RVAS

Roanoke Valley Astronomical Society



News About Amateur Astronomy
In Southwestern Virginia
<http://www.roavas.org>

Vol. 23 - No. 8

September 2006

A SIMPLE RADIO TELESCOPE

By David Thomas

While attending a recent meeting of the RVAS someone mentioned a NASA program for schools that involved building a simple radio telescope. The program is Radio Jove and describes how to detect radio bursts from Jupiter and the Sun.

The radio frequency spectrum is filled with the weak galactic background radiation. It is the hissing noise heard when a radio receiver is tuned to a frequency where no manmade signals are present.

Within our solar system there are two sources of natural radio noise that can be detected with the simple radio telescope. The sun is one source. It emits a certain amount of radio noise at all times but on occasion, as with sunspot activity and solar flares or coronal mass ejections the power of these emissions is greatly increased. Jupiter is the second source. It emits radio bursts due to interaction between the planet and its moon Io. There are two types of bursts, a long

and a short burst. A long burst sounds like waves crashing onto a beach. The short bursts are short rapid staccato bursts.

Building the radio telescope to detect these natural radio bursts is, as the name implies, simple. The scope consists of a radio receiver that can tune to a frequency of 20.1 Mhz connected to an antenna of the correct length to receive

signals at that frequency.

The audio output of the receiver is input to the soundcard on a computer, preferably a notebook computer for portability. The computer will be running a program called "Skypipe" that produces a chart that can be printed out when needed. This chart gives a graphic representation of the signal received by the telescope.

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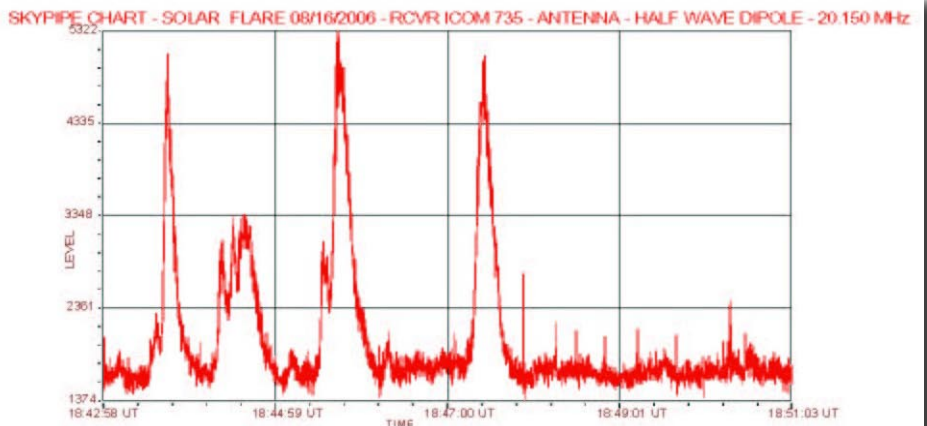


Chart Started 8/16/2006 by Dave Thomas in Lynchburg, VA

Don't forget that the RVAS annual Picnic will be held on Saturday, September 23, 2006 at the Franklin County Recreational Park starting at 4:00 PM, with observing that night, weather permitting. All current RVAS members and their families are invited to attend. All attending members are to bring a pot luck dish with them to supplement the Hot Dogs and Burgers supplied by the RVAS.



MYSTERY OBJECT

You have to look to the sky at the birds to see this developing object.

Send your best guess to Dave Thomas, our Mystery Object Columnist, at

thomasde-ka8inl@worldnet.att.net

*** IMPORTANT - DUES AND SUBSCRIPTION NOTICE ***

It's renewal time for RVAS memberships, most of which expired on June 30, 2006. If your membership expires at another time, you'll receive a special notice. If you want to know now when your membership expires, call **Jeff Suhr at 563-0079**. Membership categories are:

INDIVIDUAL (\$20.00 per year) - RVAS and Astronomical League membership for you.

FAMILY (\$25.00 per year) - RVAS and Astronomical League membership for you and your family.

STUDENT (\$10.00 per year) -RVAS and Astronomical League membership for a full-time student.

Make checks payable to "RVAS," and forward to: **Jeff Suhr, RVAS Treasurer, 5827 Santa Anita Terrace, Roanoke, VA 24012.**

MAGAZINES: Members may subscribe to *Astronomy* (\$34.00) and/or *Sky & Telescope* (\$32.95) at the indicated substantial club discount rates. Subscriptions are sent to the publishers each April 15th, August 15th and December 15th. Renewal payments should be submitted by whichever of these dates is at least 4 months prior to the expiration of your magazine(s). Orders may be added to dues payments, or submitted separately.

