

THE EVENT HORIZON



ST. LOUIS ASTRONOMICAL SOCIETY

Devoted to the Interest and Advancement of the Science of Astronomy

**VOLUME 31, Issue 4
April, 2021**

Mid States Region



Cosmic Roller Coaster

by
Dr. Ian Redmount
Saint Louis University

Dr. Ian Redmount of Saint Louis University will be the speaker at the SLAS regular meeting in April. It will be held via Zoom online conference. The meeting and lecture will begin at 7:30 p.m. on Friday, April 16. Zoom access information is posted at the bottom of this page and on the Society's website, www.slasonline.org

An amusement park's roller coaster's motion is determined by gravity and by the shape and structure of the coaster tracks. Motion in the universe – our solar system, the Milky Way galaxy, and beyond - is also determined largely by gravity. The “tracks” are the actual shape of the universe, with matter and energy altering the basic geometry of space. Dr. Redmount will talk about the cosmic roller coaster – how Einstein's General Relativity Theory allows us to understand how and why space is curved. He explains: “The profile of the cosmic roller coaster is determined by the matter and energy content of the Universe. As farther-reaching observations have shown us more

and more of the history of the cosmos, we have refined and modified our understanding of the stuff of which it is made, introducing “dark matter” and “dark energy” into our lexicon. Recently researchers at Saint Louis University have introduced a model of the Universe dominated by tachyons, faster-than-light particles. This model makes predictions similar, but not identical, to those of what has come over the last two decades to be called the Standard Model.”

Dr. Ian Redmount is an Associate Professor in the Department of Physics at Saint Louis University. He received his Doctorate from the California Institute of Technology and held several research positions before accepting the faculty position at St. Louis University in 1993. His research interests include black holes, spacetime wormholes, cosmology, and quantum field theory.

Upcoming Meetings 2021

May - Larry Bartoszek, PE The Connection Between the Periodic Table and Astronomy, NSS

June - Brad Joliff, PhD, China's Exploration of the Moon: The Chang'e Missions Wash U.

July - John Newcomer, Hiking on the Mountains of the Moon SLAS

August- Robert Criss, PhD Galactic Rotation & Dark Matter Washington University

Inside This Issue

President's Corner	2
MSRAL Canceled	
Urban Backyard Stargazing Report	3
Unknown SLAS Grabbag Filter Evaluation	
Gallery	7
Board minutes	8
Financials	9
Events	10
Contacts	11

READ ME !!!!!!!

**Beginning in May, SLAS will have it's own Zoom account and the link for the meetings will CHANGE!
We'll keep you posted for the new ID.**

Joining a Zoom Conference Meeting: Everyone can join! No Computer Required!

Joining us for a Zoom Conference is easy! All you need is any of the following: Computer, desktop or laptop, smartphone, **OR** any regular phone! The meeting will be open from 6:30-11pm. The extra time is to allow socializing before or after the meeting

Below is the invitation to join:

To join Zoom Meeting for SLAS Regular Meeting with computer or smartphone:

Just click the link below:

<https://zoom.us/j/8604505790>

Meeting ID: 860 450 5790

Dial by ANY phone using your location (any phone will work)

+1 312 626 6799 US (Chicago)

President's Corner by Jim Small

This month has been one of developments, both good and bad.

Good. Found a home for the Monolux 4380 refractor we offered for sale last month. Jeff Carpentier decided to pick it up! Thanks for providing a good home for this pristine scope from back in the day!

Bad. MSRAL has been canceled. Again. COVID policies are continued with the Astronomical League from last year and all league group activities are canceled. This does NOT include local group activities as long as the AL is not named.

Good. SLAS is beginning to have outreach activities again. Be sure to follow the usual COVID guidelines if you are providing a telescope with social distancing and be sure to wear a mask, even if you are fully vaccinated. RSVP if you are interested in attending events to provide telescope viewing. Cell phone display or projections are welcome as alternative viewing techniques! We look forward to your creativity in this area.

Good. The concrete for the pier and dome for the observa-

tory has been poured!!! In addition, the grounds have been filled around the concrete and the land surrounding the dome is sloped so that water will drain away from the dome. Next step? Getting the dome and telescope moved!!

Good. Once the observatory is moved, set up properly and is fully functional, we will begin training operators to use the telescope. This will NOT be random use by anyone in the society. Proper training is REQUIRED to be able to operate the telescope properly and it is likely to be a situation where more than one person will need to be present to operate the observatory. Rules of engagement will be set down in the future. There will be a lot to cover.

Bad. Galaxy observing is going away. Orion and company will set by sunset toward the end of next month.

Good. Sagittarius, Scorpio, the Milky Way and Planetary nebulae are coming!

Good. Weather has been cooperating lately! We had a particularly enjoyable time at Babler Sunday because the temperature was perfect, skies were clear and no wind!

If you haven't gotten a scope out lately, it would be a great time to do it now! Good to get back into practice again.

Clear Skies! jrs

MSRAL 2021 Canceled by Cook Feldman

On March 28, 2021, the Executive Committee completed its review of the organization-wide prohibition of group activities imposed one year ago. By unanimous vote, the Executive Committee has voted to keep the prohibition in place.

The reasons for continuing the prohibition are (1) the surge in COVID-19 cases occurring in at least 15 states, (2) a still dangerous death rate averaging approximately 1,000 persons per day nationwide, (3) the rapid spread of variants in the U.S., and (4) postponement of our in-person ALCon until 2022.

Carroll asked me to remind all regional officers of the terms of the prohibition:

To all Regional Chairs and Representatives --

Due to the ongoing COVID-19 crisis, the League's Executive Committee has suspended all League national and regional conventions and group activities until further notice. No region or other entity acting under the League's aegis, or using the League's name or that of any League region or activity, may conduct conventions, star parties, in-person meetings, or other public gatherings or group activities. Please understand that any person violating this determination can be held personally liable to the League for any loss sustained by the League as a result. This does NOT preclude League member societies from conducting group activities as they see fit, as long as the League name is not attached to the activity.

Consistent with this determination, the League has again postponed its in-person national convention in Albuquerque, this time until the summer of 2022. Our ALCon '20 and '21 hosts at The Albuquerque Astronomical Society have generously agreed to host ALCon '21 in Albuquerque at the same Embassy Suites venue.

