



STAR FIELDS

Newsletter of the
Amateur Telescope Makers of Boston
Including the Bond Astronomical Club
Established in 1934
In the Interest of Telescope Making & Using

Vol. 33, No. 4 April 2021

This Month's Meeting . . .

Thursday, April 8th, 2021 at 8:00 PM
[Zoom On-line Meeting](#)

All ATMoB meetings scheduled for the Harvard-Smithsonian Center for Astrophysics in Cambridge, MA have been **canceled indefinitely** due to concerns over the [coronavirus](#) outbreak.

We are holding virtual on-line meetings using the Zoom application. Please refer to the [ATMoB website](#) for future meetings. Members should check their email on the ATMOB-ANNOUNCE list for additional information. Please [select this Zoom link to attend the 939th Meeting of the Amateur Telescope Makers of Boston](#).

Astronomy From Passion to Profession

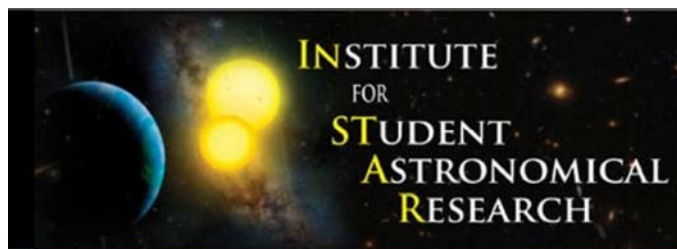


Image Credit: Institute for Student Astronomical Research

This month's speaker is Rachel Freed. Rachel is a co-founder and the President of the [Institute for Student Astronomical Research \(InStAR\)](#) with a goal of incorporating scientific research into high school and undergraduate education. Rachel's presentation is titled *Astronomy - From Passion to Profession* and will focus on how she turned her passion for astronomy into a profession and the role that being involved with amateur astronomy organizations played in that. She will discuss her astronomy outreach, astronomy research and publication

programs, global participation, and her role on editorial committees and boards.

Rachel Freed has over 20 published papers, mostly with student co-authors. Rachel is a faculty lecturer in the School of Education at Sonoma State University and on the Science Organizing Committee for the annual conference on Robotic Telescopes, Student Research, and Education (RTSRE). Freed also has a B.S. degree in Biology from the University of California at Davis and a M.S. in Neuroscience from Northwestern University. She is currently working on a PhD in astronomy education. She taught high school chemistry and astronomy for 10 years and has conducted research on chemistry education. She has been an amateur astronomer for over 20 years and is involved in public outreach. Rachel has been a volunteer docent at the Robert Ferguson Observatory in Sonoma County for 12 years. She is also the editor of the Journal of Double Star Observations, and on the board of the Advanced Imaging Conference. Rachel's work focuses on promoting changes in education that build on students' intrinsic motivations and interests.

I hope you'll join us.

~ Rich Nugent – President ~

President's Message . . .

Last October, we ran two very successful observing sessions at the Clubhouse. At the quarterly Board meeting in March, we discussed the status of the COVID pandemic and decided we can safely hold those gatherings again. For the sake of posterity, I'll outline the plan here.

Observers and members of their household will be able to sign up (on a first come, first served basis) for an observatory or pad using the club's Event Calendar on the website.

The proposed Friday/Saturday nights in April are: 2/3 (3rd Quarter Moon), 9/10 (New Moon), and 16/17 (1st Quarter Moon). Of course, these dates are weather dependent. The observing sessions will be cancelled if a Clubhouse A member cannot be on duty. If an observing session is cancelled a notification will be sent via email on the day of the event.

Of course, if you are feeling unwell, have tested positive for COVID, or have been in close contact with someone with COVID or has tested positive for the virus, please do not come to the Clubhouse. Once at the site please check in with the person on duty. We'll need to know who was in attendance should contact tracing become necessary. Mask wearing will be mandatory for everyone – even those fully immunized. Of course, masks can be lowered when at the eyepiece to prevent fogging. Observers will be required to remain in an observatory or on their own pad without interacting with others.

For the time being, the only area of the Clubhouse open will be the restroom. Be mindful of how small the room is. It was

recommended at last night's quarterly Board meeting that folks venturing inside the Clubhouse be double-masked. I agree and I'll make sure there's a supply of surgical masks on hand along with hand sanitizer and disinfectant. A small fan will be set up to offer some exchange of air but, going forward, we may want to consider installing a bathroom fan to expel air to the exterior of the building.