ASTRO-QUIZ

Many constellations have become obsolete. Perhaps the strangest commemorates the English King Charles II's defeat by Cromwell. What was this constellation's name, where was it in the sky and who was its creator?

Answer to Last Month's Astro-Quiz: Last month we asked whether there are any planets in our solar system from which we could observe a natural satellite of the planet rise in the west and set in the east and why. Phobos, one of Mars' two known moons, is the only satellite in the solar system that exhibits this behavior. Phobos orbits Mars at an altitude of 6,000 kilometers (3,750 miles), which is below the synchronous orbit radius, meaning that it moves around Mars faster than Mars itself rotates. Therefore it rises in the west, moves across the Martian sky in about 4-1/4 hours or less and sets in the east roughly twice a day. In about 40 million years Phobos will either crash into Mars or be torn into pieces that would continue to orbit as a ring of debris.

The Roanoke Valley Astronomical Society is a membership organization of amateur astronomers dedicated to the pursuit of observational and photographic activities. Meetings are held at 7:30 p.m. the third Monday of each month at Center in the Square in downtown Roanoke, Virginia. Meetings are open to the public. Observing sessions are held one or two weekends a month at a dark-sky site. Yearly individual dues are \$20.00. Family membership is \$25.00; student membership is \$10.00. For information, call the RVAS Message Line at 540-774-5651. Articles, quotes, etc. published in the newsletter do not necessarily reflect the views of the RVAS, its editor, officers, or individual members.

RVAS web page: <http://www.roavas.org>

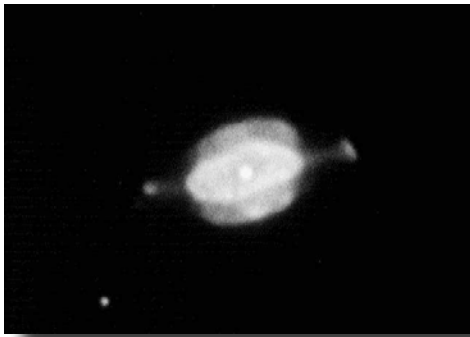
Officers/Executive Committee: **Mike Overacker**, President / Newsletter Editor (776-3092); **Steve Manuel**, Vice President (890-3883); **Mark Hodges**, Secretary (774-5039); **Jeff Suhr**, Treasurer / Membership Coordinator (563-0079); **Bruce Jones**, Executive Committee Member-At-Large (774-3844); **Katherine Hix**, Immediate Past President (334-2443); **Paul Caffrey**, Past President (345-2847); **Dave Godman**, New Member Coordinator (774-3337); **John Goss** and **Genevieve Goss**, Outreach Coordinators (966-4606); **Frank Baratta**, Public Viewing Coordinator (774-5651); **Roger Pommerenke**, Webmaster (774-5823)

AUGUST RVAS MEETING NOTES

By Mark Hodges - RVAS Secretary

There were 32 people at the meeting. Everybody gathered in the planetarium where Mike Overacker had set up a 12 inch Meade LX200 SCT the club has purchased and will be placed in the Apple Ridge Farm Observatory. Mike Good also presented a \$10,000 check to Peter Lewis from the GE Elfun fund to build the Observatory at Apple Ridge Farm. Mike opened the meeting and went over the new committees and encouraged everyone to sign up for the committee of their choice.

Mark Hodges presented this months program the planetarium show "Starlit Nights". Mark also discussed the IAU proposal for defining what is a planet. We gained 3 new members during and we had a guest, Andrew Kantor, from the Roanoke Times who was interested in everyone's opinion on Pluto and wanted to find out if anyone is participating in the "Stardust@Home" program. Jeff Suhr gave a treasurers report, and several observing reports were given. †



LAST MONTH'S MYSTERY OBJECT

The Mystery Object for August is in Aquarius. NGC 7009, The Saturn Nebula, is about 3000 light years distant.