All 2021 League awards programs will move forward on schedule with winners announced and recognized in Reflector. Public presentation of 2020 and 2021 awards will be deferred either to our virtual convention on August 19-21, 2021, or until ALCon '22. We encourage all regions to continue with their awards programs as well in that these can be presented virtually and publicized without public gatherings.

All League Observing programs will continue, but we encourage individuals pursuing our observing programs to abide by national and local government orders relating to lock-downs, personal protective equipment, travel, transportation, and use of public lands and facilities.

Obviously, we are most distressed to have to continue this prohibition, but this is a unique crisis with unique risks to millions. Failure to take these actions could compromise the lives and health of our members.

If you have any questions about whether a specific regional activity is permitted (i.e. those not involving gatherings), please contact a League officer.

Thank you for your understanding, and best wishes for the health and well-being of you and your families
Carroll Iorg President, Astronomical League
Chuck Allen Vice-President, Astronomical League

Urban Backyard Stargazing Report

March 28, 2021

by

Bill Breeden

ST. LOUIS – They say necessity is the mother of invention. With the pandemic and an ongoing family health issue, my time at the eyepiece has been quite limited for the past year. Something must be done!

My backyard is the very antithesis of a quiet, dark sky observing site. Trees, houses, streetlights, and noise come together to discourage me from backyard observing. However, this month I had a large elm tree removed that needed to go anyway, and a whole new part of the sky awaited me above!

Although I still must deal with streetlights, noise, and another pesky tree in my neighbor's yard, I now have about 200 degrees of sky, centered on the south! My neighbor's tree is tall and thin, and only blocks a little of the eastern sky and the zenith. But whatever rises in the east will eventually be visible in the south, and zenith is hard to observe with my telescope anyway. If I want to observe the northern sky, I must commit to it and set up my telescope further back in my yard, which then cuts out the south.

I have observed back here before, but with over half the sky now available, this was a whole new ballgame. In the east, the full moon was rising, and became visible to me when it was about 10 degrees up. In the south was Procyon and Sirius, with a bright streetlight just below Procyon. Sirius itself was dazzling, and Orion was up in the southwest. The seven bright stars of Orion were easily visible, and I could just make out the Orion Nebula (M42) by na-

ked eye! In the west, Mars and Aldebaran appeared peach-orange above several city lights. Just to the right of Aldebaran, I could just make out the Pleiades (M45). Capella shines high overhead in the northwest, and I could make out the star pattern of Auriga.

I set up my Meade LX-90 8-inch Schmidt-Cassegrain telescope, and began by pointing it at Sirius, which was right on the meridian. I am using my 24mm Panoptic eyepiece; Sirius appeared bright and shiny, and the background gave a hint of murky light pollution. Still, the view was better than I expected, so I observed a few more bright stars.

I next observed Procyon, Betelgeuse, Rigel, Alnitak, and Capella. Overall, not too bad. I could do without the noise of the city, but it is sporadic, and I do get some quiet.

I have an Orion SkyGlow filter in my eyepiece case. I have used it at Francis Park, but it always left me a little disappointed. Boy, was I in for a surprise tonight! I pointed my telescope at the open clusters in Auriga: M36, M37, and M38. The filter really performs well in heavy light pollution; what a difference! The three open clusters stood out remarkably well, considering these conditions. Auriga was right over several city lights, and the SkyGlow filter worked well to remove the light pollution from the eyepiece view. The Orion Nebula also responded well to the filter – the 'wings' of the nebula were visible! The filter seems to perform best in heavy light pollution. In moderate light pollution, the difference was not as noticeable. This filter, along with more sky now visible, opens a whole new universe from the convenience of my backyard! Next time, I will try some double stars and a few more open clusters.

Don't let your location stop you from trying out your telescope from home. You may just be surprised! Happy observing!

###

Unknown SLAS Grabbag Filter Evaluation -

by
Grant Martin

So I go over to Jim Small's place because he says he has a scope I may be interested in. I get there and sure enough I became the unfortunate owner of not only a 5" Criterion SCT but also a 6" f5 Meade Newtonian on a pier. Both these items had the requisite "Grabbag-box-full-O-stuff". Fortunately, I have some family down in Springfield that are interested in astronomy so these things will have new homes . . . soon – but that's a whole nuther story.

Amongst all this astronomical goodness, was a no name, unidentifiable, apparently "Plane Jane" 1 1/4" filter (right). Of some kind. I mean there were NO markings of any kind indicating brand, manufacturer, or type. At all. Just a somewhat greenish looking filter. Jim and the previous owner thought it might be a classic "Moon" filter.

A brief look askance (ok, a brief look at an acute angle), revealed the familiar appearance of a more complex filter. Something like a Light Pollution rejection, or a UHC, or even better if'n yer into Planetary Nebula, an OIII filter. Most these filters look the same to the unaided eye but perform very differently in an eyepiece. About the only way to tell what it is, is to either do a side by side comparison or stick it into a spectrometer.



(Continued on page 4)

(Continued from page 3)

Well doing “Side-by-side” testing needs dark skies for evaluation and a largish aperture (8” or larger). Since we didn’t have any of those in the near future and since I DO have a spectrometer, I went with route #2 to try to figure out what this thing is.

Back in abouts 2010, SLAS member John Duchek, who has a doctorate in chemistry and is a superlative Telescopist, performed some measurements on common filters for astronomy. He bought a bare bones spectrometer and set about characterizing all sorts of these filters. I had always wanted to do that myself so I bought a system too and began characterizing all my filters. I then compared their performance on various celestial objects to correlate performance with profile. That’s a longish story not really relevant to this one but a special “Thanks” goes out to John for helping me in this field.

I fired up the system and took a series of readings on this filter. The result is shown on the right. The vertical scale is “Percent transmission” meaning how much light at the specific wavelength is passing through the filter. The horizontal axis is wavelength (AKA color)

Below the trace is a color bar showing where in the visible spectrum the various colors occur.