When will the Clubhouse reopen fully? It's hard to say. When I think about the two tiny front rooms of the farmhouse and how they sometimes become packed with members, I shudder. Considering our mostly high-risk population, we need to be very careful about gathering in the Clubhouse – at least for the foreseeable future. Before we reopen the Clubhouse for mirror work and machine shop use, a work party will need to clean and perform minor repairs. Depending on the trends in COVID data, I expect this to happen in May with access to the full Clubhouse by late spring or early summer. We'll see.

Due to the vulnerability of many of our members, the risk for long-term health consequences for those affected by the virus, uncertainties about the long-term efficacy of the current vaccines and their ability to work against the COVID variants, we must continue to be careful and not let our guard down. We will continue to follow the State guidelines for gatherings, and we'll continue to adhere to MIT's requirements and continue to inform them about our activities. As the pandemic evolves, so too will our plans.

As always, everyone must assess their own tolerance for risk. You'll find that I tend to err on the side of caution so it's unlikely you'll see me at the Clubhouse until I've had both doses of the vaccine. I'm certain mask wearing will become part of our daily routines and likely that it will be mandated at the Clubhouse for some time to come. Of course, in time, I expect our lives will return to some sort of new normal. In the meantime, if we limit our activities on the site and continue to restrict access to the Clubhouse, I feel we can hold these sessions safely.

~ Rich Nugent – President ~

Share Your Observations . . .

If you follow the threads on the Discuss email list, you are aware a number of our members are producing some exceptionally fine images of the deep sky. I appreciate that the images are being shared. I marvel at how far astro-imaging has come! But, what about our visual observers? I hope you've been enjoying my monthly lists of 19+ objects and, more recently, my Monthly Mini Messier Marathon objects. Share your observations! And, if you happen to come across something that impresses you, kindly pass along your observations so others can enjoy the view, as well! Thanks!

~ Rich Nugent – President ~

March Meeting Minutes . . .



Andrew Chaikin on Zoom *

ATMoB 939th Meeting Minutes March 11, 2021

Rich Nugent presented the President's Welcome. The Harvard-Smithsonian Center for Astrophysics (CfA) remains closed. We are looking at opening up the Westford grounds on three April weekends: April 2-3, 9-10, and 16-17. Since good weather is a matter of luck, we are planning to open up on both Friday and Saturday nights.

- Alva Couch presented the Secretary's report, including a summary of the 938th meeting and the wonderful talk by Tom Calderwood on the mystery surrounding the sudden dimming of Betelgeuse.
- Eileen Myers presented the Treasurer's report, which showed a small inflow due to memberships, combined with minimal expenses.
- Chris Elledge presented the Membership report and welcomed new members Robert Fuqua, Jeffrey Holt, Richard Kappler, David Rust, Giuseppe Santitto, and Larry St Clair.
- Glenn Chapple presented the Observer's report. St. Patrick's day is a week away, and the bars may be closed, but we can still get intoxicated with photons. Several observing opportunities await us this month, including the dances of Mars and Saturn with the Moon and Aldebaran. Glenn suggested comparing the colors of Mars and Aldebaran when they are close together on Monday, March 22. The March Observer's Challenge is NGC 2685. Rich Nugent suggested trying to spot the asteroid Vesta as it traverses the constellation Leo.
- Steve Clougherty presented the Clubhouse report. Steve visited the Clubhouse on Tuesday, March 9th for an inspection and reports that all is well. Heating elements remain on for all of the scopes. For the April weekends, access to the observing field and observatories will require signing up in advance. The Clubhouse will remain closed but access to the bathroom will be provided.

- Bruce Berger presented the Mittelman ATMoB Observatory report. He showed new images of Barnard 33 (Horsehead Nebula), M42 (Orion Nebula), and Caldwell 49 (Rosette Nebula), that were processed by Al Takeda. Other projects tackled this month included tidying up loose wires to neaten the cabling in the enclosure.
- Kelly Beatty presented the Outreach report, including encouraging members to participate in International Dark Sky Week on April 5-12, 2021 (<http://idsw.darksky.org>).
- Old business: Buying from <https://smile.amazon.com> benefits the club while you shop at Amazon. Please select Amateur Telescope Makers of Boston as your preferred charity.
- New business: In the April meeting the membership will vote to elect three members to the nominating committee. Open positions on the board include the Vice President and a Member at Large. In June we will hold the Annual election of officers. Elections will be conducted online. A link to the voting page will be emailed each member.