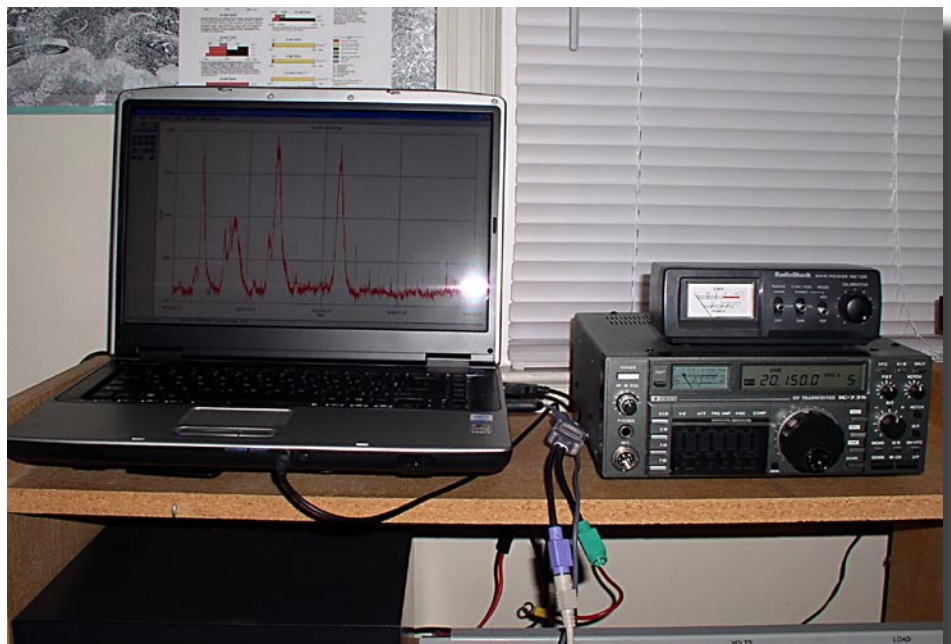
The nebula is at R.A. 21h 04m and Declination -11 deg, 22m. It shines at mag 8.0.

NGC 7009 is visible in four and eight inch scopes, but does not show much detail. A 12 inch scope starts to show the detail that gives this nebula its name.

RADIO

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I built the telescope with materials I had on hand being a Ham operator. I started monitoring the Sun on the 14th of August and was monitoring at the time of the solar flare activity on the Sun on the 16th of August. The above chart shows the radio bursts received at that time. The best times to monitor the Sun for radio bursts is during periods of sunspot activity. This would be a good group project for the club. Info on how to build and operate the radio telescope is available on the Radio Jove web site <http://radiojove.gsfc.nasa.gov>. Anyone interested in this project can contact me at: thomasde-ka8inl@worldnet.att.net. †



The receiving end of the radio telescope - Photo by Dave Thomas

UPCOMING EVENTS

VAAS 2006 - RANDOLPH-MACON COLLEGE - ASHLAND, VA - SEPTEMBER 30, 2006

RVAS is happy to announce that the Richmond Astronomical Society (RAS) is the host club for the Annual Convention of the Virginia Association of Astronomical Societies (VAAS). This years convention will be held at Randolph-Macon College on Saturday, September 30th, 2006. Speakers are being acquired at this time and will be listed in the RVAS newsletter as the details become available. The Richmond club had good attendance at our event in 2005, and I hope that the RVAS members will attend their event as well.

This is a "Must Attend" event for any astronomy enthusiast.

MID ATLANTIC STAR PARTY - ROBBINS, NC - OCTOBER 16-22, 2006

The Mid-Atlantic Star Party, a gathering of amateur astronomers and star gazers, will be held in the "Dark Park" South of Robbins, NC. There will be guest speakers, a swap meet (astronomy flea market), commercial vendors, contests, side trips and six nights of star gazing! This site can tent camp thousands, will permit motor homes at the observing site and there is lodging nearby in Southern Pines, and Sanford. A formal program and swap meet are scheduled for Saturday October 21, followed by an awards ceremony and a night of star gazing on the hill (red lights only). A "white light permitted" parking area is provided out of sight of the observing hill for those who must depart in the dark. Come for a day (Sat) or stay the entire week.

For more information visit the website: www.masp.org

ASK NOT WHAT YOUR [ASTRONOMY CLUB] CAN DO FOR YOU

By Katherine Hix

RVAS Immediate Past President

The cost of an individual membership in the Roanoke Valley Astronomical Society is \$20. If you only come to six of the 12 monthly meetings a year, where you have the opportunity to learn something about astronomy and exchange information, ideas and news with other club members, that's worth \$20.00 – and we have 12 meetings a year.

