CAPE FEAR Skies

Monthly Newsletter
Cape Fear Astronomical Society
Serving Wilmington, NC and Surrounding Areas

October 2020

President's Message

by Jon Stewart-Taylor

Cape Fear Museum was kind enough to invite us to participate in their "virtual" International Observe the Moon Night event on September 26. They included our web page and contact information on their publicity for the event, and gave us 15 minutes of live streaming on Facebook (their account, but my phone attached to the SkyScanner 100). Conditions were so-so, with bands of clouds passing periodically, but we got to show the waxing gibbous moon. Sometimes it was clear, and sometimes the stream showed wisps of cloud passing across the moon.

During October and November we are open to nominations for all 5 of the Officers. If you'd like to fill one of the positions don't hesitate to let us know, so you can be nominated. In particular, Karl is currently doing two of the hardest jobs in the club (Associate VP and Newsletter Editor), so if someone wanted to be VP and coordinate the programs for the monthly meetings, I suspect he wouldn't mind passing the office on.

Elections are in December, and there's currently no provision in the Constitution for anything except in-person voting. We could modify the Constitution to allow absentee balloting, but currently Constitution modifications also require in-person voting. The most recent Governors order allows up to 25 people at an indoor meeting, provided masks and 6-foot distancing are employed. We usually have fewer than 25 people attending the Annual Meeting, so an in-person meeting to carry out the election and finally vote on the Constitution modifications required by incorporation could happen. If anyone has a suggestion for a venue, please let me know.

The dissolution of the old "Club" corporation has not progressed as much as I'd hoped, but it did make clear the remaining steps required. We must write up a Plan of Dissolution, adopt it by vote, and the file Articles of Dissolution with the Plan attached. The Plan must ensure that all the Cubs debts are paid (currently there are none), and that all funds and property are disposed of appropriately. I hope to finish the Plan and submit i for approval by October 1st. I hope we can file the Articles of Dissolution by November 1st, and have the entire process completed before the end of 2020.

Hurricane Season has been very active this year. Although so far only one has passed directly over us, several of the others have affected our weather. With good fortune, hopefully no further storms will hit us, and we can move on to the fall and winter observing. In particular, the planets are going to put on a show for us. Mars is reaching opposition this month, as Karl has been highlighting in each Cape Fear Skies. Jupiter and Saturn are prominent in the south, and will be starring in a close conjunction in December. Plus, all the seasonal constellations and deep-sky objects are turning to fall. I hope for good skies so we can see all the events and objects.

Due to the COVID-19 virus pandemic, we are now under "safer-at-home phase 2" orders. No CFAstro public events are planned. Meetings will be via Zoom. Member observing as noted, with "social distancing".

October 2020

Date – Event - Time

01 Mercury at easternmost elongation; 25.8 deg. from Sun in evening sky 04:00 PM UTC

01 Full Moon; Harvest Moon 09:00 PM

08 Draconid meteors; ZHR 20; peak Oct 8 6h; 2 days before Last Quarter Moon

09 Club Observing; 07:00 PM; TBD

10 Club Observing; 07:00 PM; TBD

11 Cape Fear Astro October Meeting, 07:00 PM, Via Zoom

13 Mars at opposition; magnitude -2.6; 11:00 PM UTC

16 New Moon; 07:31 PM UTC

16 Club Observing at Starfields; Shiloh Road Ivanhoe NC; 06:30 PM

17 Club Observing at Starfields; Shiloh Road Ivanhoe NC; 06:30 PM

20 Orionid meteors; ZHR 25; peak Oct 20 23h; 3 days before First Quarter

23 First Quarter Moon; 01:23 PM UTC

31 Full Moon; Blue Moon; 02:50 PM UTC

31 Uranus at opposition; magnitude 5.7; 04:00 PM UTC

31 Happy Halloween! . . . *Wear a mask!*

Astro phenomena from
https://www.universalworkshop.com/astronomical-calendar-any-year/

STARFIELDS – *by Karl Adlon*

For those who haven't lately (or ever) been to Starfields, here's a photo of Observatory Special Interest Group's planning trip. This is a wide angle shot. South is approximately over Skip's black truck and the red line of tape points approximately west. The field is approximately 90 ft x 100 ft and current thinking is to have 5 pads/spots along the south edge, 4 pads and a spot for a building on the north edge and 1 or 2 pads/spots on the west edge. Entry is on the east side.