As can be seen in the graph, most of the green light is passed through while the yellow and orange are almost completely rejected and then the red band begins to be passed. IR (InfraRed), which is a continuation of the “red” band below our ability to see, pretty well passes through this filter unhindered - but that won’t negatively (or positively) ruin our view through it. On the opposite end of the spectrum, a lot of the Blue light, starting at what used to be known as Indigo, is also blocked but that’s not much of a concern for us either because blue at these wavelengths are very difficult to find in the universe of emitters.

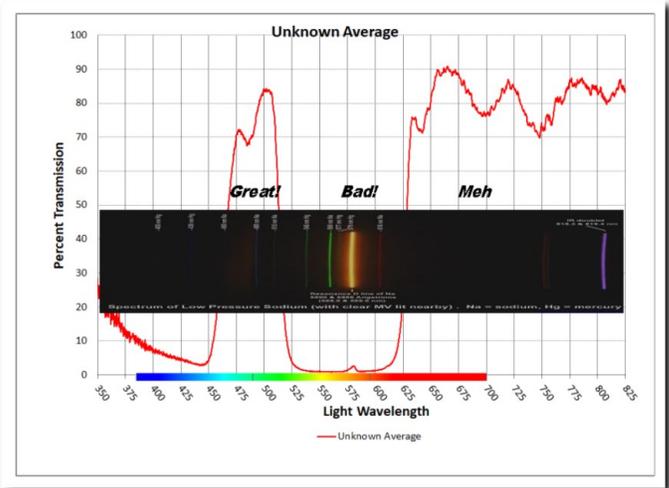
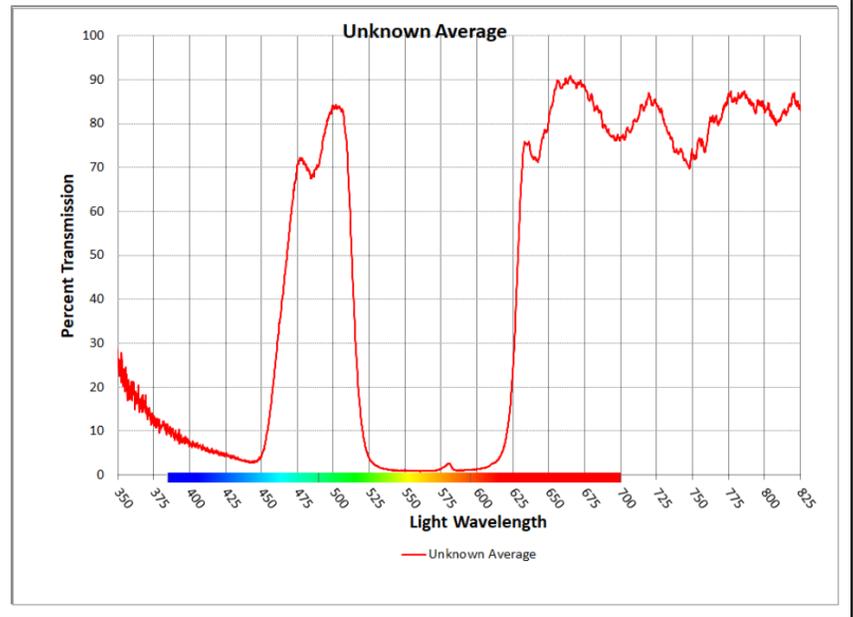
So that whole band of light in the middle that’s being rejected just happens to contain the majority of those wavelengths that form that dark sky obscuring light pollution we loath so much.

Superimposed on the trace of the unknown filter is a spectrum of the major components of light pollution. As can be seen, this filter will reject the majority of it before it gets to your eye. So now we’re getting close to identifying this thing.

Note the text “Great”, “Bad”, and “Meh”. These are somewhat technical terms for the wavelengths we deal with in astronomy. The band marked “Great” is a band containing the light from stars, galaxies and most especially, emission nebula like planetary nebula. So this IS a band of great interest to the usual observer.

The band marked “Bad” is one that would be nice to see but unfortunately, most light pollution lives here. Since life is nothing but a compromise, we can eliminate this band in favor of the “Good” light.

The band marked “Meh” is in the red and infrared, and for visual work, other than red Carbon stars, we don’t really see a lot of that in the celestial objects we typically focus on (with the eye. Astrophotography is outside the scope of this discussion). About those carbon stars: Don’t get me wrong, those stars tend to stand out in light polluted skies BECAUSE they are typically in the red wavelengths but this filter WILL help add additional contrast to them. So yeah,



(Continued on page 5)

(Continued from page 4)

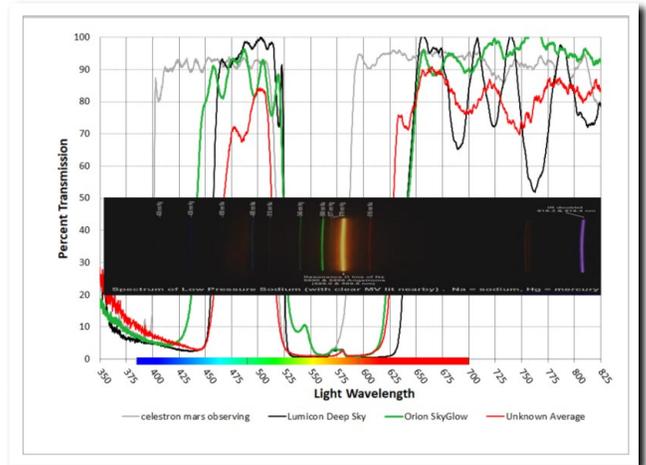
“Meh to Great”, takes your pick.

So now having identified this as a specialty filter, and most importantly, what appears to be a “Light pollution rejection” filter, is there anything we can do to further identify its’ manufacturer, brand and type?

Yes, yes we can. Recall I mentioned John and I have built up a pretty good library of filter measurements. We can compare the profile of this filter to the profiles of known filters in our database. I scanned it to see what might match, or closely match, this filters’ profile. The closest matches I came up with were an Orion SkyGlow, a Lumicon Deep Sky filter, and a Celestron “Mars Observing filter”.

