

## Highlights of the August Sky...

--- 2<sup>nd</sup> ---  
Saturn is at opposition.

AM: A waning crescent Moon is between the Hyades and Pleiades.

--- 3<sup>rd</sup> ---  
DAWN: The Moon is 5½° to upper right of Aldebaran.

--- 6<sup>th</sup> ---  
DAWN: A razor-thin Moon is 5½° to the upper right of Pollux in Gemini.

--- 8<sup>th</sup> ---  
New Moon  
9:50 am EDT

--- 10<sup>th</sup> ---  
DUSK: A waxing crescent Moon is 6° to Venus' right.

--- 11<sup>th</sup> → 12<sup>th</sup> ---  
Perseid meteor shower peaks. 60 to 80 meteors per hour is possible.

--- 15<sup>th</sup> ---  
First Quarter Moon  
11:21 am EDT

--- 19<sup>th</sup> ---  
Jupiter is at opposition.

--- 20<sup>th</sup> ---  
DUSK: The Moon and Saturn are ~5° apart.

--- 21<sup>st</sup> ---  
DUSK: The Moon and Jupiter are separated by 5°.

--- 22<sup>nd</sup> ---  
Full Moon  
8:02 am EDT  
PM: The Moon forms an arc with Jupiter and Saturn.

--- 30<sup>th</sup> ---  
Last Quarter Moon  
3:15 am EDT

AM: The Moon is 5½° from Aldebaran and between the Hyades and Pleiades.

# Prime Focus

A Publication of the Kalamazoo Astronomical Society

★ ★ ★ August 2021 ★ ★ ★

## This Months Events

**Observing SIG Session: Thursday, August 5 @ 9:00 pm**  
*Richland Township Park • See Page 9 for Details*

**Perseid Potluck Picnic: Saturday, August 14 @ 6:00 pm**  
*Kalamazoo Nature Center • See Page 4 for Details*

**Telescope Dedication: Saturday, August 14 @ 8:00 pm**  
*Owl Observatory • See Page 10 for Details*

**Observing Session: Saturday, August 14 @ 9:00 pm**  
*Moon, Jupiter, Saturn & Perseids • Kalamazoo Nature Center*

**Observing Session: Saturday, August 28 @ 9:00 pm**  
*Jupiter, Saturn & Summer Nebulae • Kalamazoo Nature Center*

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# July Meeting Minutes

The general meeting of the Kalamazoo Astronomical Society was brought to order by President Richard Bell on Friday, July 9, 2021 at 7:05 pm EDT. After enduring the long 16-month slog of COVID-19 restrictions, we had our first “in-person” meeting in the picnic area of the Kalamazoo Nature Center. Approximately 19 members and guests attended and braved a small cloud of blood-thirsty mosquitoes.

The evening began with an equipment giveaway. Mike Patton, home for the summer, brought a tabletop full of Arizona Sky Village donations. These included eyepieces, filters, Barlows, and even a 70mm telescope. Nothing went to waste as members selected from the table top treasures.

*Gadget Night* is our longest running tradition, tracing back to the 1950’s. Richard kicked off the show by sharing “Kick-Me-Nots,” a product sold by [AstroGizmos](#) designed to minimize accidental equipment run-ins in the dark. They consist of a low-profile red light that has an on/off and flash settings. These are connected to a small strap that easily attaches to the ends of tripod legs or counterweight shafts that may protrude into the walking path of observers. We use one in Owl Observatory as a subtle reminder to keep visitors from running into our Ashby Telescope. Next, Richard unboxed a Black Friday special that he had purchased way back in 2018. The [Revolution Imager](#) (a 2017 *Sky & Telescope* Hot Product) is for video-assisted observing. It includes a color CCD video camera and 7-inch LCD monitor to produce near-real-time views of astronomical targets. It easily changes the exposure of the video camera to see white light or reds and greens or UV in just a few seconds of exposure. This will make a fun addition to future Public Observing Sessions!