Our speaker for the evening was Andrew Chaikin who spoke on *Reminiscing the Apollo Era*.

Space Historian Andrew Chaikin took us on a spectacular photo tour of the Apollo missions using high-resolution photographs taken during each mission. Andrew's talk was structured as a virtual mission, starting with training, progressing through the trip to the Moon, landing, cavorting on the surface, takeoff, and return. Images from each phase of an Apollo mission were punctuated by comments by the astronauts during interviews for Andrew's book, *A Man in the Moon: the Voyages of the Apollo Astronauts*. Many thanks to Andrew for giving us an inspiring and breathtaking presentation.

- Next monthly meeting: April 8, 2021.
- Next board meeting: Mar 25, 2021.

Meeting adjourned at 9:56 pm.

~ Alva Couch – Secretary ~

Membership Report . . .

I am pleased to welcome our newest members: Robert Fuqua and Jeffrey Holt.

As of March 25th, 2021 we have 333 memberships covering 424 members. This is broken down as follows:

- 137 Regular Members
- 133 Senior Members
- 4 Student Members
- 54 Family Memberships covering 145 Members
- 3 Guest Members
- 2 Honorary Members

You can check if you need to renew and start your renewal process on the website at <https://www.atmob.org/renew>

You can also download the membership application from the website at <https://www.atmob.org/signup> by clicking on the "Download an application" link.

Please contact me if you need any help with renewing or logging into the website.

~ Chris Elledge – Membership Secretary ~

Meeting Recordings . . .

The recording of ATMoB meeting #939 is available on YouTube: <https://youtu.be/rTvjm9Q-FsQ>

I would like to thank Andrew Chaikin for giving his presentation and allowing us to record it.

This link is to the publicly available cut of the meeting recording. To view the original version of the meetings, please see the Announce Forum on the ATMoB Website <https://www.atmob.org>

~ Chris Elledge - Membership Secretary ~

Clubhouse Report . . .



Socially distant scopes on the Observing Field. April 3, 2021 *

April 2021 Clubhouse Report

With the state relaxing COVID-19 restrictions the Executive Board has decided to open the observing field and observatories at the Clubhouse on a limited basis in April. Members are required to sign up in advance on the ATMoB website's Event Calendar and are mandated to adhere to the Massachusetts and ATMoB's COVID rules. Mask wearing, social distancing and attendance records are vital to keep everyone safe.

The first April re-opening occurred on Saturday, April 3rd. Thirteen members were treated to a beautifully clear and chilly evening. Thanks to Steve Clougherty, John Stodieck and Chris Elledge for volunteering to perform Clubhouse duty on Saturday.

Steve Clougherty reported that the bathroom venting fan is not working. An assessment will be made to determine if we need to repair or replace the fan.



A masked Phil Levine. April 3, 2021. *

~ Al Takeda – Newsletter Editor ~

Educational DVD Videos on Monday Evenings . . .

Member-at-Large Maria Batista is hosting Monday evening DVD lectures. These weekly Zoom meetings start at 7 PM. Members can sign up at www.atmob.org.

Observer's Challenge** . . .