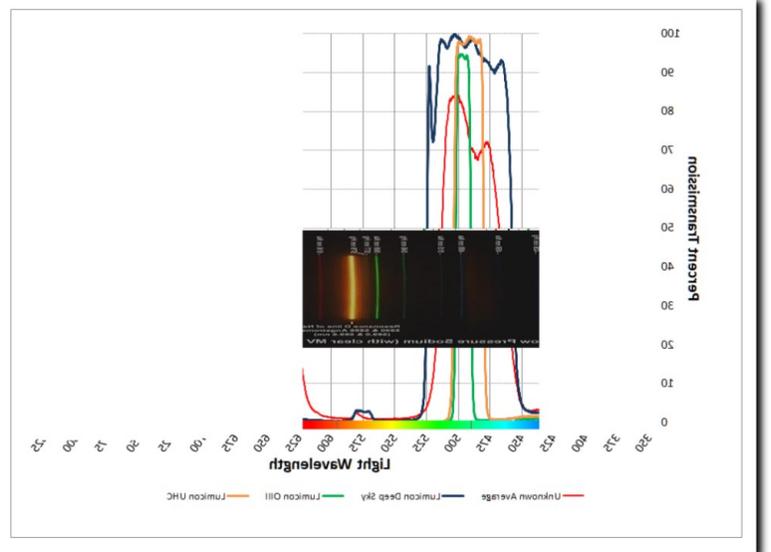
The plot on the right shows the Orion (Green trace) and the Lumicon Deep Sky filter (dark Blue trace) overlaid on the unknown filter with the light pollution spectrum (Don’t mind the Celestron filter (grey trace) as it’s too far off by comparison).

We can see these are close fits but not as close so as to have good confidence in identification. The major differences are: 1 - The Orion has a wider upper bandwidth allowing more blue-green light to pass, 2 - it allows a higher level of Good light to pass (90% for the Orion vs 75% for the unk). 3 - And this is the important part as far as viewing emission & planetary nebula are concerned: The Lumicon is not only slightly wider than the Orion, but it allows more light to pass than the Orion (92 to 98% vs 82 – 92%). And the unknown filter comes in third at 69 to 82% in this regard.



IMHO and that of many others, Lumicon supplies very high quality filters at affordable prices and are de-facto standards in these ranges. The graph on the right shows the three most popular filters from Lumicon. The filters are the Ultra High Contrast (UHC – Gold trace), Deep Sky (dark Blue trace), and OIII (Green trace). This last filter is used almost exclusively on Planetary nebula.

The relative performance of all four filters can now be estimated relative to each other: It looks like the unknown filter fits between the Deep Sky and UHC filters as far as bandwidth is concerned making it good for planetary and other emission nebula but a little weak on “Faint fuzzies”. Weak because once you substantially reduce the Yellow-Green band, the Blue-Green band contains the remaining visible light. And you want as many photons as possible so the object will stand out from the remaining background sky glow and light pollution. Make no mistake, by removing said light pollution, this filter WILL aid in seeing ALL those objects, but just not as good as that “Deep Sky” filter. On the flip side, for dim emission nebula, it’s not as good as that OIII filter since it allows much more non-OIII light which washes out contrast (FWIW, the narrowest filter we’ve ever measured in this band is the Baader OIII filter). But that maximum 85% transmission level in the unknown filter can be a real killer for observing REALLY faint objects.



As can be seen, the transmission levels for this filter fall far short of those for the Lumicon filters. So yeah, not a “Top-O-the-line filter” for sure.

From the construction of the filter itself, it looks an awful lot like a Meade mid-grade filter. But even then, Meade does label all its’ filters so this may be from another company buying from Meade’s’ filter supplier – who knows? This is a complex subject so apologies for leaving so many open questions. If you have questions and/or comments please con-

(Continued on page 6)

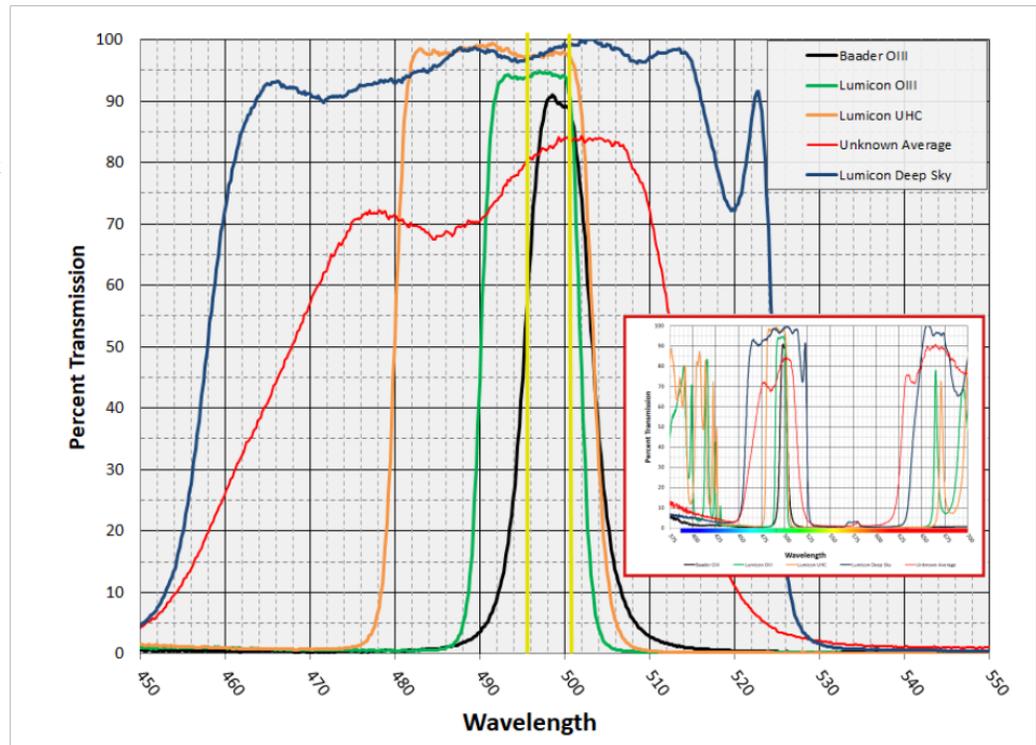
(Continued from page 5)

tact me or your nearest SLAS club member.