These are the current plans, which could of course change. But I think you can see that this will accommodate quite a number of observers. Plus, there is room for overflow near Jon's shed should it one day be needed. More later as planning and work progress!

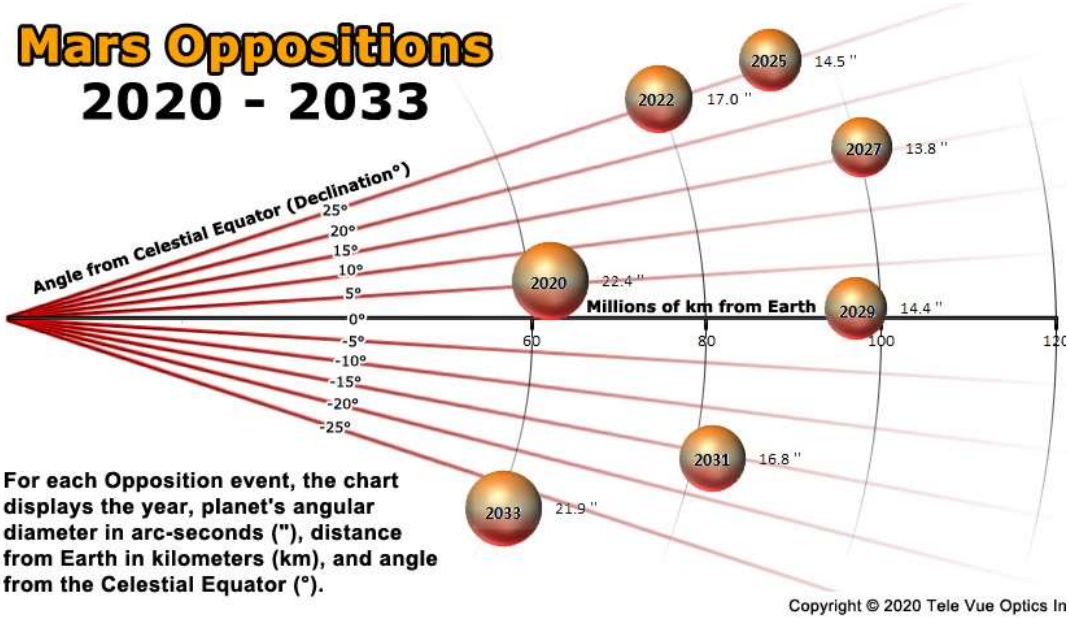
Mars Moment - *by Karl Adlon*

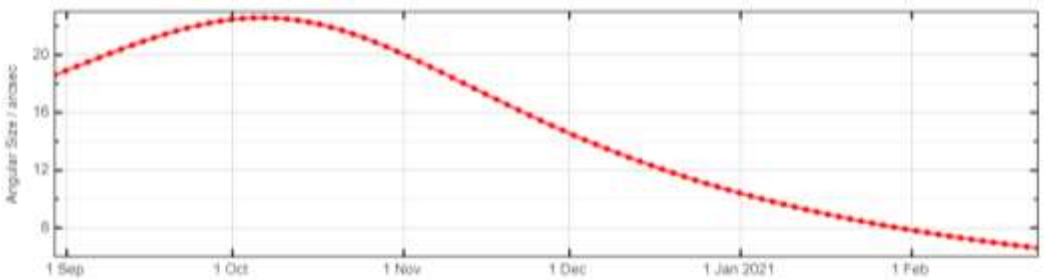
Taken from TeleVue Optics' website, this depiction at right shows why THIS opposition of Mars is one you don't want to miss!

The next best opposition is 2033 – *but not for North American observers!*

The cart below show why you (we) should be observing now! Mars is closest on the 6th. After that it gets further away, shrinking in the eyepiece. Don't wait until Christmas – it will be ½ the size it is now.

GO HAVE A LOOK!





Messier 31 (M31)

by Karl Adlon

In a typical year, this time of year, when considering what's up to view, the Andromeda Galaxy comes to mind. And with it, my first attempts as a teenager to see it. That would have been in the second half of the 60s – a long time ago, I think.

Just like today, Sky & Telescope magazine had a star map at the center of the magazine. For a nickel at the library, I'd copy the star map. With that, I went hunting with my 3" f10 Newtonian. But nebula were hard to find with that little scope. I do remember M42, The Orion Nebula, being a fuzzy blob, definitely not a star. I looked for M31 without success. I figured I needed a bigger boat – er – telescope.

