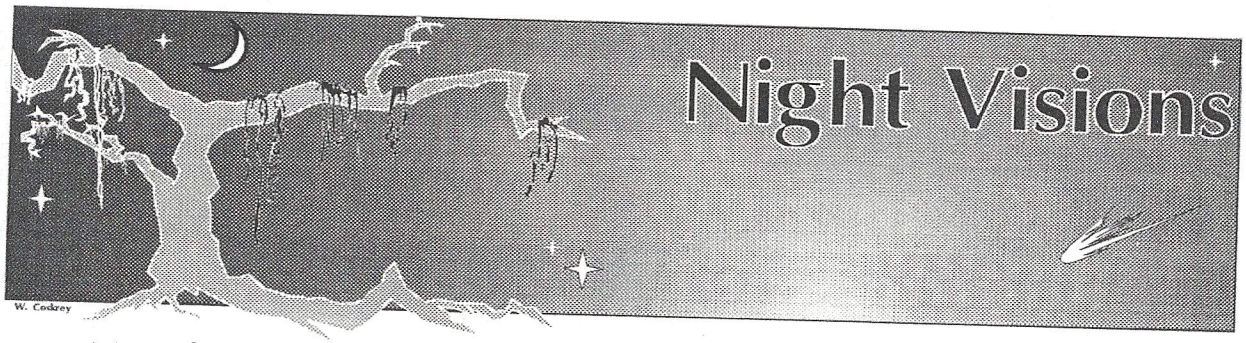


Newsletter of the Baton Rouge Astronomical Society

NOVEMBER 2010

The Next Meeting of the Baton Rouge Astronomical Society will be November 8, 2010 at 7 PM. We will be meeting at the Highland Road Observatory. The meeting starts at 7 PM.

Vice President's Message and Program Notes

Hey Everyone!

I hope you were able to enjoy the string of cool, clear evenings we had last month. Hopefully we'll have a lot more to come. Last month's meeting looked like it was almost going to be a bust as far as the planned observing went, but fortunately it cleared up just enough to get some scopes out on the pad. It was fun to socialize and do some actual observing. We have so many nice scopes out at the HRPO now, it's getting difficult to choose which ones to bring out!

This month's meeting is going to focus on accounts of the Deep South Regional Stargaze, which is happening November 3rd-7th. I just received the updated registered persons list, and so far BRAS has at least 8 members that plan on attending. We should have some great reviews and pictures...astro and otherwise. We will also be fielding nominations for the officer positions to be voted on at our December meeting. Please come join us! The meeting is Monday, November 8th at 7:00PM at the HRPO. And if you are one of the members attending the DSRSG, bring a story and some pictures! As always, feel free to tell a friend or neighbor about the meeting. We aren't a secret organization as far as I know...

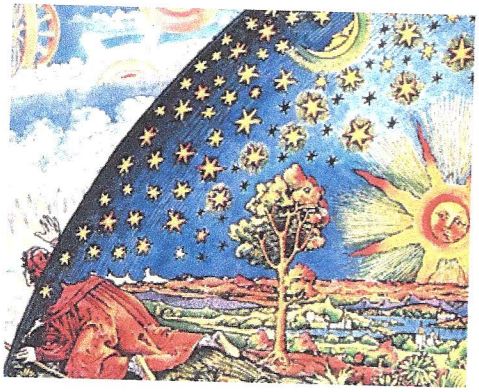
One other reminder...The monthly meeting for December is being moved to the FIRST Monday of the month. That will be December 6th. We are doing this due to the fact that the HRPO will be open to the public for the Geminid Meteor shower on the night of our normally scheduled meeting day. Since we have our potluck dinner during the December meeting, we are moving it so we don't have to cut it short to clean up before the general public begins to arrive. I'm sure this will be just one of several reminders for this!

Thanks and hope to see y'all at the meeting (and at the DSRSG if you're going!)

Ben Toman BRAS VP

The Search Goes On

Election of Officers for 2011



Election of officers is coming up at the December 7 meeting. Nominations will be taken at the November 8 meeting.

A short listing of duties of each office for the *Baton Rouge Astronomical Society* is as follows:

President - Presides over all meetings of the Society. Sets the agenda for each meeting. Sees that communications to the general membership is carried out. Oversees general operations and activities of the Society. Each president, upon retiring from office, assumes chairmanship of the executive board, with power to call meeting of this board.