The bottom line is that this filter is NOT a standard “Moon filter” but IS a specialty filter in the “Light Pollution Rejection” or “Deep Sky” class. And since it was thrown into a package deal for free, a good deal to be sure!

Hey, here’s a value added bonus if you stuck it out this far:

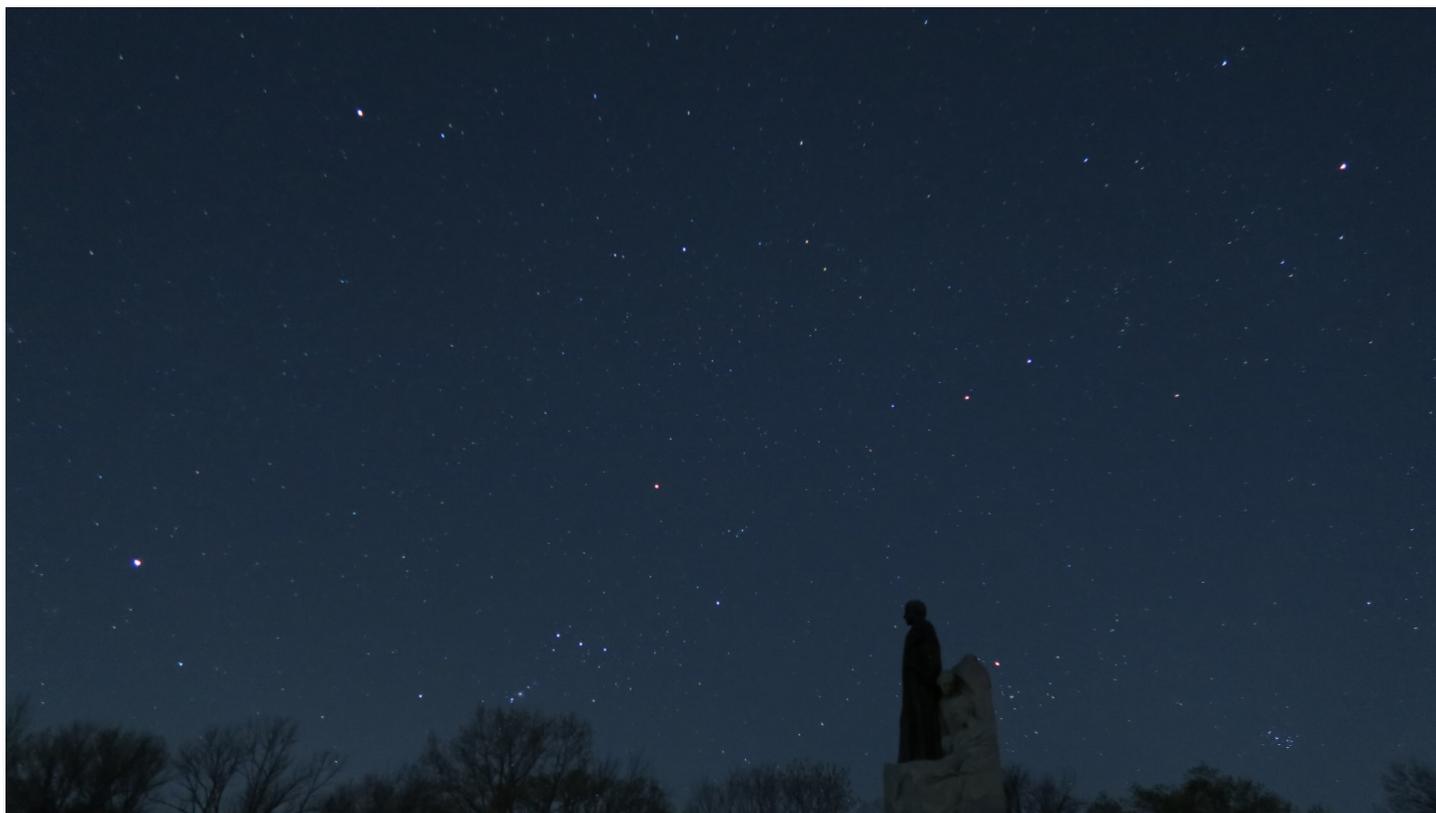
About that “OIII” thing. When it comes to locating a Planetary Nebula (PN), nothing works better to isolate them than what’s called an OIII filter. In all my measurements of filters, especially the narrow band OIII types, I’ve never measured ANY filter narrower than my Baader OIII filter. In the graph below, that filter (Black trace) is shown compared to the unknown filter and the three primary Lumicon filters mentioned above. As can be seen, it is half again as narrow as the Lumicon OIII. In practice, what this means is that the only light from these objects getting to your eye will be the two components of OIII light – the yellow vertical bars at 500.7nm & 495.9nm. In the field, this filter provides some of the highest contrast images of PN’s that I’ve ever seen.



What IS OIII? I can’t say it any better than Wikipedia:

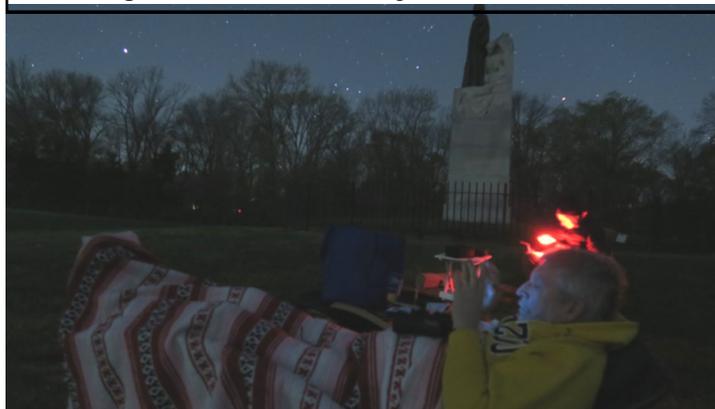
“In astronomy and atomic physics, doubly ionized oxygen is the ion O^{2+} (O III in spectroscopic notation). Its emission forbidden lines in the visible spectrum fall primarily at the wavelength 500.7 nm, and secondarily at 495.9 nm. Before spectra of oxygen ions became known, these lines once led to a spurious identification of the substance as a new chemical element. Concentrated levels of O III are found in diffuse and planetary nebulae. Consequently, narrow band-pass filters that isolate the 500.7 nm and 495.9 nm wavelengths of light, that correspond to green-turquoise-cyan spectral colors, are useful in observing these objects, causing them to appear at higher contrast against the filtered and consequently blacker background of space (and possibly light-polluted terrestrial atmosphere) where the frequencies of O III are much less pronounced.