Joe Comiskey went next showing off a past Holiday Party BINGO prize. It was a collimating laser made by Orion. He said that it was not useful enough to replace his favorite practice of manually collimating by eye, but that he had been experimenting with it to speed up his evening setup. Next, he



**Joe Comiskey shared an Orion LaserMate Collimator he won during BINGO at *Gadget Night*.**



**Dave Woolf machined an adapter for his 1.25-inch reticle to make it parfocal with other eyepieces.**

presented a purchase that he was considering making. He had found a pair of Omegon binoculars advertised and was excited to give them a try. They are 2.1×42 binoculars. And while the extremely low power seemed counterintuitive, he is hopeful that they will be the perfect tool to supplement constellation viewing.

Jack Price was excited to present the latest in star party power adaptors. He has recently become a fan of Anderson Power Poles to adapt his 12V power supplies to all of his gear. He took this idea to the next level by showing how to split them with a home-built adaptor to make a \$6 [3 to 1] power connector. When paired up, two of them makes a handy [5 to 1] adaptor. Jack then went on to share how his new Webetop 12V Li-Ion Battery Pack could distribute and share power with all of his friends. Additionally, the Webetop boasts USB connections, DC plugs, red flashlight and 155Wh (14Ah) capacity. With a coupon that reduced his cost to \$80 plus parts, it was a great deal.

Our last gadget was machined in a home shop. Dave Woolf showed the group a small ring that slides over the barrel of his eyepiece. When he gets the focus for his guide camera set, he can put in the eyepiece without changing focus because the ring he designed acts as a focal stop. With two small set screws, it is easily removed or adjusted. If you are looking to make your entire eyepiece collection parfocal, feel free to contact Dave and ask him how he made this handy little part.

Diving into the Presidents Report, Richard asked members to consider using [Amazon Smile](#). When you make a purchase through Smile it allows you to select the KAS for donations. Don clarified that after picking your non-profit, it stays selected unless you change it. KAS has 244 members and seems to be picking up a new membership every week or two. Note: If you have a friend or family member who joins KAS, the fee is prorated and good through the end of at least 2022. This includes the Remote Telescope fee, so sign up



today for the best deal of the year. KAS is still looking for a volunteer to help record, edit, and post general meetings (and SIG meetings).

Owl Update: The new *User's Guide* is still in progress, but Kevin Jung, Pete Mumbower, and Dave Woolf have agreed to review/edit the guide before publication. Observatory training will resume this month. Perseid Potluck Picnic in August is looking to be a robust event. Andrew Loveless volunteered to grill, and Don agreed to bring burgers and hot dogs. The long-awaited Leonard James Ashby Telescope Dedication will be just one highlight planned for the evening. Meetings of the new Astrophotography SIG will held on the third Friday of every month in Rood Hall this Fall. Noted astrophotographer Adam Block will be first guest speaker. To conclude, Richard shared the latest developments with the Winter Solstice Dinner Party planning. It will be held in the Banquet Room of the Four Points Sheraton on Cork St. on Saturday, December 4<sup>th</sup> at 6:00 pm.

The observing/imaging reporting now includes travels. Don Stilwell visited the Maumee Bay State Park outside Toledo, Ohio for the sunrise on June 10<sup>th</sup>. He was able to observe the annular eclipse with about 60% coverage at about 30° above the horizon. Aaron shared his visit to Copper Harbor, Michigan at the top of the Keweenaw Peninsula the previous week. He reported seeing the Milky Way and various binocular objects including M3, M5 and M31. During a particularly stunning deep red sunset, he was able to observe sunspots unfiltered in a 90mm telescope. Christina and Gary Vincent gave a very detailed report of their visit out west to Gunnison Valley Observatory at Western Colorado University (see page 5 for a full report). Richard closed out this portion of the meeting by discussing his efforts to capture an image of the Crescent Nebula (NGC 6888).

