

Newsletter of
The Black River Astronomical Society

Guidescope

Lorain County, Ohio

June 2018

Website: blackriverastro.org

Newsletter submissions: [Editor](#)

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- Friday, June 1, 10-midnight: Public observing, Nielsen Observatory (cloud backup date Saturday, June 2)
 - Wednesday, June 6, 7 p.m.: Regular meeting, Carlisle Visitors Center. Mars Opposition
 - Thursday, June 14, 7 p.m.: Board meeting, Blue Sky Restaurant, Amherst
 - Friday, June 15, 10-midnight: Public observing Nielsen Observatory (cloud backup date Saturday, June 16)
 - Sunday, June 24, 1-4 p.m.: World Wide Solstice Festival solar observing, Sandy Ridge Reservation

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Visit Our Website

Explore if you will the informative BRAS [website](#) and all its interesting, timely [links](#), and join the interactive members-only [BRAS Forum](#) to better keep in touch.

Guidescope Contributions Wanted

If you have any wanted/for sale announcements, astronomical photos you've taken, interesting article links, equipment reviews, observing reports, essays, or anything that you think the local amateur astronomy community could relate to, please send it to your [humble Guidescope editor](#) for inclusion in forthcoming issues.

R.I.P. Joe Manacci

Former long-time member Joe Manacci died May 9 in LaGrange, Kentucky. His complete obituary can be found here: <https://www.rsgfuneralhome.com/notices/Joseph-Manacci>

As can be seen in his obituary, he was as active and enthusiastic with astronomy --among his many other interests--in Kentucky as he was in Ohio. Here is the first post from the Tribute Wall:

“Dearest Teri, Michael and other family members,
...Some people just take life for granted but our Joe didn't --he touched so many folks with kind words & that sense of humor:-) His zest for life was deeply structured in his faith and love for his family...Teri(favorite hummingbird) you were his rock and Michael you continued to amaze your dad with your youth and your caring heart always focused on others & your parents--stay the way you are don't change a thing.
Our stargazer has finished his earthly mission and now he's privy to marvels of the universe with our Creator.
May your tears turn into laughter as time passes ---for Joe was loved, needed and respected by many!
Bless you all and I'll miss my friend :-(
Sincerely, Dr. Marcia Ebbs (a budding astronomer)”

Board Summary May 10, 2018

The May meeting was called to order at 7:07 p.m. at the Blue Sky Restaurant with seven Directors present. Minutes from the April meeting were read and approved as was the Treasurer's Report. Committee reports followed with the Guidescope editor, Bill Ruth, reporting all was well. The webmaster was absent, but the website seems to be operating well. There were no reports from the Instrumentation, OTAA or Metro Parks Liaison chairpersons as all was reported well.

Programming is set through the year with only November open. We are actively looking for someone to give a presentation for November, so anyone interested should contact one of the officers or any Board member. You may contact the President, Steve Schauer at BRASPres@gmail.com.

June	John Reising	Mars in preparation for the Mars opposition this summer
July	Mickey Hasbrook	Lowell Observatory
August	Denny Bodzash	Solar Superstorms, EMP Attacks and Hardening the Grid
September	John R./Dave L.	Program and meeting at the Oberlin College Planetarium, Peters Hall
October	Staff	Elections, the Annual Meeting of the Members, Short video
November	OPEN	
December	Christmas Pot Luck Dinner at the Amherst Beaver Creek Reservation	

The first item of Old Business was the possibility of borrowing a 12" Meade LX 90 from the Oberlin Observatory if we are able to send the orange tube C-14 into Celestron for cleaning and repairs. The discussion centered on how to mount the Meade as their bolt pattern is different from the pattern Celestron uses. Greg Cox will look into what is necessary to mount the Meade in an alt-az configuration.

Next, Schauer reported that the prices for a Storage Buildings Unlimited mini-barn for storage of our new 16" reflector have gone up about \$130.00 since last year which was not believed to be a problem. A 16' long by 10' wide building would be \$2860.00.

New Business was next on the agenda with the first item being a discussion about giving outside speakers like Doctor Steinbring a small gift as a thank you. A \$25 gift card from Amazon was suggested.