If you only come to the Annual Picnic in September and enjoy grilled hamburgers, hot dogs, and observing the stars with some of the nicest telescopes and most experienced observers in Southwest Virginia, that's worth \$20.00.

If you only read the Newsletter to obtain club and amateur astronomy information and

receive the Reflector every quarter, that's worth \$20.00.

But for \$20, you get all of these things, plus discounts on Sky and Telescope and Astronomy magazines; reduced prices on astronomical calendars; opportunities to travel with fellow amateurs to astronomy conferences or lectures; one (soon to be two) dark-sky observing sites where other club members are sure to be on clear, dark nights; and a club website and online Forum where you can be in touch with other members at the speed of light.

RVAS members have been receiving the benefit of all these things as members of our club for years. The word "club" means, according to Webster, "an association of persons for a common purpose, [whether] social, educational, or commercial." Article II of the

RVAS Constitution states: "The purposes of the Roanoke Valley Astronomical Society are scientific and educational and are directed toward the advancement of the understanding and appreciation of astronomy and related sciences among the Society members and the public at large." Additionally, Section 8.1 of the Bylaws to the Constitution states: "The President shall be the Chairperson of the Executive Committee. He/she shall establish any committees deemed appropriate to serve the purposes of the Society, appoint the chairpersons of these committees, discharge the committees when their purposes have been served, and be an ex officio member of every committee. He/she may call special meetings of the Society or of any committee."

The Constitution and Bylaws do

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YOUR CLUB

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not state that either the President or Executive Committee (and a few dedicated others) are responsible for doing all of the work of the club and imploring its members to get involved or to do something, anything, often with little or no response. They do not state that the way RVAS conducts its business shall be the same from year to year, without change, because that's the way it's always been done. They do not state that no one should run for Executive Committee member voluntarily, but should wait to be begged, because the EC has to do all the work. They do not state that once you've done something, you never have to do anything else again. The Constitution and Bylaws do not state that the RVAS is just here for fun, that the Executive Committee's purpose is to make sure you are all entertained, or that club members are entitled to their \$20.00 worth, without having to do anything. This is not your TV set.

The Constitution and Bylaws say none of these things, and President Mike Overacker, in a positive and enthusiastic way, has made it clear that all of the members of this club have something to contribute to it. There is not one member of this Society who does not have the time or ability to assist this club in accomplishing its published purposes.

Mike Overacker has named committees, as he is constitutionally empowered to do, and requested all RVAS members to join a committee. I can promise you that, to a man, each of you will

be placed on a committee by the end of September. You can either pick the one you want to be on, or one will be picked for you, and you will do the work of this club because it is your club. It is not the Executive Committee's club.

Those of you who live out of state can join the Dark Sky committee and write letters or emails in favor of dark-sky initiatives. Those of you who cannot attend meetings for other reasons are capable of working on the Program Committee by thinking up ideas for programs and suggesting them, or helping the Scholastic Outreach committee with emails to schoolteachers. Those of you without telescopes can join the Program Committee, research astronomy-related topics and present short programs at club meetings, or you can be on the Hospitality Committee and make sure somebody brings Cokes to the picnic and two socials. Those of you with telescopes can be on the Public Outreach Committee and/or the Observatory Committee – where you will be able to bring your scopes and your talents to hundreds of people each year, even if you only go to one or two events. Everyone in the club is able to write SOMETHING for the Newsletter once a year, and that isn't even a committee (yet).

You are not too busy. Committees take the enormous load off a few people, and place it on the shoulders of many, making the load lighter and more pleasant for everyone – and within the capabilities of everyone. I can personally assure you that there is no one in this Society who has been as busy as I have for the past year – I will pit my schedule against anyone's, and it's worse

than ever – and yet I have taken the time to write this article.

Committees have another benefit – if you don't join one, or if you join one and don't do anything, you can't complain. If you want to complain about the programs, the Newsletter, decisions of the Executive Committee, having to pay your dues on time – and you don't join a committee, or attend any meetings, or write an article, or contribute anything positive to the RVAS – you will be placed on the non-existent Negativity Committee. Non-existent meaning we don't have one.

Mike Overacker is not afraid to insist that the RVAS accomplish its purposes, which are exactly as stated above. This is a club of like-minded individuals who are grouped together for a common purpose. There are people in this Valley – including our own members -- who need to be educated about many things: recognizing constellations, preserving our vanishing dark skies so that we can all see the stars, the ever-changing number of planets in our Solar System and what the heck to call them – and it's our job – it is YOUR JOB -- to do this.