In astronomical news, Richard talked about evidence from the Juno spacecraft that suggests dust responsible for creating the Zodiacal Light is from Mars, not asteroids and comets as previously thought. Dave Woolf discussed billionaire Richard Branson's space launch. And Aaron Roman mentioned the launch of Jeff Bezos who plans to fly with 82-year-old Wally Funk. Jack Price mentioned that the possible discovery of an 80th moon around Jupiter by an amateur astronomy using images acquired by the Canada-France-Hawaii Telescope on Mauna Kea.

The KAS Event Horizon holds an Astrophotography Workshop and Public Observing Sessions. He finished by making a request that members submit articles for *Prime Focus* publication. Joe Comiskey and Jack Price reminded us of the return of public outreach. Parchment Community Library will hold a KAS-sponsored Moon observing talk (by Joe) and the Kindleberger Festival will have solar viewing and activities hosted by us as well.

Richard adjourned our first in-person meeting this year a little before 8:30 pm and took a group over for a tour of Owl Observatory, while a few Observing SIG participants continued to hang out and discuss how to start a new Astronomical League Observing Program. That concluded an intimate but very pleasant general meeting.

*Minutes submitted by Aaron Roman*



July was a bust...at least observing and imaging wise. I had a great night at Owl Observatory on July 1<sup>st</sup> though. Conditions were very good that night, but deteriorated as the month progressed. It was either humid, cloudy, smoky or a combination of the three. Those present at the July 17<sup>th</sup> Public Observing Session were able to view Venus, the Moon, and a handful of deep sky objects (for those few that stayed late enough to take advantage the brief "sucker hole"). The July 31<sup>st</sup> session hasn't happened yet, but I can only hope the month ends on a high note.

This was really disappointing as I was looking forward to doing some observing and imaging after being cooped up all winter. July is supposed to be one of the clearest months of the year, but you wouldn't know that if you're new to the area. And, quite often when it was clear, smoke from the devastating wildfires out west enveloped much of the country and wreaked havoc on the transparency. Thanks to the harsh reality of climate change, global warming (or whatever title you wish to slap on it), I fear this is going to be a regular occurrence for years to come.

A new month is upon us though and we can only hope the fires are contained and the smoke quickly clears away. First, I'm hoping to head up to Dave Garten's property in the Huron-Manistee National Forest and do some imaging under dark, transparent skies during the first weekend of August. Some members will stay closer to home and gather for an Observing SIG session at Richland Township Park on August 5<sup>th</sup> (please see page 9 for details).

The biggest day of the month for the KAS is August 14<sup>th</sup>. As laid out on the cover page of this month's *Prime Focus*, we have a trifecta of activities that day. It begins with the Perseid Potluck Picnic at 6pm. Obviously, we were forced to cancel last year's picnic after 25 (mostly) successful Perseid Potlucks in a row. For those of you that are new, we'll send out an email asking if you plan to attend the picnic and, if so, how many hamburgers, veggie burgers, or hot dogs you'd like scarf down. This year, the brief questionnaire will ask if you'd prefer to bring your own dinner in case you're leery about sharing food with other members. No offence will be taken whatsoever.

Immediately following the picnic will be the long overdue dedication of the Leonard James Ashby Telescope in Owl Observatory. It'll be a scaled back version of what we had planned on May 30<sup>th</sup> last year. We will unveil a plaque dedicating the new telescope in honor of the founder and first president of our group. I also hope to feature a slideshow of Owl Observatory through the years - everything from its construction up to the installation of the new telescope. We will also give appreciation to all those that made this latest project a reality. A Public Observing Session will follow the dedication should Mother Nature allow. I hope you plan to join us for all three activities on August 14<sup>th</sup>.