The second discussion was of the election of members of the Board of Directors which will occur in October. Each year, 1/3 of the members of the Board are elected. Once a new Board is voted in, the Directors then move into another room and select officers for the coming year. This year, the terms of Bill Ruth, Greg Cox, Greg Zmina, and Dave Lengyel will expire. So far, Cox and Zmina have indicated that they will run for reelection.

The third item of New Business was a discussion about attending the CVAS OTAA Convention or the Miami Valley Astronomical Society Apollo Rendezvous as both are held on the same date, June 9th. It will be left up to members as to which to attend. Information about both events are on the club's respective websites. Schauer plans to attend the CVAS OTAA event and will drive.

The next discussions centered around planning for our participation in the LCMP Scavenger

Hunt at Carlisle on May 12th and the LCMP Paddle and Pedal Festival at Lakeview Park on May 20th. Also Ranger Sergeant Murray of the Metro Parks is hosting a camp-out at the Equestrian Center on either June 1st or July 13th, both of which are dates when we already have Public Observing scheduled. Schauer will contact Sgt. Murray to find out which date he selected so we can be sure we have adequate help. Also, the Lorain Horse Council wants to have a camp-out on Saturday May 19th and has asked if we can open the observatory for them, weather permitting. Reising, Walsh, and Schauer indicated that they would do so.

Finally it was decided to pursue buying a used binocular viewer for use at the observatory. Dates were set, and the meeting was adjourned at 8:14 p.m.

~Steve Schauer

All Systems Go for Private Spaceflight

Last month, President Trump signed his Space Policy Directive (SPD-2), which seeks to eliminate government red tape in order to bolster the private sector's efforts in spaceflight. SPD-2 is over half a year in the making as it first started to take shape back in October, 2017 with the resurrection of the National Space Council (NSC).

The move was widely cheered among the private spaceflight industry.

SpaceX President and Chief Operating Officer Gwynne Shotwell commented that “regulations written decades ago must be updated to keep pace with the new technologies and the high cadence of launch from the United States if we want a strong space launch industry here at home.”

Alan Stern, board chairman of the Commercial Spaceflight Federation and principal investigator for NASA's New Horizons mission, called SPD-2 “a tremendous accomplishment by this administration on behalf of America's commercial space industry.” Going further, Stern added that “we've been innovating here at home and competing around the world under the burden of regulations written decades ago . . . now we can foresee a more streamlined legal and administrative regime that will allow us to continue to help transform how Americans access and use space.”

SPD-2 has two very clear objectives: it instructs the Secretary of Transportation to come up with a new, streamlined regulatory system for launch and reentry vehicles and instructs the Secretary of Commerce to create a “one stop shop” in the Commerce Department or private spaceflight regulation.

Little wonder that the private spaceflight sector is cheering.

Private spaceflight, which would have been considered a ludicrous idea just two decades ago, is not only here to stay, but is doing some amazing things. These companies are clearly no amateur rocket scientists as evidenced by the fact that they have won government contracts and have innovated, most notably in SpaceX's reusable rocket, which can be guided back to Earth without wasting any components the way NASA technology did in the past.

These are clearly competent companies, so why not free them from government red tape that only slows the pace of innovation?

~Denny Bodzash

Binocular Skygazing

Many thanks to Mike Garrett, John Reising, Dan Walker, and Jeff Walsh who brought their favorite binoculars to last month's meeting as part of the binocular astronomy presentation. Although we didn't have much time or a clear sky to fully appreciate the instruments and the views they can deliver it did serve to show there are many sizes and flavors of binoculars being used by astronomers. It will be good to have a chance to take long looks through some of them at upcoming star parties. From compact antiques to mammoth binoscopes to image-stabilized state-of-the-art wonders, there is a binocular for every taste, budget, and application.

The club has several binoculars available for use kept at the Nielsen Observatory—just ask one of the members conducting the observing session at the observatory for one to use at the session.

Binocular astronomy has been practiced ever since our ancestors looked skyward with two good eyes. Our visual system is optimized to be binocular; we even have specialized cells in the brain's visual cortex that are called binocular cells, as they process signals from both eyes and can discern subtle details and information better than with input from one eye only.