Vice-president - The vice-president shall preside at all meetings in the absence of the president. The primary duty of this office shall be to arrange the program for each regular monthly meetings.

Secretary - The secretary's primary duties is to keep brief minutes of all society meetings, maintain correspondence external to the Society, and oversee Society publications as concern Society members.

Treasurer - The duties of the treasurer is to receive and disburse all Society funds and maintain permanent records of all such transactions. Keep a record of members in good standing and give notice to pending Society annual dues owed.

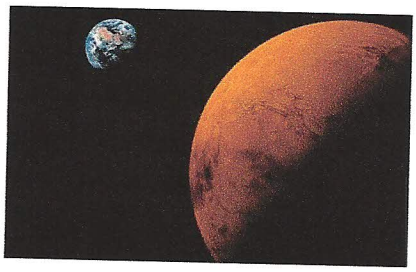
Any member wishing to serve as a officer for next year may enter his or her name onto the ballot at the November 8 meeting.

Send your name to Mars

Go to the website below and fill in your information and your name will be included with others on a microchip on the Mars Science Laboratory rover heading to Mars in 2011!

http://marsparticipate.jpl.nasa.gov/msl/participate/sendyourname/

See how well your state it doing!



Folks,
It was just pointed out to me that Louisiana is showing only 4131 names going to MARS as opposed to Texas with 27,034 and Florida with 24,769. Even Alabama is doing better than us with 5911 names registered. (Now that is a real insult!) Encourage your students to go to the Mars Science Laboratory website and signup to send their name on to MARS along with learning a bit about MSL (as well as poking our collective thumb in Nick Sabin's eye!).
Cheers,
Greg

BRAS Observing Notes
November / December 2010

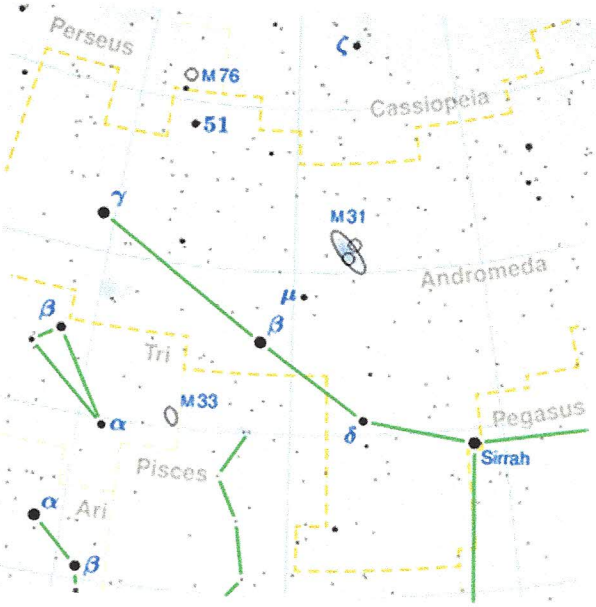
Constellation of the Month: Andromeda

The story of Andromeda is famous in Greek mythology and involves the beautiful daughter of King Cepheus of Ethiopia and his vain queen Cassiopeia. Andromeda was so beautiful her mother took great pride in claiming she was even more attractive than even the sea nymphs. King Poseidon decided that the boastful queen Cassiopeia had to be taught a lesson so he sent a sea monster to ravage their kingdom.

King Cepheus consulted an oracle in an attempt to find a way to stop the monster's attack and found that the only way was to sacrifice his daughter to the beast. Thus it became Andromeda's fate to be chained to a rock as an offering to the sea monster. This is how she appears in her constellation.

The constellation is home to one of the farthest object that can be seen with the naked eye: M31, the Andromeda Galaxy.

Sky Chart



Position in the Sky
Right Ascension: 1 hour
Declination: 40 degrees

Named Stars
ALPHERATZ (Alpha)
MIRACH (Beta)
ALMAAK (Gamma 1)
Adhil (Xi)

Messier Objects
M31 The Andromeda Galaxy (spiral galaxy)
M32 Satellite galaxy of Andromeda (elliptical galaxy)
M110 Satellite galaxy of Andromeda (elliptical galaxy)

BRAS Dark Sky Site Viewing Dates
November 6th and 13th 2010
December 4th and 11th 2010

For more information check out the BRAS website at http://www.brastro.org

Directions to BRAS Dark Sky Site:

From Baton Rouge take I-10 west about 19 miles from the Mississippi River Bridge. Take exit 135, LA Hwy 3000, to Ramah-Maringouin exit. Go north about 100 feet. You will see a bait shop on left, turn left here. Go about 200 feet, you will see a gas station on right, turn right. Go about 400 feet until you come to the levee, turn left (south). Go 1.6 miles down the gravel road along the levee. You will see a road on right going up onto the levee, turn on this road and either stop on top of the levee or directly on the other side.