*The KAS Invites You to the Twenty-Seventh Annual*

# PERSEID POTLUCK PICNIC



*Mark your calendar. Hope for good weather. It's time for the big social event of the summer for the KAS. So get ready to party! Here are the details:*

The KAS will provide the hot dogs, hamburgers, and veggie burgers (by order). You will be required to bring your own beverages, table service, lawn chairs, bug spray, and a dish to pass. Condiments will be provided by the KAS.



While dinner is cooking, we will have solar observing available through the Leonard James Ashby Telescope in Owl Observatory. Feel free to bring any type of outdoor games or toys to pass the time while we wait for dinner.



After the picnic, we will formally dedicate the Ashby Telescope at 8pm and hold a Public Observing Session at 9pm. Highlights include the Moon, Jupiter, Saturn, and maybe even a few tardy Perseids.

This gathering will take place rain or shine, so be prepared for whatever Mother Nature throws our way!

**WHEN:**



**Saturday, August 14, 2021**

**Arrive at 6pm • Dinner starts at 7pm**

**WHERE:**



**Kalamazoo Nature Center**

**7000 North Westnedge Ave.**

## A Visit to Gunnison Valley Observatory

by Christina & Gary Vincent

Christina & Gary Vincent took a tour (guided by Rob Brown) of Gunnison Valley Observatory on June 23<sup>rd</sup> and share their experience here in "Prime Focus." All members are encouraged to do the same when they hit the road.

### History

In 1986, Paul Van Slyke, a nuclear power engineer, wanted to develop a Black Forest Observatory in Colorado Springs, Colorado to view Halley's Comet. During a fundraiser someone donated an expensive lens grinding machine. Van Slyke traded the grinding machine to Intermountain Optical in Salt Lake City for a 30-inch Dall-Kirkham Cassegrain optical set. The Black Forest Observatory operated from 1986 to 2001.

In 2000, two residents of Gunnison (Tod Vandewalker and Tom Willis) wanted to help improve the local economy. They had an idea of creating a Science and Technology Center in Gunnison.

The 30-inch Dall-Kirkham Cassegrain telescope was purchased in hopes of completing scientific research, transported to Gunnison and sat in the lobby of the Community Bank.

The Science and Technology Center was formed in 2001 and incorporated in 2002 as a non-profit. Its key objectives include:

- Public access to a large, high quality telescope, available regularly to community members and visitors.
- Outreach programs to promote astronomy and related education at all levels from K-12 classes to Western State Colorado University.
- They wanted to provide facilities that support research in astronomy.



In 2004, the telescope was sent to Dallas to be reengineered by Arthur Sweeney into a rigid frame and polar mount. In 2007, the project was reorganized as the Gunnison Valley Observatory. The building was completed in 2007. The telescope was returned to Gunnison and installed early in 2008. The 30-inch Dall-Kirkham Cassegrain telescope is the largest telescope open to the public in Colorado.

Currently, the staff offers a 45-minute public lecture each Friday and Saturday in July and August. Registration includes access to their astronomy museum and viewing through a variety of small telescopes and costs \$5.00. You may also register for a separate Dome Tour that follows the lecture program for an additional \$10.00 to view the night sky through their 30-inch telescope. All dome tours last 30 minutes and include viewing of several astronomical objects through their 30-inch telescope.

### Museum and Classroom Area

The Gunnison Valley Observatory is also a scientific research facility. Currently, there are two ongoing research projects happening at the observatory: Exoplanet Research and Meteor Research.

Exoplanet Research: The Ted Violett Memorial Observatory (a.k.a. "the TED") on the north side of the courtyard is a roll-off roof observatory. Dr. Suzanne Taylor, professor of physics and astronomy at Western Colorado University, uses a 14-inch telescope housed in the TED to study planets orbiting other stars.

Meteor Research: Dr. Robert Marshall is conducting a research project on the radio-frequency signals associated with meteors. He uses an all-sky camera attached to the observatory roof to look for meteors and an antenna located on the berm to listen for the meteors radio signals.