Binoculars—the mass-produced optical instruments for enhanced two-eyed viewing—are powerful, portable, user-friendly, versatile, affordable tools for satisfying stargazing. They let us enjoy a natural, correctly oriented, no-strain view that affords us a 10% boost in detail and color perception, and a 40% boost in low contrast perception.

The club will soon be providing for our viewing pleasure a *binoviewer*, which will let us use both eyes when viewing through a monocular telescope. Although there is about a 20% loss of image brightness when the light from a monocular telescope is split through prisms to two eyepieces, there is the same increase of detail, color, and low-contrast perception with a binoviewer as with binoculars. Binoviewers can't provide a 3-D image, as there is only a single image source, but this is not a shortcoming for astronomical viewing—not even binoculars' widely-spaced twin objectives can render such distant objects in 3-D. Binoculars will, of course, deliver a three-dimensional image when viewing terrestrial vistas, flora, fauna, and earthly heavenly bodies (viewer discretion is advised). Please note: If you are observing a celestial object with binoculars and it becomes three-dimensional, seek shelter immediately.

~Bill Ruth

Deep-Sky Objects for June

Objects for Binoculars							
RA	Dec	Number	Mag(s)	Size/Sep.	PA	Const.	Type of Object
16 ^h 41.7 ^m	+36° 28'	M13	5.7v	16.6'		Her	Globular Cluster
16 ^h 54.0 ^m	-41° 48'	6231	14'	2.6v		Sco	Star Cl. In "False Comet"
17 ^h 21 ^m	-27° 23'	LDN 1773		300'x60'		Sco	Dark Neb. "Pipe Nebula"
17 ^h 40.1 ^m	-32° 13'	M6	4.2v	33'		Sco	Star Cl. "Butterfly Cluster"
17 ^h 46.3 ^m	+05° 43'	IC4665	4.2v	40'		Oph	Star Cluster
17 ^h 59.9 ^m	-34° 49'	M7	3.3v	80'		Sco	Star Cluster
small ^h (2-6 ^m)	''						
16 ^h 23.6 ^m	-26° 32'	M4	5.8v	26.3'		Sco	Globular Cluster
16 ^h 47.2 ^m	-01° 57'	M12	6.8v	14.5'		Oph	Globular Cluster
16 ^h 57.1 ^m	-04° 06'	M10	6.6v	15.1'		Oph	Globular Cluster
17 ^h 14.6 ^m	+14° 23'	64-Alpha	3.5", 5.4"	4.9"	107o°	Her	Double Star
17 ^h 15.0 ^m	+24° 50'	65-Delta	3.1", 8.2"	8.9"	236o°	Her	Double Star
17 ^h 17.1 ^m	+43° 08'	M92	6.4v	11.2'		Her	Globular Cluster
Objects for Medium Telescopes (8-14 inch)							
RA	Dec	Number	Mag(s)	Size/Sep.	PA	Const.	Type of Object
15 ^h 15.9 ^m	+56° 19'	NGC 5907	10.3v	11.5'x1.7'		Dra	Galaxy
16 ^h 17.0 ^m	-22° 59'	M80	7.3v	8.9'		Sco	Globular Cluster
17 ^h 13.7 ^m	-37° 06'	NGC 6302	9.6v	50"		Sco	"Bug Nebula"
17 ^h 22.3 ^m	-38° 29'	NGC 6337	12.3v	48"		Sco	Planetary Nebula
17 ^h 37.6 ^m	-03° 15'	M14	7.6v	11.7'		Oph	Globular Cluste
17 ^h 58.6 ^m	+66° 38'	NGC 6543	8.1v	"18/350"		Dra	Plan. Neb. "Cat's Eye"
Objects for Larger Telescopes (16-inch & larger) Challenge Objects							
RA	Dec	Number	Mag(s)	Size/Sep.	PA	Const.	Type of Object
16 ^h 04.4 ^m	+40° 41'	NGC 6058	12.9v	>23"		Her	Planetary Nebula
16 ^h 32.5 ^m	-13° 03'	M107	8.1v	10'		Oph	Globular Cluster
16 ^h 47.0 ^m	+47° 32'	NGC 6229	9.4v	4.5'		Her	Globular Cluster
17 ^h 29.3 ^m	-23° 46'	NGC 6369	11.4v	30"		Oph	Plan. Neb. "Little Ghost"
18 ^h 18.8 ^m	-13° 47'	M16/IC4703		35'x28'		SerCd	Eagle Neb. & Star Cluster
18 ^h 59.3 ^m	+48° 28'	NGC 6742	13.4v	30"		Dra	Planetary Nebula

Print and use the [Deep-Sky Interest Group - Observation Form](#) to record your observations.