A few years later, a friend shows me an ad for a 6" mirror, f10 or f12, I don't remember, spherical. I figured that was good enough, especially for $25. I built the scope, aimed it at M31, but no good. Maybe I needed a more powerful eyepiece?

Now I wonder why I did not know what to expect in my search for M31. Did the library not have a book on deep sky observing? Did I miss something in S&T?

Why did I not know that: 1) M31 is BIG, its apparent size 6 times that of the full moon! 2) it can be seen from a dark sky location with good observing conditions without any optical aid! 3) and lower magnification is best in a Rich Field Telescope (low f-ratio, not f10)!

So, it must have been exciting and memorable when I first saw M31, right? Sorry! I actually don't remember the first time I saw it!

In Iowa, Cecil had a 30" telescope!! He set it up and, though it wasn't totally dark yet, aimed the scope and came down from the ladder saying "M31 isn't as large as I remembered it." So I went up the ladder and had a look. Thinking that I agreed, I moved 30" around a bit and found M31. Only a bit more than the core of M31 was visible in the eyepiece at a time and it was bright! Oh, the galaxy he found was M101, a satellite of M31, and it was also a sight!

The page at right is from Binocular Highlights by Gary Seronik, published by Sky Telescope. Please read the text.

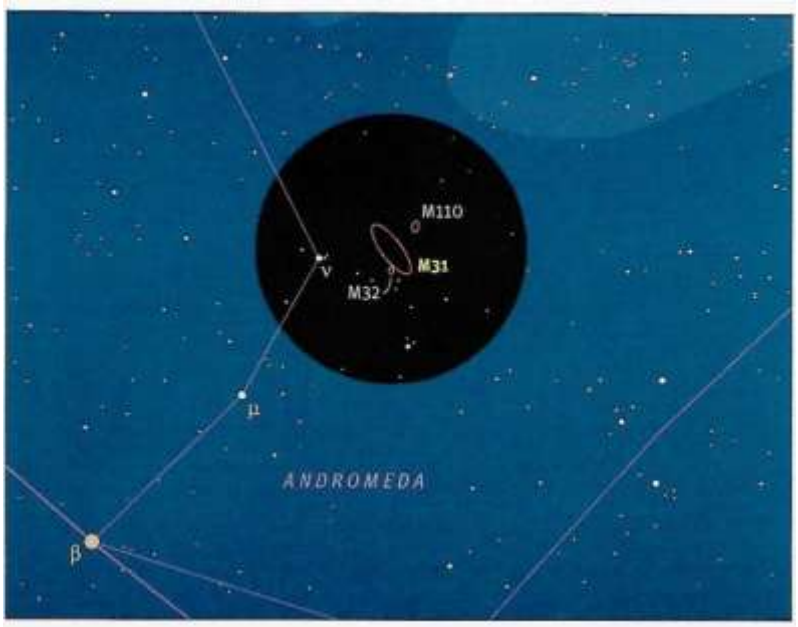
You only need to have used binoculars few times to know that sky conditions dictate what you can see and how well objects look. The same it true of telescopes, but their light-gathering power makes up for it to a degree.

Using my 8" f10 Schmidt-Cassegrain telescope (80" focal length) with 31mm 72° field eyepiece only shows about 1/3 of the galaxy.

Of course, my 18" f4.5 (81" focal length) also shows about 1/3 of M31 but it is obviously brighter!

So what do I have that I can use to get best view the whole galaxy?

About 4 years ago I bought a used 8" f3.8 telescope. Being a "fast" f3.8, it is good taking images at shorter exposure times.



Magnificent M31

There is no disputing that the most impressive galaxy for binocular observers is M31, the Great Andromeda Galaxy. Excluding the Milky Way and the Large and Small Magellanic Clouds, M31 is the brightest and biggest galaxy either north or south of the celestial equator. It's also one of a handful of objects that is as rewarding to view through binoculars as with a telescope.

Located at the end of a string of stars consisting of Beta (β), Mu (μ), and Nu (ν) Andromedae, the galaxy is easy to see without optical aid as long as your sky is reasonably dark. Its impressiveness is because of its proximity to us. At a distance of about 2.5 million light-years, M31 is the nearest large galaxy to our own. It's also big — a little larger than the Milky Way.