If your travels take you to Colorado in July or August, you might want to plan your itinerary to be in Gunnison on a Friday or Saturday night to view the night skies through Colorado's largest telescope open to the public. The observatory is situated at an elevation of 7,700 feet above sea level. This is ten times higher than the KAS Owl Observatory. This really helps enhance observing and it dramatically reduces the menace of the MOSQUITOS! Visit the Gunnison Valley Observatory website to register for a lecture and Dome Tour: [gunnisonvalleyobservatory.org](http://gunnisonvalleyobservatory.org)

Christina & Gary Vincent joined the Kalamazoo Astronomical Society in August 2020.



# The Vincent's Road Trip Gallery...



30" Dall-Kirkham Cassegrain Telescope



The Rotating Dome



Museum and classroom area



Gunnison Valley Observatory's main facility



Tucked in a berm to minimize light



Stroll through solar system display of planets





# Corner the Great Square of Pegasus

by David Prosper

The Summer Triangle may be the most famous seasonal star pattern, but during early August evenings another geometrically-themed asterism rises: the Great Square of Pegasus. This asterism's name is a bit misleading: while three of its stars - Scheat, Markab, and Algenib - are indeed found in the constellation of the winged horse Pegasus, its fourth star, Alpheratz, is the brightest star in the constellation Andromeda!

August evenings are an excellent time to look for the Great Square, as it will be rising in the east after sunset. If not obvious at first, wait for this star pattern to rise a bit above the murky air, and remember that depending on your point of view, it may appear more like a diamond than a square. Look for it below the Summer Triangle, or to the southeast of nearby Cassiopeia at this time. As the Great Square rises in prominence during autumn evenings, it becomes a handy guidepost to finding more constellations, including some of the dimmer members of the Zodiac: Aries, Pisces, Aquarius, and Capricornus. Like the Summer Triangle, the Great Square of Pegasus is also huge, but Pegasus itself is even larger; out of the 88 constellations, Pegasus is 7th in size, and feels larger as the stars in its neighboring constellations are much dimmer.

There are many notable deep-sky objects found within the stars of Pegasus - ranging from easily spotted to expert level targets - making it a great constellation to revisit as your observing skills improve. Notable objects include the densely -packed stars of globular cluster M15, a great first target. The potential "Milky Way look-alike" galaxy NGC 7331 is a fun target for more advanced observers, and expert observers can hop nearby to try to tease out the much dimmer interacting galaxies of Stephan's Quintet. A fascinating (but extremely difficult to observe) object is a gravitationally-lensed quasar famously known as the Einstein Cross. Pegasus has quite a storied history in the field of exoplanet research: 51 Pegasi was the first Sun-like star discovered to be host to a planet outside our solar system, now officially named Dimidium.



**Stephan's Quintet is one of the most famous deep-sky objects in Pegasus. First discovered in 1877, it contains the first galaxy group discovered (which includes 4 of the 5 galaxies making up the Quintet) – and has been studied extensively ever since. One day this group will merge into one supergalaxy! While famous, these galaxies are hard to spot in all but the largest backyard telescopes – but are a favorite target of astrophotographers.**

While observing Pegasus and its surroundings, keep your eyes relaxed and ready to catch some Perseids, too! August 2021 promises an excellent showing of this annual meteor shower. The crescent Moon sets early on the evening of the shower's peak on August 11-12, but you can spot stray Perseids most of the month. If you trace the path of these meteors, you'll find they originate from one point in Perseus - their radiant. Giant planets Jupiter and Saturn will be up all evening as well. Look south - they easily stand out as the brightest objects in the faint constellations Aquarius and Capricornus.

Pegasus truly holds some fantastic astronomical treasures! Continue your exploration of the stars of Pegasus and beyond with NASA at [nasa.gov](https://www.nasa.gov).