April, 2021

NGC 3226/3227 – Interacting Galaxies in Leo

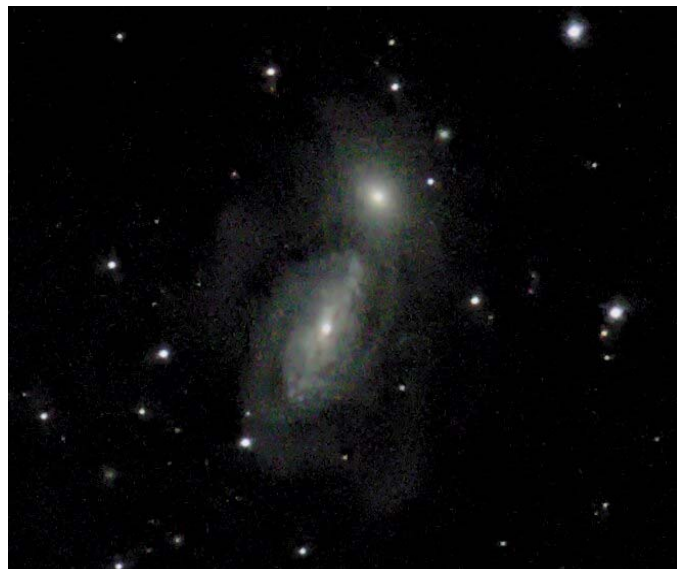
NGC 3226
Mag: 11.4
Size: 2.8' x 2.4"

NGC 3227
Mag: 10.3
Size: 4.1' x 3.9'



32-inch f/6.5 scope, ASI6200 camera, 4 hrs total exposure.
Image by Mario Motta.

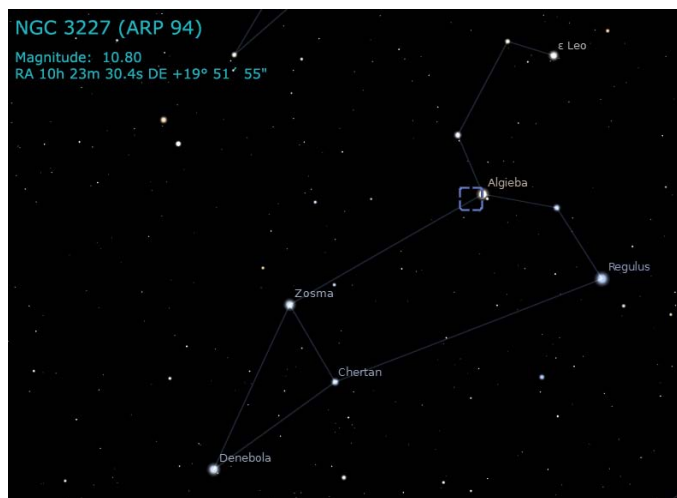
Our April Observer's Challenge brings us to a cosmic double-header, the interacting galaxies NGC 3226 and NGC 3227. NGC 3227, the brighter of the pair at magnitude 10.3, is a Seyfert galaxy (a spiral galaxy with an active galactic nucleus - a supermassive black hole). Its partner, the dwarf elliptical galaxy NGC 3226, is about half as large and a magnitude fainter. The two are gravitationally bound and are listed in the Atlas of Peculiar Galaxies as Arp 94.



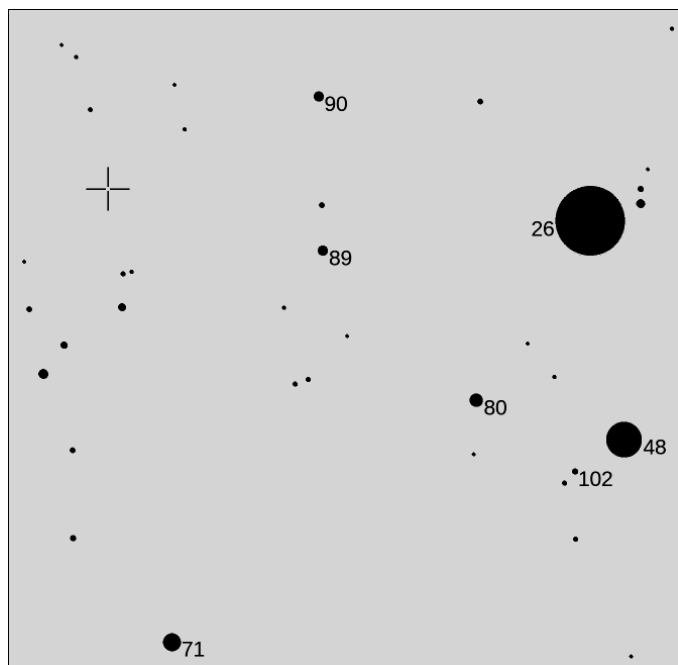
Canon 80D, 1200mm f/8.0 lens (150mm aperture), ISO 800, 2 hrs total exposure. Image by Doug Paul.