Art Barrios
BRAS Observing Chairman
art.barrios@cox.net

Thank you to Charles Genovese

for stepping in to give a presentation at the last minute. It is amazing how far amateur astronomy has come in such a short time. (Especially for those with dedication and a fearless penchant for taking things apart like Charles!)

2011 ASTRONOMY CALENDARS

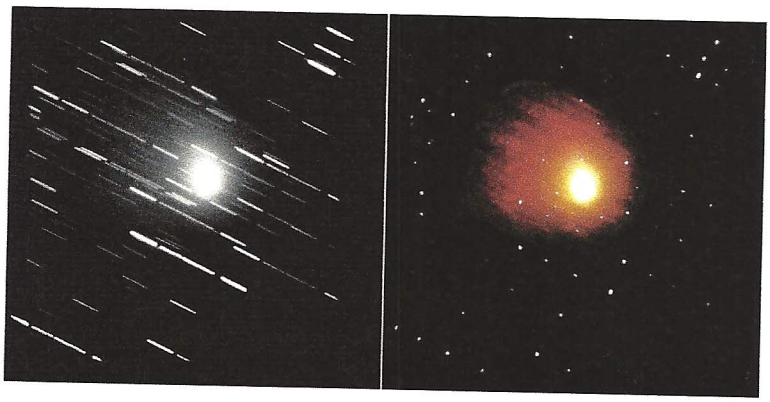
ASTRONOMY's ***Deep Space Mysteries 2011 Calendars*** HAVE ARRIVED! Member price is $10. If ordered from *Astronomy Magazine* the calendar would cost you $12.95 plus several dollars for shipping. These is the best astronomy related calendar on the market. Save yourself some time and money, and while your at it help out the club.

CHECK THIS OUT!!!

Without a sidereal tracking scope, long exposures will of course cause star trails to appear. Even with a tracking scope, if you track something moving faster than the sky (ie: Comets) you'll get these same streaks of starlight.

Case in point: Ben's wonderful Hartley2 Image he sent a few weeks ago.

He got a great shot of Hartley2, but the star trails made it hard to discern what part of the sky it was in, and they obscured much of the comet's halo.



So, I've come up with a pretty nifty way, using just Photoshop, to REMOVE star trails back to the original star's shape, intensity and location, including the ones superimposed in the comet halo.

There of course if much margin for error in this MOSTLY subjective procedure, especially if two stars were smeared together along the same line, forming one large line. In such case, you simply have to guess where one star starts and the other ends inside the line.

Also, nothing can recover information "hiding" behind a star trail in the comet's halo. When those stars are reduced back to points, the area removed needs to be filled using the cloning tool. Also, the added color to a B&W image of course is completely artistic, and totally unscientific. :)

All in all though, I'm very pleased with the results. It's not an automatic procedure; it's a pretty time-intensive operation, but it's not too bad. To give you an idea, Ben's image took me about 15-20 minutes to process.

mike@carambat.com

What Mike Did

STEP 1: BREAK IMAGE INTO A STARFIELD LAYER AND A COMET LAYER

1. Open Image in Photoshop
2. Double-click the default background layer and name it "Starfield"
3. Duplicate the "Starfield" Layer and call it "Comet Only". Put it on top.
4. In the "Comet Only" Layer, make a rough selection around the comet and delete out the area around it.
5. Carefully CLONE out the remaining star trails superimposed in front of the comet using the CLONING tool. Be very care not to disturb parts of the image that are NOT the startrails you are removing. This part requires a bit of artistic skill.
6. Duplicate the "Comet Only" layer and name it "Comet Mask", put it between the "Comet Only" and "Starfield" Layers.
7. Turn off the topmost "Comet Only" Layer, but do not delete it. (You'll need it later)
8. Change the "Comet Mask" layer mode to "Difference". Like magic, the comet will disappear, leaving only the startrails!!
9. Select the "Starfield" and "Comet Mask" Layers and merge them. Now you should just have "Comet Only" and "Starfield"