**While the stars of the Great Square of Pegasus are not as bright as those of the Summer Triangle, they still stand out compared to their neighbors, and make a great foundation for exploring this area of the night sky.**

**Note that the brightness of the stars near the horizon is exaggerated in this picture.**

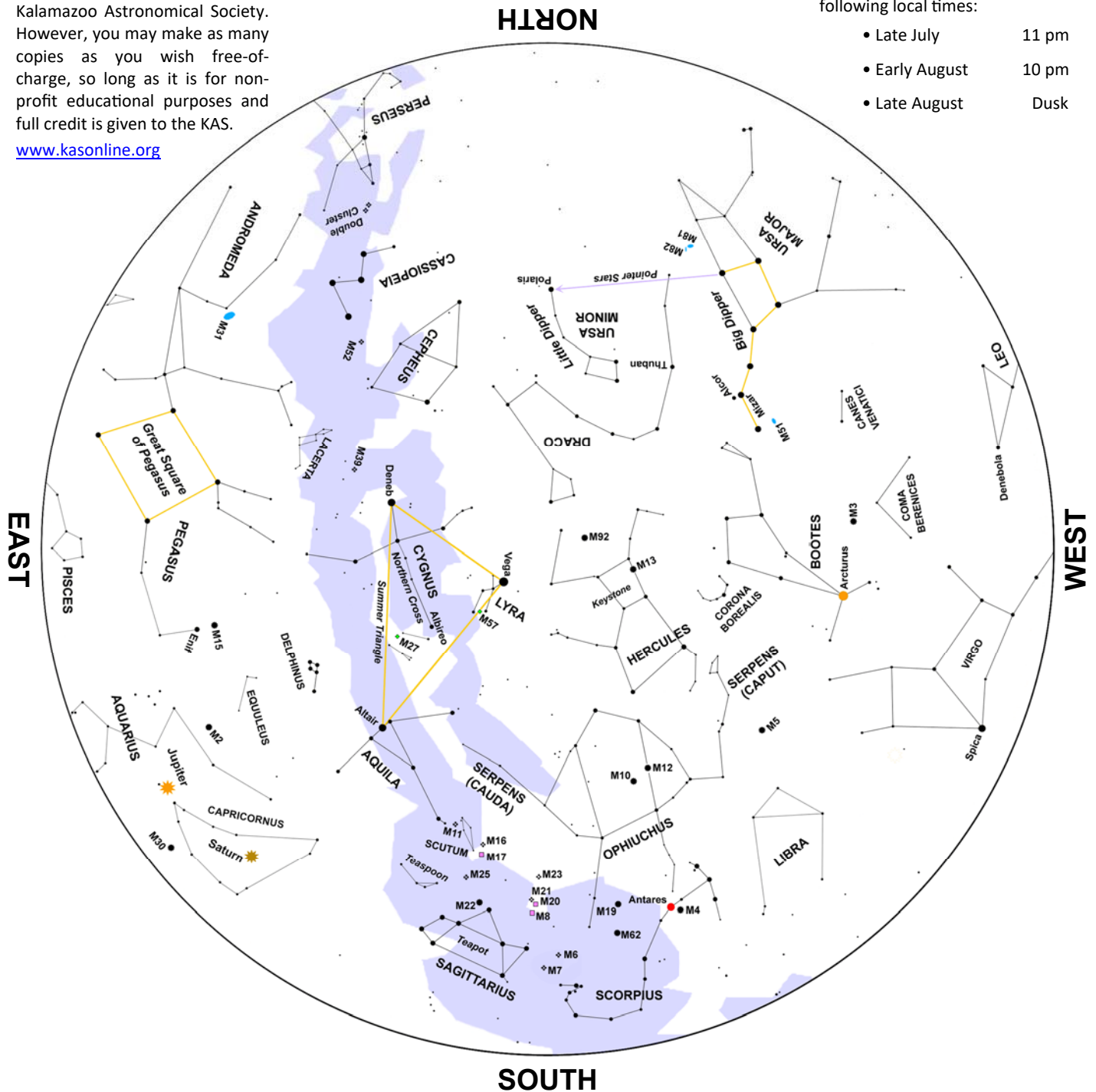
# — August Night Sky —

This star map is property of the Kalamazoo Astronomical Society. However, you may make as many copies as you wish free-of-charge, so long as it is for non-profit educational purposes and full credit is given to the KAS.