Amateur astronomers, this is your club. If you are reading this article, you paid your dues, which means that you want to be here. To paraphrase Kennedy's words once more: The RVAS has already done what it's supposed to do for you. It's your turn to do what needs to be done for the RVAS. †

THE LOCAL GROUP

By Genevieve Goss

Kudos to Isaac Campbell for an interesting article about his foreign study in Sweden! Longtime members of RVAS may recall when a barely-teenaged Isaac joined the club in 1998 and also when he received the Astronomical League's Jack Horkheimer Award, presented to a League member under the age of 19 for outstanding service to the League or its member societies. Isaac gave a wonderful presentation at an RVAS meeting after his summer astronomy camp experience at Kitt Peak. Be on the lookout for other young people to follow in Isaac's footsteps in amateur astronomy.

Mark Hodges reminds us that the new display of the Earth Treasures gallery at the Science Museum of Western Virginia contains an exceptionally rare lunar specimen on loan from NASA. Collected by Edgar Mitchell during the Apollo 14 mission, this genuine moon rock (a breccia sample) is estimated to be over 3 billion years in age! Frank Baratta has recently concluded approximately 18 years of managing the RVAS membership roster. WOW!! This reminds me that, in the past,

Frank received club recognition for his 10 years as editor of the RVAS newsletter. If the club ever establishes a Lifetime Achievement Award, he will certainly be at the top of the heap! Frank tells the story this way: "Marc Small had been doing the newsletter, with Gary Close, Mark Hodges and others. I got involved as Gary and Mark H. picked up more of the effort. We got a home computer about that time and it came with a bunch of freeware including a mailing label program. So I started doing the labels and also put the membership lists I had onto a spreadsheet. I pretty much kept it going from that point on. Since I was President and Lynn (Slonaker) became Treasurer after Gilmer Wilhelm's death, Lynn and I just stayed in touch and I kept the list up.....I started the Welcome Mats in the newsletter, based on calls to new members after hearing from Lynn....It just seemed like a good way to make people feel welcome--I enjoyed talking to the new members and they seemed to like the personal touch." Frank's account emphasizes the fact that Mark Hodges and Lynn Slonaker have also assisted the club tirelessly over these many years and highlights the importance of

teamwork in club activities. These people deserve our thanks and appreciation for their flexibility and hard work in keeping the club going.

In most organizations, volunteer work is generally completed by a small fraction of the total membership, often working behind the scenes with little recognition. In the Astronomical League, the 17,000-member 'parent' organization of the RVAS, the G. R. (Bob) Wright League Service Award honors current or past League volunteers for service to the Astronomical League, recognizing people who have performed above and beyond the call of duty. Some of these people have held one or more offices in the Astronomical League; others have served as regional or committee chairs or have assisted the League in an area of special need. The 2006 winner of the Wright League Service Award, which was presented at ALCon Expo 2006 in Arlington, TX, is RVAS' own John Goss. John was presented with an impressive plaque at this year's ALCon EXPO in Dallas, TX, at which the RVAS was also recognized with Honorable Mention for Astronomy Day 2006. ✦

RVAS ORGANIZING TRIP TO VAAS IN RICHMOND

I would like to recommend that all RVAS members consider making a trip up to Ashland, VA to attend the Virginia Association of Astronomical Societies (VAAS) Convention. The Richmond Astronomical Society (RAS) is hosting the event this year, and I am sure

it will be a good one. The RAS had a very good showing at our VAAS convention last November, and I think our club could have a good showing at their event as well. More information is available at <http://www.richastro.org/vaas.htm>. The RAS is offering VAAS Registration online through PayPal.

This makes it quick and easy to send in your advanced registration. It would be a good idea for RVAS members to carpool to VAAS to save on fuel costs. RVAS members that will be attending VAAS, please contact Mike Overacker at mike@overacker.com so we can organize the trip to Richmond. ✦

RVAS COMMITTEE INFORMATION

The RVAS is implementing a committee system to expand the capabilities of the RVAS and involve the membership in the success of the club. I would like to see every member sign up for their first and second choice of a committee assignment. Those who have already filled one out at the August RVAS meeting do not have to request another. All other members who did not attend the RVAS August meeting should send their 1st and 2nd choices to mike@overacker.com, or call me at (540) 776-3092 to make your requests.