REMOVE STARTRAILS PROCEDURE

1. Rotate the entire canvas of layers so that the trails are completely horizontal (This means only straight-line trails; curved trails will not work with the following procedure... sorry!)
2. Add a layer called "Black" at the bottom of your layer stack, and fill it with a black color sampled from the "Starfield" layer.
3. In the "Starfield" layer, select the most typical length star trail with the rectangular marquee tool. Only go end-to-end when selecting the startrail. Do not add space to either side unless it is an equal amount on both sides. Only select ONE startrail at a time.
4. Select Edit->Free Transform.
5. Make sure the LOCK is not checked between Width & Height in the Transform attribute window. Adjust just the Width Percentage until the startrail returns to a nice point. Remember this Width Percentage setting. Apply.
6. Now comes the time consuming bit. You need to go to each an every startrail INDIVIDUALLY and apply the same procedure as outlined in steps 3-5. Do not select a bunch of startrails at once. This would reduce them to dots, but their positions in relation to one another WOULD NOT be maintained. I am still looking for ways to automate this, but it involves only resizing only negative space, which I haven't found a way to do yet.

   Because you need to do this to some 40-odd stars, it GREATLY speeds things up if you record the transform procedure into an ACTION, then just apply the action to each selection. This way you don't need to keep going to the attribute box, or drag by hand. As each startrail will have EXACTLY the same scale percentage as the first star you did, so you can hardwire the scale percentage into the action and apply it to each star.

   For star trails longer than the average, this means more than one star is in the trail. I just start on the left of the trail and select the common width and apply the action, then move to the next bit until the whole thing is gone. Yeah, it's a guess at best, but it doesn't happen often.
7. Merge the "Black" and "Starfield" Layers, leaving just "Starfield" and "Comet Only"
8. OK, now that all the startrails are points, use "Levels" to bring their intensity up a little. I do this using the LEVEL's RIGHT slider by dragging it to the left. Use the LEVEL's MIDDLE slider towards the right to bring down mid-ground noise and other artifacts, leaving just the star points.
9. Apply a .5 guassian blur to make the stars more rounded than squarish and it softens them a bit

MERGE THE COMET WITH THE STARFIELD

1. Turn the "Comet Only" layer back on.
2. Change it's mode to "Lighten Only"
3. Duplicate This layer, Calling the new one "Comet Color". Put it on top and select it.
4. Change "Comet Color" layer mode to "Color Only"
5. Give it a 2 guassian blur. This will smooth out some graininess.
6. Set it's opacity to 65%
7. Hold down OPTION and select the "Comet Color" layer so the selection will grab only the solid areas of the layer.
8. Fill the selection with the color of your choice, chosing "Color Only" in the FILL options box.
9. I think I added another layer with a yellow radial blend to give the center of the comet some color as well... all this colorization stuff is totally arbitrary.
10. Flatten Image. VOILA! All done!

MESSAGE FROM HRPO

Well, Ben got in one more night with Hartley 2—making four nights total. Mike Carambat (another 20OGS operator) did some deep sky imaging on two different nights. Good work!

In case some of you haven't heard—probably most haven't—October was the beginning of the *Year of the Solar System.* This concept, which lasts until August 2012 (twenty-three months equals a Martian year), was created by NASA to promote interest in robotic missions during this time. More info is at http://solarsystem.nasa.gov/yss/.

Also, don't forget the *Great World Wide Star Count.* It's the annual light pollution exercise from Windows to the Universe that uses the constellation Cygnus. This year it runs from 29 October to 12 November. Sponsors of Windows to the Universe include (among others) the American Geological Institute, the American Geophysical Union, the National Science Foundation and NASA. More info is at http://windows2universe.org/citizen_science/starcount/.

I've started threads on YSS and GRWWSC at the BRAS Forum.

Thanks to BREC Communications for the wonderful two-page spread on the Geminid Meteor Shower in their current *Greenscapes* magazine. The publication will be available at EBRP libraries this week.

Christopher

CALL FOR VOLUNTEERS: ON-SITE

Evening Sky Viewing: Saturdays from 7pm to 10pm.
One or two volunteers. To work physical science demos and telescopes and campfire. NOTE: We really do not need volunteers on Friday night on a regular basis.