How the galaxy appears in your binoculars will depend on the quality of your skies. From the city, M31 looks very much like a small, tailless comet — only the brightest part of its nucleus shines through. However, from a dark-sky location, this bright core blooms into a nearly symmetrical, dim ellipse that spans half the binocular field. Take your time to enjoy the view, and use *averted vision* (look slightly to one side of the object) to see how far you can trace the galaxy's extent. M31's glowing expanse, set against a peppering of Milky Way foreground stars, is one of the binocular sky's most compelling vistas.

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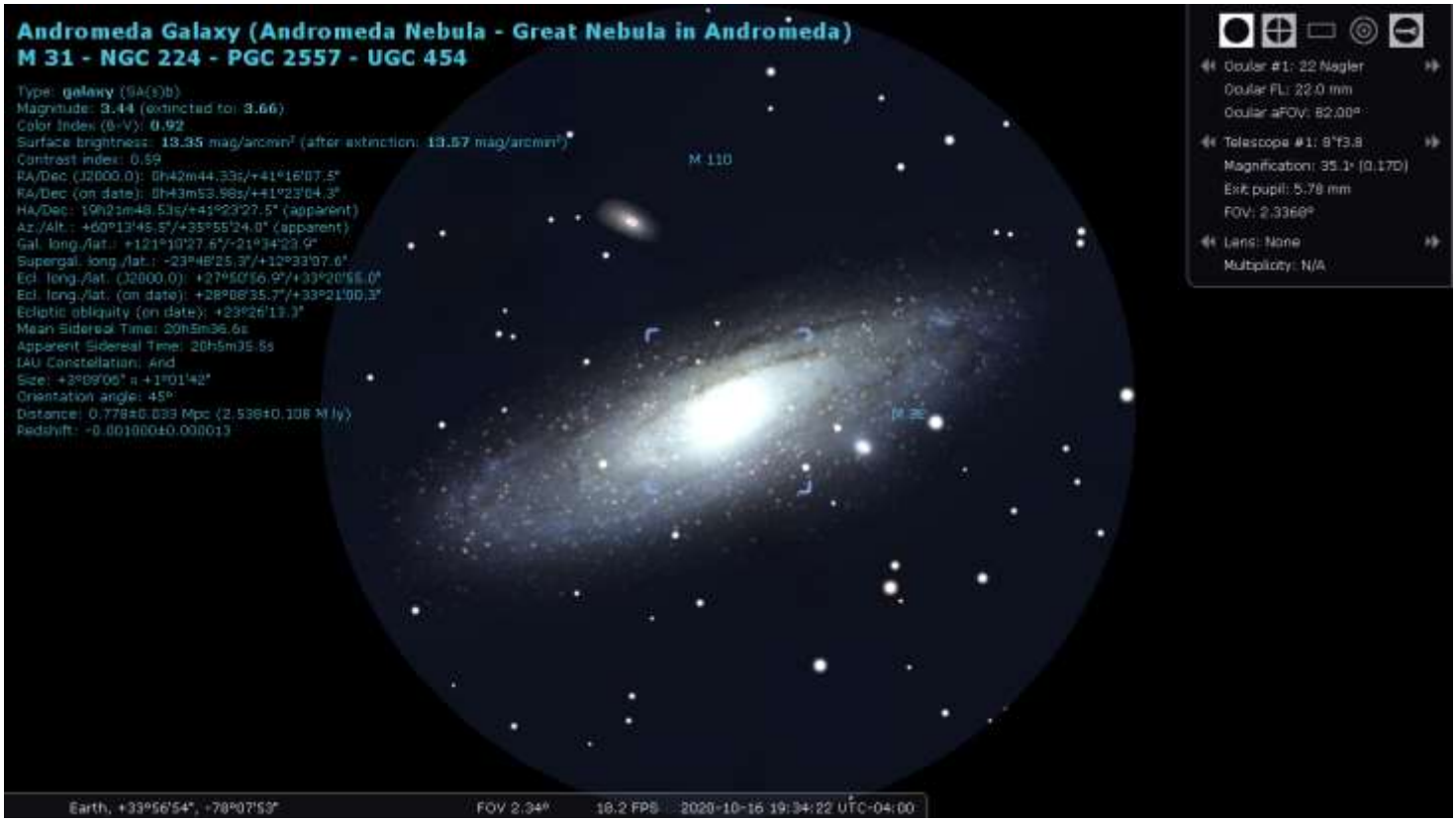
I put the scope parameters in Stellarium as well as my 22mm TeleVue eyepiece (82° field) and here is the result:



This looks very good to me, so I have to try it! The exit pupil of a little less than 6mm is probably good for my eyes.