These emission lines were first discovered in the spectra of planetary nebulae in the 1860s. At that time, they were thought to be due to a new element which was named nebulium. In 1927, Ira Sprague Bowen published the current explanation identifying their source as doubly ionized oxygen.” So there. G.



Top: Image of the spring skies from Babler State Park Monument Area. Look for Sirius, Orion (including M42), the Hyades, and the Pleiades. Procyon near the top, M35 in Castor, Auriga top right. Statue is Joseph Baldwin.
Above left: Larry Campbell observing at SLAS Sky Orienteeing Sunday night.
Above right: Mark Jones looking for M66 and M65 in Leo

at the Sky Orienteeing event.
Below left: Mark Jones and Tom Kuetzer determining what object to locate next at the Sky Orienteeing event.
Below right: It's READY! The concrete for the dome and the pier for the SLAS observatory has been poured and the ground around it brought to level. Electrical power is also installed.



**St. Louis Astronomical Society
Devoted to the Interest and Advancement
of the Science of Astronomy
Executive Board Meeting Minutes 3/4/2021**

- 1. Opening Activities** a. Attendance: Jim Small, Larry Campbell, John Newcomer, Bill Winningham, Brad Waller
b. Open Meeting 7:03pm
c. Approval of last month's meeting minutes Bill Winningham motion, second John Newcomer
d. Next Board meeting date: Dates for 2021: Apr 1, May 6, Jun 3, Jul 1, Aug 5, Sep 2, Oct 7, Nov 4, Dec 2 Meetings will be via Zoom until further notice:

- 2. Upcoming General Membership meeting topics:**
a. Speaker: Michael Malolepzy "Recent Happenings in the Millimeter and Radio Universe"
b. Special Awards needed: not this month
c. Speaker Press Release: Press Release in process, Talk has been posted on Facebook
d. Special Business needed: None needed
e. A101: MSRAL presentation for June 4-6
f. special awards program nominations open
<https://www.slasonline.org/membership/special-awards>

- 3. SLAS Financial Report** Bill will send financials after meeting
a. Balance Sheet
b. Profit/Loss report net income \$756 (\$680 in scope sales)
c. Annual Budget meetings –
d. Corporate filings: None this month
e. S&T now charging \$43.95 which matches our website
f. Bill needs to pay Lookin' Up Optics for Door prizes

- 4. Speaker Committee** a. Budget - \$400 b. Upcoming speakers:

SLAS Monthly Meetings Presentations 2021

Month	Name	Topic	Sponsor
16-Apr-2021	Ian H Redmount, PhD	Cosmic Roller Coaster	SLU
21-May-2021	Larry Bartoszek, PE	The Connection Between the Periodic Table and Astronomy	NSS
18-Jun-2021	Brad Jolliff, PhD	China's Exploration of the Moon: The Chang'e Missions	Wash U
16-Jul-2021	John Newcomer	Hiking on the Mountains of the Moon: The Voyage of Apollo 15	SLAS
20-Aug-2021	Robert Criss, PhD	Galactic Rotation & Dark Matter	Wash U
17-Sep-2021	Larry Bartoszek, PE	The Sloan Digital Sky Survey Telescope	??

- c. Open dates for 2021. Oct and Dec are open
d. Topics of interest
e. Stipends
f. Travel

Action – Brad to publish up to date speakers list

5. Membership Initiatives

- a. Budget - \$450
b. Welcome Aboard Meetings
c. Raffles – None planned until we start meeting in person
d. Attendance prizes this month. Attendance Prize: Fudge, Masks from Randy, Cell phone adapter

6. Membership Recognition

- a. Total Budget \$420
b. NSN Outreach Awards: Brad has awards and Jim has pins.
Action: Larry will get envelopes to Brad and Jim will get
c. Membership Report: sent to board.
d. Member anniversary awards
e. New Award program - \$600 budget Chairman – Larry Campbell, Jim Small, Mark Jones, Cook Feldman, Sharon Bertram, Fred Schovanez, Bill Neubert
1. Special Award Committee report: Larry will set up meeting to review perpetual plaque designs
2. New Award Policy and nomination process – article for announce-

ment of nominations for 2021

3. Submittal deadlines –
4. Nomination reviews: done
5. Award selection: done
6. Plaques purchased: Perpetual plaque needs to be made
7. Awards presented: done

7. Outreach

- a. Budget - \$700
b. Member Training Program Status: on hold for the time being.
c. Purchase of T-shirts for volunteers completed training
d. Purchase of lawn signs:
e. Upcoming outreach events: Jefferson College event
f. Awards/recognitions
g. NSN Outreach hours 13 hrs logged in NSN
h. \$90 received for Rich Heuermann doing programs for SLCL
Action: Jim will contact Rich Heuermann to post SLCL events in NSN and Jim will add past events to NSN
Action: Mark to add Aim for the Stars events to NSN

8. Old Business: a. Training Program start a committee

9. New Business:

10. Other Committee Reports: If needed

A. SLSC Business:

- a. First Friday actions: Brad talked to Eric and probably start 1st Friday telescope viewing in Fall, Sept, October
b. Other immediate business

B. SLCL Business:

- a. Annual contract – SLAS is receiving payment for Virtual Events
b. Upcoming events Rich Heuermann is doing virtual events in March (3rd and 24th), planning events for the summer." A Warp-10 tour of the Milky Way";

C. Jefferson College Business:

- a. Committee Meeting report: Observatory update. Pier to be poured next week!!

b. Upcoming Outreach Event:

D. Library Telescope Committee

- a. Budget – \$300
b. Upcoming builds and maintenance events – None Planned
c. Maintenance budget - \$100
d. Mileage re-imbursement – see above
e. Promotional materials - \$200