HRPO FRIDAY NIGHT LECTURE SERIES

*5 NOVEMBER: "The Great World Wide Star Count"
*12 NOVEMBER: "Buying Your First Telescope"
*19 NOVEMBER: *TBA*
*26 NOVEMBER: *TBA*
*3 DECEMBER: "The Truth about 2012"

LANDOLT OBSERVATORY VIEWING

at Nicholson Hall

Sunday, 14 November from 6pm to 7pm

The Best Views of the Universe are from our Backyards

by Tom Benjamin

Email Author

Science fiction and time exposure telescopic pictures have long provided mass audiences with tantalizing but completely false views of the universe. When you mention having seen a particular globular cluster or galaxy to someone they are apt to murmer "oh it must be beautiful". In fact, often it is anything but so. That little smudge or pair of dots in the eyepiece might be more akin to glimpsing a president, pope or popstar from a great distance – "I saw the Beatles live".

For example, our companion galaxy, M33 is notoriously difficult to see. Although it is a face-on member of the Local Group close enough to span a chunk of sky easily large enough for the naked eye it is extremely faint and challenge enough for binoculars. Even with large binoculars it is only a hazy patch. If there are observers in m33 looking at our Milky Way we would look much the same to them.

Yet how many of the billions of people on Earth know of the existence of this near neighbor, let alone how many have ever glimpsed it? One could argue that this ought to be a part of basic geography education –ie- where we are in the universe. Alas, astronomy is often seen to be part of a science curriculum suitable for advanced students.

The non-science crowd is left to learn about their place in the universe through motion picture animations and press releases of time-exposed and enhanced space mission photos. The voyages through space depicted in science fiction or science documentaries emphasize the grand size of the universe – implying we are but a speck and that our views are limited.

In fact, quite the opposite is true. We live inside a galactic arm. That means we are privileged to see out from and into a fairly representative galaxy. Isn't that the universe? All we can see of the universe today is galaxies and their components. By definition, we can't see dark matter. So we have a ringside seat.

As for the rotating galaxies of science fiction this is pure drama. Even a dinosaur still alive today would not have seen much rotation in the past 60 million years. Things in space cover vast distances so seem immobile from our perspective – but the same would apply to observers anywhere else. Climbing aboard a rocket ship does not change our galactic perspective in the way that an airplane does to Earth. Stars do not rush by. Even the asteroid belt might not be dense enough to offer much visual stimulation. A mission to Mars would just be months of seeing the same sight out the window – black.

But through a modest backyard telescope we can see movement. Satellites are abundant. If the observer tracks one using low power the sight is very much a real picture of space – a bright dot moving quickly across a backdrop of stars on jet black. That is what things look like in space.

What about going into space for a look? Astronauts get a great glimpse of Earth but their view of the stars is through portholes and space suit visors. Their view flying over the moon is clearer than we get through a backyard telescope but then how comfortable is a space capsule? From the surface of the moon things should improve but we still have the problem of the space suit. Night time there is cold enough to make Antarctica seem tropical.

As for galaxies, they are not inherently beautiful to our eyes. They are essentially a vacuum. Only because each of the points of light within is a nuclear furnace do they produce

a feeble overall glow we can see. But they are far from bright. When the Milky Way is overhead (in our Southern Hemisphere) the merest candle, streetlight or full moon blocks most of it out, let alone the Sun. People living on a planet with more than one moon might never see their own galaxy until their civilization was advanced enough to leave their atmosphere and block the moon glow.

Another clear proof of this is the Clouds of Magellan. These companion galaxies have a wide span and a lot of interesting elements visible with binoculars. Their Tarantula Nebula can be glimpsed with the naked eye. But – beautiful? Any Earth clouds in the sky tend to be brighter and can make them hard to see (hence their "cloud" names). If a student ever asked you 'what would a galaxy look like from outside?' there is their answer – like clouds. The centre of the Milky Way is called the Star Clouds of Sagittarius.

Beautiful? They loom straight overhead in the Southern Hemisphere but the Milky Way covers more of the sky than the eye and brain can take in. Sometimes focussing on the dark patches helps in trying to take in the overall shape and all that it means. It should be no surprise that the notion of a galaxy is fairly recent history. We can only see the shape if we've been told what to look for. Even then it has less contrast than the photos.