If you use a scope with GoTo technology, you'll find these galaxies by plugging in the coordinates Right Ascension 10h 23m 30.6s and declination +19° 51' 54". I suggest you skip the electronics and simply aim your scope at the 2nd magnitude star gamma (γ) Leonis (Algieba). NGC 3226 and NGC 3227 are less than a degree east. Before you go anywhere, however, center this star in the telescopic field and switch to an eyepiece that magnifies around 100X. Algieba is a showpiece binary pair whose components, of magnitudes 2.4 and 3.6, are currently separated by 4.7 arc-seconds. These spectral class K1 and G7 giants shine with striking golden yellow hues.

Once you've paid your respects to Algieba, keep your eye glued to the eyepiece as you slowly move eastward past a pair of 9th magnitude stars to the spot marked with an "+" on the accompanying finder chart. At this location, I was able to see a pair of hazy smudges (the nuclei of the two galaxies) separated by about 2 arc-minutes. I was using a 10-inch reflector and a magnifying power of 141X under magnitude 5 skies. There was no sign of the spiral arms of NGC 3227. The appearance of NGC 3226 and NGC 3227 was not unlike a small-scope view of M51 and its companion NGC 5195.



www.iwinman.com



AAVSO's Variable Star Plotter (VSP). Stars shown to magnitude 11.0. 2.6 magnitude star is Algieba. Field is 1° on a side with north up. Glenn Chaple.

NGC 3226 and NGC 3227 were discovered by William Herschel on February 15, 1784. Their distance isn't accurately known. The SIMBAD astronomical database cites 5 measurements that range from 51 to 73 million light years.

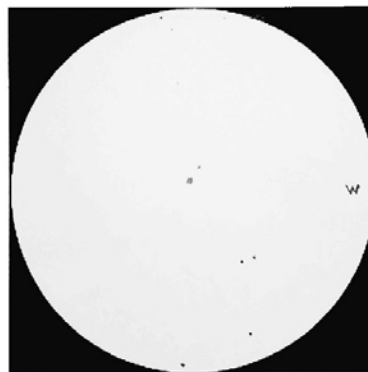


OBSERVING LOG

NAME: Glenn Chaple
 DATE (M/D/Y): 3/13/2021 TIME: 9:45 pm EST
 OBSERVING SITE: 82 S. Harbor Rd. Townsend MA
 SKY CONDITIONS: Seeing (Antoniadi Scale) 1.9 Limiting Magnitude 5.0
 OBJECT: NGC 3226/3227 TYPE: GG/SG CONSTELLATION: Leo

SKETCH (note direction of west)

NOTES:



Visible in 10-inch as double Nuclei. Only nucleus of NGC 3227 visible.
 NGC 3227 barely visible in 4.5-inch at 150X

OBSERVING EQUIPMENT

Binoculars X
 Telescope: 10-inch f/5 reflector Eyepiece: 9mm Nagler
 Mag: 141 X Field Diam: 0.6° Filter (if any): _____

[NGC 3226 and NGC 3227](#). Sketch by Glenn Chaple.

Editor's note: To see an enlarged image of Glenn's drawing click on the following link: [NGC 3226 and NGC 3227](#). A blank copy of Glenn's Observing Log sheet for astro-sketchers can be downloaded from the [Documents Library in the Observing folder on the ATMOB website](#).

**The purpose of the Observer's Challenge is to encourage the pursuit of visual observing. It is open to everyone who is interested. If you'd like to contribute notes, drawings, or photographs, we'll be happy to include them in our monthly summary. Submit your observing notes, sketches, and/or images to Roger Ivester (rogerivester@me.com). To find out more about the Observer's Challenge or access past reports, log on to <https://rogerivester.com/category/observers-challenge-reports-complete/>.

~ Submitted by Glenn Chaple ~

NEAF 2021 The Virtual Experience . . .

"An amazing online extravaganza featuring all your favorite vendors, huge discounts on merchandise and an incredible lineup of guests. Plus music, raffle, fun and surprises.

The online show will run all day from 10am to 8pm EDT (*sic*).