I'm looking forward to the Social Distancing Star Parties where I hope dark spies happen and I can *see* if this pans out and finally get the view of the Andromeda Galaxy I have been looking for!

Astronomical League Update

by Hank Lyon
Astronomical League Correspondent (ALCor)
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Earlier in the year the Astronomical League (AL) announced cancellation of the 2020 Astronomical League Convention (ALCon) due to COVID-19. For those of you so inclined and motivated, the convention has been rescheduled for August 4-6, 2021 and remains in Albuquerque, NM. The ALCon website and registration will be open in January so start planning now if you have any interest.

Now on to something a little closer home. Perhaps one of the most convenient aspects of amateur astronomy is the diversity of topics and interests that can be explored. Although participation in amateur astronomy doesn't require a telescope or even a requirement to leave your couch, participation has been rooted solidly on observational interests over the years. The way this relates to the AL is simple, there are currently 72 observing programs you can participate in based on your evolving interests, desires, skill level, equipment, etc. The AL website provides background information and requirements for each program as wells as links to object lists and log forms. Additionally, I'm here to help you with the administrative and recognition aspects of these programs so feel free to contact me as needed. From the AL home page below, click on *Observing Programs* in the Navigation list and explore your opportunities.

www.astroleague.org

Rebuild of a Meade Starfinder

by Steve Hilliard

This is a story of a Televue 85, but it isn't.

You see, some months ago, at the beginning stages of the COVID-19 pandemic, I happened to find a Televue 85 listed for sale in an area a few hours away from Wilmington. It was an older design, complete with a tripod, case, eyepieces and a few assorted items. I convinced my wife to let me go have a look at this, as I said I could recompense the bank account through the sale of several ancillary items. Having a TV 102 as well as an Oracle 3, this didn't exactly meet the "need" criteria, but nonetheless I pursued the quest.

As it so happens, another telescope was in a listing that I had seen before, however it was at a price considerably less than before, and, in the same area as I was traveling to. So I messaged the seller, and indeed this scope was still available...but there was a catch. The seller was in the midst of moving and would not be in town on that day (a couple of days hence, as I had already set up a time to see the 85) but he would leave the scope outside at the residence listed. Having just picked up the 85 and quite giddy over the condition of that scope and the accompanying items, I drove over to the Meade address. My giddiness changed to disappointment as I looked at the condition of this Newtonian.

Laying on the ground, covered in a healthy layer of pollen and dust, the pier being an amputee of one of its tripod legs AND, (did I mention it was advertised as a 10"?) it looked to be an 8". With a feeling of disgust I scooped the parts up and channeling Chewbacca when he had found a dismantled C3PO, I chucked the pieces in the back of the car and trundled home.

Trying to uplift myself, I recalled the fact I still grabbed the 85 for a song, and even if I ended up trashing the Meade dob it was a worthwhile trip. As I parted out the equipment over the next several weeks to defray the expenses of the trip, I revisited the Newt. Hmmmmmm, the glass seems to be in better shape than I first anticipated. Reading the specs from the manual, I see that these were made from Pyrex Grade A glass, Oh-kayyyy, I thought to myself. Researching the scope further, I found that these Sonotube scopes were like that junky, bondo-filled musclecar that some greasy-haired kid would own in the neighborhood, the one that would blow the doors off the factory built street machine that looked so much shinier. It has the money invested in the right spot, the optics. Even the focuser is the cheesiest, plastic toy-looking thing you would never let touch your $2k light bucket. But the optics are where we want that money spent, agreed?

So off I went down the rebuild road. I found a guy on cloudy nights that had purchased a 10" Starfinder and performed a rebuild, and using his journey as a map, I started my own project (and hijacked the thread somewhat) - the link is here:

https://www.cloudynights.com/topic/701770-meade-starfinder-10/

I hope you enjoy this little trip, I know I did much more so than I first thought I would. Being my first rebuild, I was full of trepidation, but it was fun, rewarding and educational. I hope to bring it to a star party someday for you all to see, and perhaps share some stories of your own rebuilds.

Editor's Note: Used in this Newsletter, "Cape Fear Astronomical Society" may be abbreviated "CFAS" or "CFAstro".

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