So where would we find the best views in the Universe? Let's look back to where we started. Backyard skies used to be dark. Even by the time of Classical Greece cities were not lit. Nobles employed people to guide them home by torchlight. Greenwich and other observatories were able to operate in what have since become urban centers. William Herschel knew that he had great views of outer space. Today city dwellers have to take a car to escape city light (train and bus only take us to lit depots).

But out of town on a moonless night we have the potential for very representative views of the Universe. From the Northern Hemisphere we can see other galaxies. From the Southern Hemisphere we can see our own. Denizens of other solar systems might have better close ups of particular neighboring galaxies and nebulae or globular clusters in their vicinities but these too will be faint. Too many such objects and they mush together visually and drown each other out. Besides, we can see many such objects from our own backyards with a telescope.

The limitation then is less our locale than our eyes. Cheap large telescopes and binoculars and super wide field eyepieces do a better job of helping us take in the views. But our eye pupils only open so far at night. Extra aperture is lost if we don't match lens to eye to object.

The best views, then, come from taking different perspectives. Just as our binocular vision gives us depth perception, looking through different devices gives us close-ups, wide angles, satellite fly-bys, Earth rotation movement, multiple-star splits, and dark nebulae focus. It takes a combination of these views to put together a picture of the Universe. This should be no surprise. To take in and comprehend 'France' we could view it from the air, through its radio and TV, from its restaurants and wineries, its countryside, its beaches, its libraries and museums - yet spend a lifetime still learning more. Why would we expect the Universe to be a quick glimpse from a rocket ship?

So backyard astronomers, never let aperture fever or preaching about our supposed 'insignificance' tempt you to think you're seeing any less of what the Universe has to offer. You have as good a view as any.

B.R.A.S. Meeting notes October 11, 2010

Start 7:10 pm Pres. Marvin was out of town for the meeting so Ben Toman presided.
Every one was asked to introduce themselves to help get to know everyone.
Ben suggests everyone get the photo ID from the Observatory.
Trevor reported on the Astronomy related Annual Award Program for Junior & Senior H.S. students is progressing. It will be limited to E.B.R. only but all schools.
Each Principles &/or Science Dept. Head is to nominate 3-5 pupils secretly based on enthusiasm, passion, knowledge.
A committee of the club will make the final decision.
Nov. 3-7th is the Deep South Regional Stargaze. Oct. 22nd was given as the deadline for discount.
Merrell Hess wants any photos of the stargaze for our meeting display.
Wally Purcell reported that the Astronomy Calendars are in.
Don reported that Hodges Gardens is buying Telescopes for Public Veiwing.
And that aNew Group Cabins are available this year. The Star Party for 2011 will be March 29th-April 3rd

We will have nominations for offices at the November meeting and the Christmas party will be on Monday, Dec 6 at which time the officers will be elected for 2011.

BATON ROUGE ASTRONOMICAL SOCIETY

You can pay your Membership Dues at our next Meeting or Send your Dues to:

Baton Rouge Astronomical Society, inc.
c/o Bob Sinitiere, Treasure,
14558 Cottinham Ct.,
Baton Rouge, LA 70817-3543

If you have questions about dues or receiving your News Letter call Bob at 755-2079

♦ **Regular Membership** $20.00 $_____	**Date** _____
♦ **Each Additional Family Membership** $ 5.00 $_____	**Name** _____
♦ **Student Membership (through age 17)** $10.00 $_____	**Mailling Address** _____ _____ _____ Zip_____
♦ **Donation* toward club building fund or** (_____) *Specify* $_____	**Phone** (H) _____ (C) _____ (W) _____
TOTAL ENCLOSED $_____	**E-Mail** _____

How do you wish to recieve the Society's Newsletter *Night Visions*-
___ By Mail or by ___ E-Mail
(Please Check one)

PLEASE CHECK THAT YOUR ADDRESS AND E-MAIL ARE CURRENT AND CURRENT.

Meetings are usually held the second Monday of each month at 7pm, except for June and July. Most meetings are held at the Highland Road Observatory.

*All donations to the *Baton Rouge Astronomical Society, Inc.* are tax-deductible under IRS Section 501(c)(3) & (a)(1) and also 170(b)(1)(A)(vi).
The *Baton Rouge Astronomical Society, Inc.* is a nonprofit corporation chartered under the laws of the State of Louisiana.