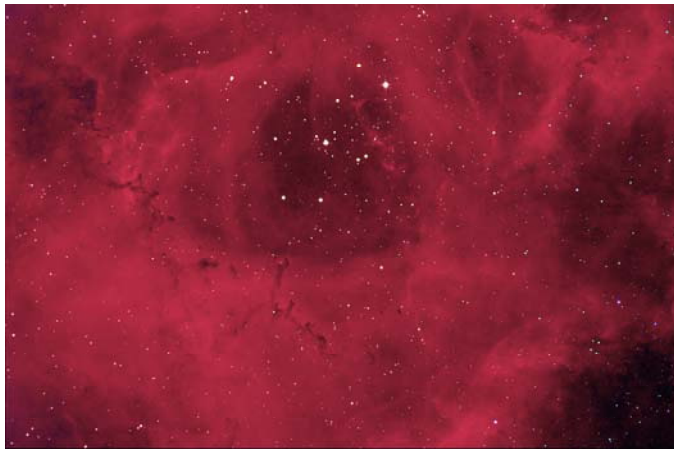
Simply log onto NEAFexpo.com on April 10th, it's FREE!"

Mittelman ATMoB Observatory Report . . .

The Mittelman ATMoB Observatory (MAO) group has updated TheSky X planetarium and mount software control to the newest 64-bit Windows version. This has greatly increased stability of the entire system.

Arne Henden, instrument and software specialist of the AAVSO (American Association of Variable Star Observers) is continuing to assisting us in editing the automated startup and shutdown scripts for the ACP Observatory Control Software.

Alan Sliski is manually controlling TheSky X (mount control) and MaximDL (imaging) software to acquire images. Caldwell 49, the Rosette nebula, is the latest deep sky object to be captured. I processed the raw files and created an RGB color mapped image (see below).



Rosette nebula. 18 x Lum. (60 sec.), 14 x H-a (120 sec.), 19 x OIII (120 sec.) and 18 x SII (120 sec.), (total time= 2 hrs.) images mapped in the RGB palette. 25 - 26 February 2021. Mittelman ATMoB Observatory. Processing by Al Takeda.

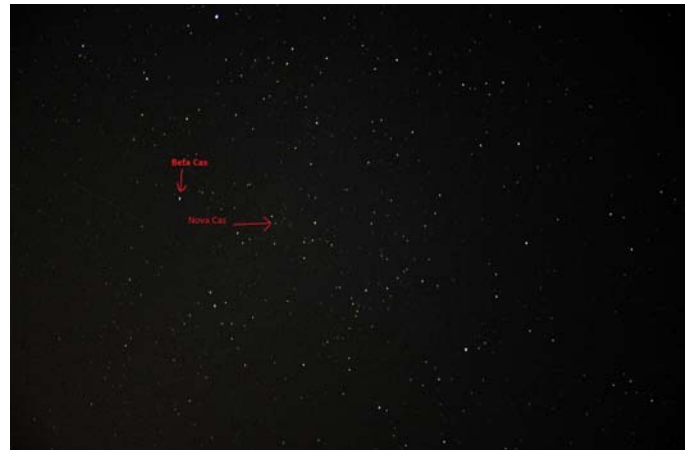
~ Al Takeda - MAO Operations and Imaging ~

Classical Nova in Cassiopeia . . .

A nova in Cassiopeia was discovered by Yuji Nakamura (Kameyama, Mie, Japan) on March 18, 2021. Nakamura used a 135mm f/4.0 lens and an unfiltered CCD. The discovery magnitude was 9.6. N Cas 2021 = PNV J23244760+6111140 = CzeV3217 is located at R.A. 23 24 47.73, Dec. +61 11 14.8.

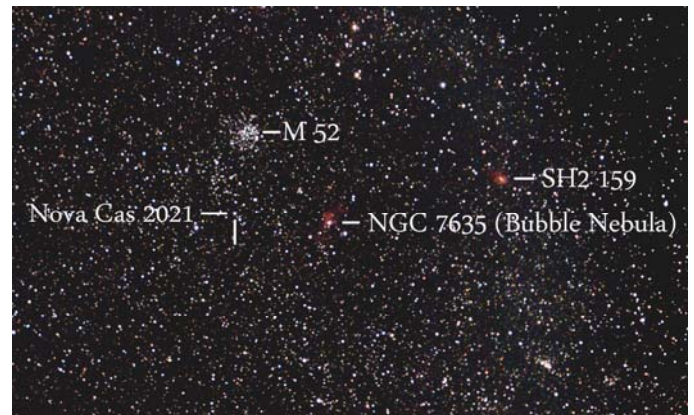
The nova is beyond naked eye visibility however ATMoB members have been able to observe it with binoculars and small telescopes.