E. SLAS Social Events

- a. Budget - \$300
b. Homemade Fest - \$100 budget
Action – Mark to contact EMDSO about a joint event
c. Star-B-Q - \$200 budget
Other

F. SLAS Brochures a. Budget \$200 b. Quarter cards

G. Loaner scope Program a. Budget - \$100 b. New donations –
c. Replacement Parts for the LPTs - d. Telescopes sold at February meeting. Cave-Astrola 6" reflector and mount \$300 to Jeff Carpentier, Meade 6" f5 reflector and mount \$100, B&L Criterion 4000 \$100 Grant Martin, Meade ETX \$150 Cook Feldman, Galileo reflector \$30 Dave Peckham

H. SLAS Library a. Budget - \$500 b. Other

I. Merchandise

J. Telescope Making

K. Newsletter a. Budget \$600

L. Website a. Budget \$690

M. Social Networking

N. Night Sky Network

O. SLASdialogs

P. Dark Sky Missouri Action – Bill will contact Don about our donation to Missouri Chapter for Fall convention booth Action – Jim to get with Don to purchase SLAS Zoom account

Q. Observing Programs

R. Star Parties Donation:

11. Closing Activities Larry motion second by Brad meeting adjourned at 8:50pm

**St. Louis Astronomical Society
Profit & Loss Budget vs. Actual
January through March 2021**

	Jan - Mar 21	Budget	\$ Over Bud...
Ordinary Income/Expense			
Income			
Events Income	830.00		830.00
Magazine Subscription	1,457.00	735.40	721.60
Membership Dues	1,535.00	1,250.00	285.00
Total Income	3,822.00	1,985.40	1,836.60
Cost of Goods Sold			
Magazine Subscriptions	1,325.10	701.40	623.70
Merchandise	85.92		
Total COGS	1,411.02	701.40	709.62
Gross Profit	2,410.98	1,284.00	1,126.98
Expense			
1-Programs & Events	416.68	665.00	(248.32)
2-Newsletter	183.99	285.00	(101.01)
3-Library expense	26.80	100.00	(73.20)
5-Loaner Scopes		25.00	(25.00)
6-Brochures		75.00	(75.00)
8-Website	179.40	600.00	(420.60)
9-Administrative Expen...	109.35	134.00	(24.65)
Total Expense	916.22	1,884.00	(967.78)
Net Ordinary Income	1,494.76	(600.00)	2,094.76
Other Income/Expense			
Other Income			
Donations	90.00		90.00
Interest Income	8.75	12.00	(3.25)
LTP Receipts	10.00		10.00
Total Other Income	108.75	12.00	96.75
Net Other Income	108.75	12.00	96.75
Net Income	1,603.51	(588.00)	2,191.51

**St. Louis Astronomical Society
Balance Sheet
As of March 31, 2021**

	Dec 31, 20	Mar 31, 21
ASSETS		
Current Assets		
Checking/Savings		
Checking - First Bank	7,587.88	9,322.95
Deposit, Certificate of	15,925.53	15,933.26
Library Telescope Escrow	1,206.41	1,216.41
PayPal	747.44	683.05
Savings - First Bank	41,145.74	41,146.76
Total Checking/Savings	66,613.00	68,302.43
Other Current Assets	761.53	675.61
Total Current Assets	67,374.53	68,978.04
Fixed Assets	15,336.00	15,336.00
TOTAL ASSETS	82,710.53	84,314.04
LIABILITIES & EQUITY		
Equity		
Opening Bal Equity	8,497.66	8,497.66
Retained Earnings	72,581.69	74,212.87
Net Income	1,631.18	1,603.51
Total Equity	82,710.53	84,314.04
TOTAL LIABILITIES & EQUITY	82,710.53	84,314.04

We could use articles for the newsletter. The following topics are fine for submission.

- 1. Star party reports. Let us know how a star party you attended went! Photos would be most welcome in addition to the article.**
- 2. Observing reports. Actually made it out observing? Let us know how it went. Taken some astro photos? Please submit!**
- 3. Bought something or built something? How about a review or an article!**

Send to newsletter@slasonline.org

Upcoming Star Parties and Other Events

For details on these and other upcoming events, check out the Night Sky Network Calendar linked on the Home Page for SLAS at <http://www.slasonline.org>

SLAS Executive Board Meetings Location will be at *Nicoletti's Restaurant in Valley Park* All meetings are on First Thursdays unless noted. **Note: Board meetings will be via Zoom until further notice.**
May 6, Jun 3, Jul 1, Aug 5, Sep 2, Oct 7, Nov 4, Dec 2

Dark Sky Observing Dates

May 8, Jun 5, Jul 10, Aug 7, Sep 4, Oct 2, Nov 6, Dec 4

Francis Park Events: These events are on Wednesdays of the week nearest the first quarter Moon
On hold until further notice due to Covid 19

Sky Orienteering Events For members who want to gather and do some relaxed observing at Babler State Park

Please RSVP if you plan to come!

SLSC Public Telescope Viewing Events: These events are held the first Friday of the month
Planetarium shows start at 7pm
On hold until further notice due to Covid 19

Pattonville Observatory Public Viewing Dates
See you next year! Maybe!

Broemmelsiek Astronomy Park Public Viewing
Every Friday by appt

UMSL Observatory
For directions and map
<http://www.umsl.edu/~physics/About%20the%20Department/astro.html>

All sessions include viewing of 1st quarter Moon with additional objects

Skywatch Hotline: 314-516-5706

Saturdays:

LET US KNOW YOU ARE COMING!

To RSVP for any of these events log in to the Night Sky Network and submit your RSVP. If the event is canceled, you will be notified immediately according to the preferences you have selected.