Program Committee (Steve Manuel - Chair) - The responsibilities of the Program Committee are to provide programs and/or speakers for RVAS meetings and events. This committee works with the Vice President of the RVAS in his/her job as program coordinator. This group is also responsible for coordinating any larger speaker/venue events in which the RVAS might be involved.

Hospitality Committee (Carol Mesimer - Chair) - The responsibilities of the Hospitality Committee are to coordinate the RVAS Annual Picnic and the RVAS meeting Socials. This group will be responsible for all food, drinks, and prizes that will be provided by the RVAS for these events.

Membership Committee (Clark Thomas - Chair) - The responsibilities of the Membership Committee are to coordinate the quest to find new members for the RVAS, as well as making visitors to the RVAS meetings and new members feel welcome and part of the club. This group will also work on providing a visitor packet and new member packet to hand out to help promote the RVAS and encourage membership.

Outreach (Scholastic) (Matt Fleenor - Chair) - The responsibilities of the Scholastic Outreach Committee are to coordinate outreach for the RVAS in the scholastic arena, including contacting and working with teachers, schools, and school systems in the promotion of the RVAS and the science of astronomy.

Outreach (Public) (Mark Hodges, Bruce Jones - Co Chairs) - The responsibilities of the Public Outreach Committee are to coordinate outreach for the RVAS in the general population. This involves creating new and innovative programs and venues to bring the RVAS and astronomy to the public. These duties also involve coordinating outreach that has already been established, such as Astronomy Day and Enchanted Eve.

Observatory Committee (Paul Caffrey - Chair) - The responsibilities of the Observatory Committee are to provide oversight and control of the RVAS access and use of the Apple Ridge Farm Observatory. This group will be responsible for developing a comprehensive plan to implement and monitor the use of the observatory by RVAS members. This will include rules on training, limits on individual usage, and group access to the Observatory. Other requirements of this committee will be set by the RVAS Executive Board.

Apple Ridge Farm Committee (Katherine Hix - Chair) - The responsibilities of the Apple Ridge Farm committee are to work with Apple Ridge Farm in the development and presentation of astronomical programs for Apple Ridge Farm. This group will help put together programs for presentation to ARF campers or other persons who visit the Observatory. These responsibilities and programs created will integrate with the Observatory, so this group will be working closely with the Observatory Committee.

Publicity Committee (John Goss - Chair) - The responsibilities of the Publicity Committee are to promote the RVAS, its functions and events, in all available public service informational outlets. This group should be extremely dedicated to making RVAS events highly visible to the public.

Dark Sky Committee (Richard Zue - Chair) - The responsibilities of the Dark Sky Committee are to address issues involving light pollution in our area. This group will work with the International Dark Sky Association to provide information to the RVAS and the public about all night/light issues. †

Society Events and Activities for September 2006

MONTHLY MEETING: Annual RVAS Picnic and Star Party; Saturday, September 23rd, 3:00 p.m. Franklin County Recreational Park. This annual event takes the place of the monthly meeting. Join us for an afternoon and evening of friends, food and fun!

“MEMBERS ONLY” WEEKEND OBSERVING SESSIONS: Unless otherwise noted, observing sessions are held at Cahas Mountain Overlook, milepost 139 on the Blue Ridge Parkway.

Friday and Saturday, 15th and 16th. Sunset is at 7:28 p.m. Astronomical twilight ends at 8:56 p.m. The Moon rises at 1:09 and 2:12 a.m., respectively.

Friday and Saturday, 22nd and 23rd. Sunset is at 7:17 p.m. Astronomical twilight ends at 8:44 p.m. The Moon sets at 7:21 and 7:42 p.m., respectively. (Note: The 23rd is the RVAS' Annual Picnic and Star Party.)

October Sessions: 13th and 14th; 20th and 21st.

FRANKLIN CO. PARKS DEPT./RVAS PUBLIC STARGAZE: Next session: November 11th, 5:45 p.m.

ROANOKE CITY PARKS DEPT./RVAS PUBLIC STARGAZE: Saturday, September 16th, 8:00 p.m., Cahas Overlook, milepost 139, Blue Ridge Parkway. For City, County and other area residents; RVAS members welcome to participate. Call the RVAS Message Line, 540-774-5651, for information. (Next session: October 14th, 7:15 p.m., Cahas Overlook.)

RVAS EXECUTIVE COMMITTEE MEETING: To be announced.

Roanoke Valley Astronomical Society
3578 Berry Hill Drive
Roanoke, VA 24018