Mario Motta was the first member to image N Cas 2021 using a portable mount and his DSLR Nikon camera and a 75mm lens.



N Cas 2021. 19 March 2021. Image by Mario Motta.

After one failed attempt, I was able to image the nova 3 days later.



16 images x 15 sec. (Total= 4 minutes), Canon 70-200mm f/2.8L (Imaged @ 185mm f/3.5), Canon EOS Ra, ISO 3200, Cropped 1.25x, 22 March 2021.*

~ Al Takeda - Newsletter Editor ~

Editor's note: I would like to thank Eileen Myers for her help in editing and assembling the newsletter. Her contributions have been invaluable in creating this publication.

Editor: * Photos by Al Takeda unless otherwise noted.

May Star Fields DEADLINE
Sunday, April 25th

Email articles to Al Takeda at
newsletter@atmob.org

Articles from members are always welcome.

POSTMASTER NOTE: Not mailed due to the coronavirus pandemic

Amateur Telescope Makers of Boston, Inc.
c/o Chris Elledge, Membership Secretary
99 College Ave
Arlington, MA 02474
FIRST CLASS

EXECUTIVE BOARD 2020-2021

PRESIDENT:	Rich Nugent	(508) 935-8158
VICE PRES:	Tom McDonagh	(617) 966-5221
SECRETARY:	Alva Couch	
MEMBERSHIP:	Chris Elledge	(781) 325-3772
TREASURER:	Eileen Myers	(978) 456-3937
MEMBERS AT LARGE:	Maria Batista	(617) 347-3730
	Alan Sliski	
	Bill Toomey	

PAST PRESIDENTS:		
2018 - 20	Tom McDonagh	(617) 966-5221
2015 - 18	Glenn Chaple	(978) 369-1596

COMMITTEES

CLUBHOUSE:	John Reed	(781) 861-8031
	Steve Clougherty	(781) 784-3024
	David Prowten	(978) 369-1596

OBSERVING:	Bruce Berger	(978) 387-4189
------------	--------------	----------------

NEWSLETTER	Al Takeda	newsletter@atmob.org
------------	-----------	--

PUBLIC OUTREACH

COMMITTEE CHAIR:	Rich Nugent	starparty@atmob.org
STAR PARTIES:	Bernie Kosicki	
	Laura Sailor	
	John Harrington	

How to Find Us...

Web Page www.atmob.org

MEETINGS: Zoom On-Line Meetings until further notice. Meetings held the second Thursday of each month (September to July) at 8:00 PM. For meeting details go to www.atmob.org and check your email on the ATMOB-ANNOUNCE list.

CLUBHOUSE: Latitude 42° 36.5' N Longitude 71° 29.8' W

The Tom Britton Clubhouse is CLOSED. It is the white farmhouse on the grounds of MIT's Haystack Observatory in Westford, MA. Take Rt. 3 North from Rt. 128 or Rt. 495 to Exit 33 and proceed West on Rt. 40 for five miles. Turn right at the MIT Lincoln Lab, Haystack Observatory at the Groton town line. Proceed to the farmhouse on left side of the road. Clubhouse attendance varies with the weather.

Heads Up For the Month . . .

To calculate Eastern Daylight Time (EDT) from Universal Time (UT) subtract 4 from UT.

Apr 4 Last Quarter Moon (Moonrise at midnight)
Apr 11 New Moon
Apr 17 Mars 0.1 degrees North of Moon 12:00 UT (08:00 EDT)
Apr 18 Moon 0.9 degrees North of M35 00:00 UT (08:00 EDT)
Apr 20 First Quarter Moon (Moonset at midnight)
Apr 22 Lyrid meteors peak 12:00 UT (08:00 EDT)
Apr 26 Full Moon
Apr 27 Mars 0.5 degrees North of M35 07:00 UT (03:00 EDT)
May 3 Last Quarter Moon (Moonrise at midnight)
May 3 Mercury 2 deg. S. of Pleiades (M45) at sunset 22 UT (18 EST)