SLAS Events

April

16 Fri
19 Mon
22 Thur

SLAS Regular Meeting
Constellation Tour 40
SLAS New Member Zoom

May

3 Mon
6 Thur
8 Sat
10 Mon
12 Wed
17 Mon
22 Fri
22 Fri
24 Mon
27 Wed

Constellation Tour 41
SLAS Board Meeting
SLAS Dark Sky Observing
Constellation Tour 42
Manchester Parks
Constellation Tour 43
Stargazing at Crestwood Park
Snores and Smores Kirkwood Park
Constellation Tour 44
SLAS New Member Zoom

June

3 Thur
5 Sat
4-6

7 Mon
14 Mon
18 Fri
19 Sat
21 Mon
24 Thur

SLAS Board Meeting
SLAS Dark Sky Observing
CANCELED! MSRAL Conference - Broken Arrow, OK
Constellation Tour 45
Constellation Tour 46
SLAS Regular Meeting
Snores n Smores Kirkwood Park
Constellation Tour 47
SLAS New Member Zoom

For other events, watch the calendar on the website. Virtual stargazing events and other online activities will be registered there. We hope you can join us for some of these activities!

SLAS Merchandise Available

SLAS merchandise is now set up for embroidery at **Headz n Threadz** at www.headznthreadz.com

There is now only one location:

1065 Regency Parkway, St. Charles MO 63303

Telephone: 314.528-8100

sales@headznthreadz.com

Simply take the garment, hat, etc you wish to have embroidered and they will take care of it. They have the SLAS logo on file. You may make modifications to the colors if you wish.



SLAS Logo is also available at www.Infini-tees.com

SLAS MEMBERSHIP APPLICATION



Name: Last _____
 First, Middle Initial _____
 Address _____
 City, State, Zip Code _____
 email address _____

Youth @ \$10.00 / 1 year (18 yrs or younger) \$ _____
 Individual @ \$25.00 / 1 year \$ _____
 Family @ \$40.00/1 year \$ _____
Publications with discount available with your SLAS membership:
 Sky and Telescope @ \$43.95 / 1 year \$ _____
 (S&T may also be renewed at their website:
<http://www.skyandtelescope.com>)
 Astronomy @ \$34.00 / 1 year \$ _____
TOTAL ENCLOSED \$ _____

Please send completed form with check (no cash please) made payable to
St Louis Astronomical Society
 Don Ficken, Membership
 13024 Barrett Crossing CT
 St. Louis, MO 63122

Check all that apply:
 Renewal
 Address Change Only
 Please send my newsletter by regular mail
 New Member!

SLAS OFFICERS

President	Jim Small	314-307-0692
president at slasonline.org		
Vice President	Bradley R Waller	314-481-7250
vicepresident at slasonline.org		
Secretary	Mark Jones	636-394-2342
secretary at slasonline.org		
Treasurer	Bill Winningham, (Don Ficken - membership)	636-357-2763
treasurer at slasonline.org		
Hospitality	Larry Campbell	636-244-2867
hospitality at slasonline.org		
Board Members at Large:		
	Tom Nickelson	314-346-9565
board20 at slasonline.org		
	Brent Buch	314-239-0329
board21 at slasonline.org		
	John Newcomer	314-496-4636
board22 at slasonline.org		
ALCOR	Bill Winningham	636-357-2763
(Astronomical League Correspondent) treasurer at slasonline.org		
MSRAL Rep.	Jim Small	314-909-7211
msral_rep at astroleague.org		

COMMITTEE CHAIRS

Dark Site Coordinator	Mark Jones	636-394-2342
darksite at slasonline.org		
Librarian	Jim Small	314-909-7211
librarian at slasonline.org		
Library Telescope Program	Don Ficken	636-851-9630
librarytelescope at slasonline.org		
Loaner Equipment	Greg Gaines	314-277-3082
loaner at slasonline.org		
Merchandise	Vacant	
merchandise at slasonline.org		
Membership	Don Ficken	636-225-0269
membership at slasonline.org		
Newsletter Editor	Jim Small	314-909-7211
newsletter at slasonline.org		
Observing Programs	Mark Jones	636-394-2342
observing at slasonline.org		
Publicity	Rich Heuermann	314-962-9231
publicity at slasonline.org		
Recognition	Larry Campbell	636-244-2867
recognition at slasonline.org		
Social Media	Vacant	
'SLASdialogs' Moderator Mark Jones, Rhonda Whelan		
dialogsmoderator at yahoo.com		
Star Party Coordinator	Bill Breden	314-276-3613
starparty at slasonline.org		
Telescope Making	Bill Davis, Jim Melka	314-469-3061
telescope at slasonline.org		
Webmaster	Jim Small	314-909-7211
webmaster at slasonline.org		

Devoted to the Interest and Advancement of the Science of Astronomy

ST. LOUIS ASTRONOMICAL SOCIETY

We're on the Web!
<http://www.slasonline.org>

Follow us on
Twitter: @stlastro
Facebook: @stlastro

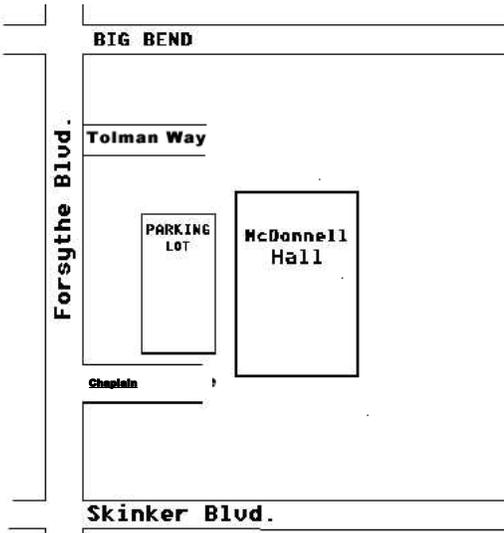


Who We Are and What We Do

St. Louis Astronomical Society is a not-for-profit organization established in 1936. SLAS is devoted to the interest and advancement of the science of astronomy. Our mission is to promote an understanding of the science of astronomy to our members and to the public. Membership is open to anyone with an interest in astronomy.

For more information contact any SLAS officer or visit our website listed above. SLAS is affiliated with the Astronomical League, Night Sky Network and the Mid-States Region of the Astronomical League.

Meetings are held the 3rd Friday of each month at McDonnell Hall at Washington University. See the map to the right for directions.



St. Louis Astronomical Society

Jim Small
13128 Cozyhill Drive
St. Louis, MO 63122