Thanks to Len Jezior for deep sky objects charts.

N14 Northern Sky — Spring-Summer Constellations

NEBULA	Position	v-Mag.	Size	Shape	Type	Vis.	Dist.	R.A.	Dec.
6205 M13	Her δ	6	12/17	15'	O V	GC	25000ly	16 ^h 41 ^m 7 ^s	36.46
6341 M92	Her δ	6	11	8	O IV	GC	30000	17 17.1	43.14

6205 M13 Hercules Cluster, bright nebula in binoculars, outer portion is well resolved in a telescope at high power, core is partially resolved.
 6341 M92 Similar to M13, some outer stars resolved in a telescope, oval halo.

6210 ξ Her δ $9 \frac{1}{2}'$ 63 O D PV \square 5000 Ly 16 49.5 23.50

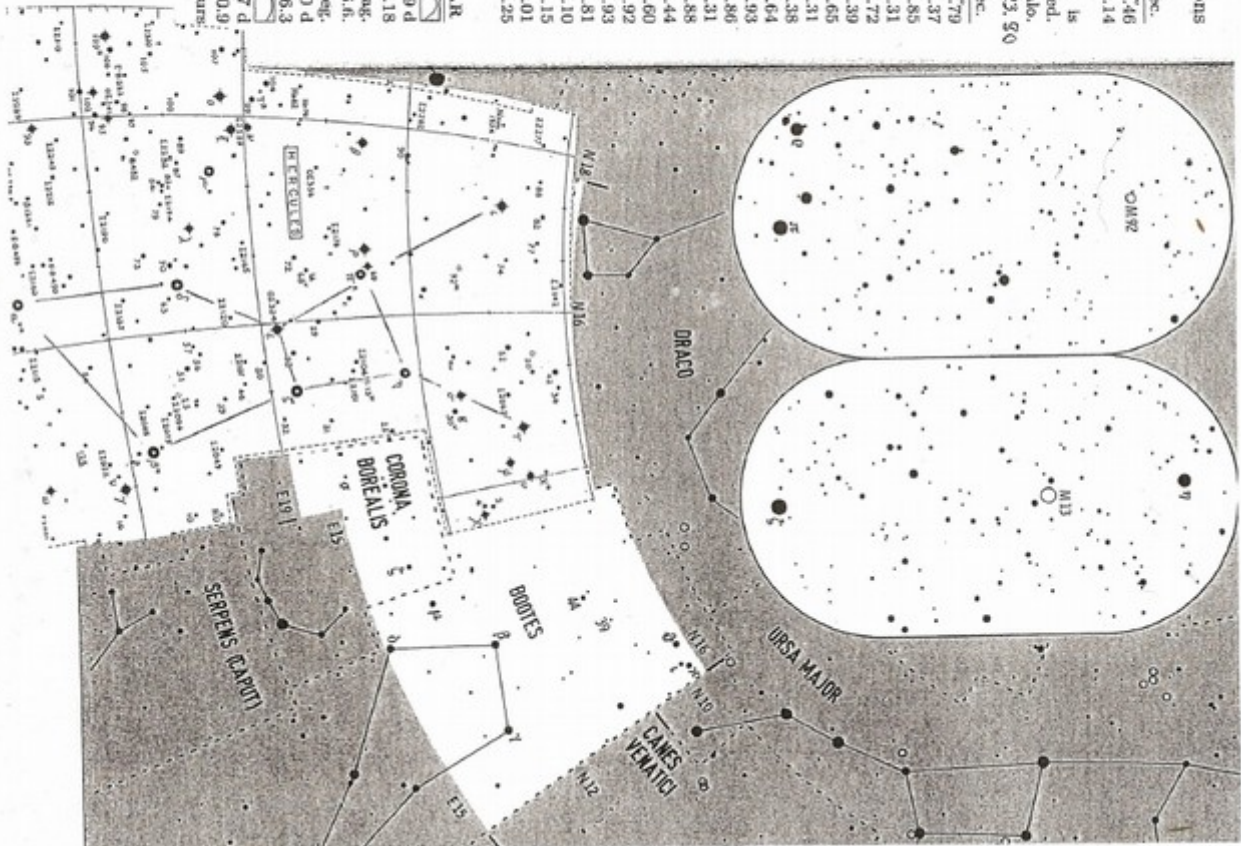
STAR	Position	v-Mag.	B-V	Tc.	Abs.	Name	Dist.	R.A.	Dec.
17 κ Boo		4.4	0.2	1	1		165ly	14 13.5	51.79
21 ϵ Boo		4.7	0.2	1	2	Sup. 36'	98	14 16.2	51.37
23 θ Boo		4.0	0.5	1	3		48	14 25.2	51.85
27 γ Boo		3.0	0.2	1	1	Caplanus	86	14 32.1	38.31
39 Boo		5.7	0.5	1	1		230	14 49.7	48.72
42 β Boo		3.5	1.0	1	1	Neckar	220	15 01.9	40.39
44 ι Boo		4.7-4.9	0.6	1	4		42	15 03.8	47.65
49 δ Boo		3.4	0.9	1	1		118	15 15.5	33.31
51 μ Boo		4.2	0.3	1	1	Alcalatrops	120	15 24.5	37.38
7 ζ CFB		4.6	-1	1	1		450	15 39.4	36.64
11 φ Her		5.2	0.6	1	4		230	16 08.8	44.93
17 σ CFB		4.2	-1	1	0		71	16 14.7	33.86
22 τ Her		3.9	-1	1	1		320	16 19.7	46.31
30 ϵ Her		4.5-5.2	1.4	1	1		360	16 28.6	41.88
35 σ Her		4.2	0.0	1	1		300	16 34.1	42.44
40 ζ Her		2.8	0.7	1	3		35	16 41.3	31.60
44 η Her		3.5	0.9	1	1		112	16 42.9	38.92
58 ϵ Her		3.9	0.0	1	0		165	17 00.3	30.93
67 π Her		3.2	1.4	1	2		360	17 15.0	36.81
-68 u Her		4.8-5.5	-1	1	2		900	17 17.3	33.10
79 ρ Her		4.1	0.0	1	1		400	17 23.7	37.15
85 ϵ Her		3.8	-2	1	1		500	17 39.5	46.01
91 θ Her		3.9	1.4	1	3		600	17 56.3	37.25