[www.kasonline.org](http://www.kasonline.org)

This map represents the sky at the following local times:

- Late July 11 pm
- Early August 10 pm
- Late August Dusk



August is a great month for meteors and massive planets. The ringed marvel Saturn is at opposition on August 2<sup>nd</sup>, while mighty Jupiter reaches that milestone on August 19<sup>th</sup>. Opposition simply means a planet is opposite the Sun in the sky and closest to Earth. It also means these favorite telescopic targets are transitioning into the evening sky.

Look for a waxing crescent Moon and Venus together in the evening sky on August 10<sup>th</sup>. About 6° separate them - close enough to fit in the field-of-view of 7×50 binoculars.

The Perseid meteor shower peaks on the night of August 11<sup>th</sup> - 12<sup>th</sup>. The Moon sets at 10:49 pm EDT, so it will not interfere

with this year's shooting star spectacle. Over 100 meteors/hour can be seen from dark sites, but 60 is more likely for those near urban areas.

A waxing gibbous Moon moves to within 4½° of Saturn on August 20<sup>th</sup> and 5° of Jupiter on August 21<sup>st</sup>. The trio then form a gentle arc on August 22<sup>nd</sup>.



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August 2021

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# Observing

Special Interest Group



The primary goal of the Observing SIG is to help foster an observing culture in the KAS by helping and encouraging its members to complete Astronomical League Observing Programs. One way to maintain enthusiasm for getting out under the stars is to have a long-range viewing plan or goal. Observing Programs do that by motivating and directing your viewing. Programs are available for unaided eye, binocular, and telescopic observers of all skill levels. This gathering will be canceled in the case of inclement weather.

**Thursday, August 5<sup>th</sup> @ 9:00 pm**

**Richland Township Park • 6996 N. 32nd St.**



## *25x100 Binoculars Available for Loan*



**S**pend your clear nights scanning the Milky Way for star clusters and nebulae with our Orion 25x100 GiantView Binoculars - held rock steady on Orion's Monster Parallelogram Mount. An extension for taller members and a dew prevention system is included.

Visit the [Equipment for Loan](#) webpage and contact KAS Equipment Manager **Arya Jayatilaka** today if you'd like borrow it.

## Public Observing Sessions

**Saturday, August 14<sup>th</sup>**

*Highlights: The Moon, Jupiter, Saturn & Perseids*

**Saturday, August 28<sup>th</sup>**

*Highlights: Jupiter, Saturn & Summer Nebulae*

*Gates Open: 9:00 pm Observing Begins: 9:30 pm*

**Kalamazoo Nature Center**

**— 7000 N. Westnedge Ave. —**



— *You're Invited!* —

# Leonard James Ashby Telescope Dedication



All past, present, and future members (and friends) of the Kalamazoo Astronomical Society are invited to attend a special ceremony immediately following the Perseid Potluck Picnic and preceding a Public Observing Session.

Delayed over 1-year by the pandemic, a formal dedication ceremony for the new Leonard James Ashby Telescope in Owl Observatory will - at last - be held.

Not only will a plaque naming the telescope in honor of the founder and first president of our group be unveiled, but we will give appreciation to all those people that made the observatory and new telescope a reality. Please be sure to attend.

**Saturday, August 14<sup>th</sup> @ 8:00 pm**

**Kalamazoo Nature Center • Owl Observatory  
7000 N. Westnedge Ave. • Kalamazoo, MI**