BINARY POSITION V-Mag. B-V Tc. Sep. PA Vis.

17 κ Boo	4.5	6.6	0.2	0.4	11	13.6	36'	36'	36'				
21 ϵ Boo	4.8	8.1	0.2	0.8	11	38.8	36'	36'	36'				
39 Boo	6.2	6.6	0.5	0.5	11	2.7	36'	36'	36'				
44 ι Boo	5.1	6-7	0.6	0.7	11	0	2.2	36'	36'				
						2007	2.3	36'	36'				
						2020	1905	36'	36'				
						2015	2.1	36'	36'				
49 δ Boo	3.5	7.8	1.0	0.6	11	104.9	36'	36'	36'				
51 μ Boo	4.3	6.5	0.3	0.6	11	108.8	2.2	36'	36'				
						70	7.6	0.6	0.6	11	2.2	36'	36'
7 ζ CFB	5.0	6.0	-1	-1	11	6.3	36'	36'	36'				
17 σ CFB	5.6	6.6	0.6	0.6	11	7.1	36'	36'	36'				
75 ρ Her	4.5	5.5	0.0	0.0	11	4.1	36'	36'	36'				
38 ρ Her	3.5	5.0				4.9	36'	36'	36'				
						3-4	5.4	1.5	0.7	4.9	36'	36'	

VARIABLE STAR

44 ι Boo	Period 0.267819 d
	Min. 2451200.18
	Binary star mag. 5.1 and 6.0-6.6.
	30 ϵ Her \square - semireg.
	Period 70-90 d
	Extrema 4.3-6.3
	68 u Her \square -
	Period 2.05107 d
	Min. 2451200.9
	Eclipse \approx 10 hours



Thanks to John Reising for Constellation of the Month.