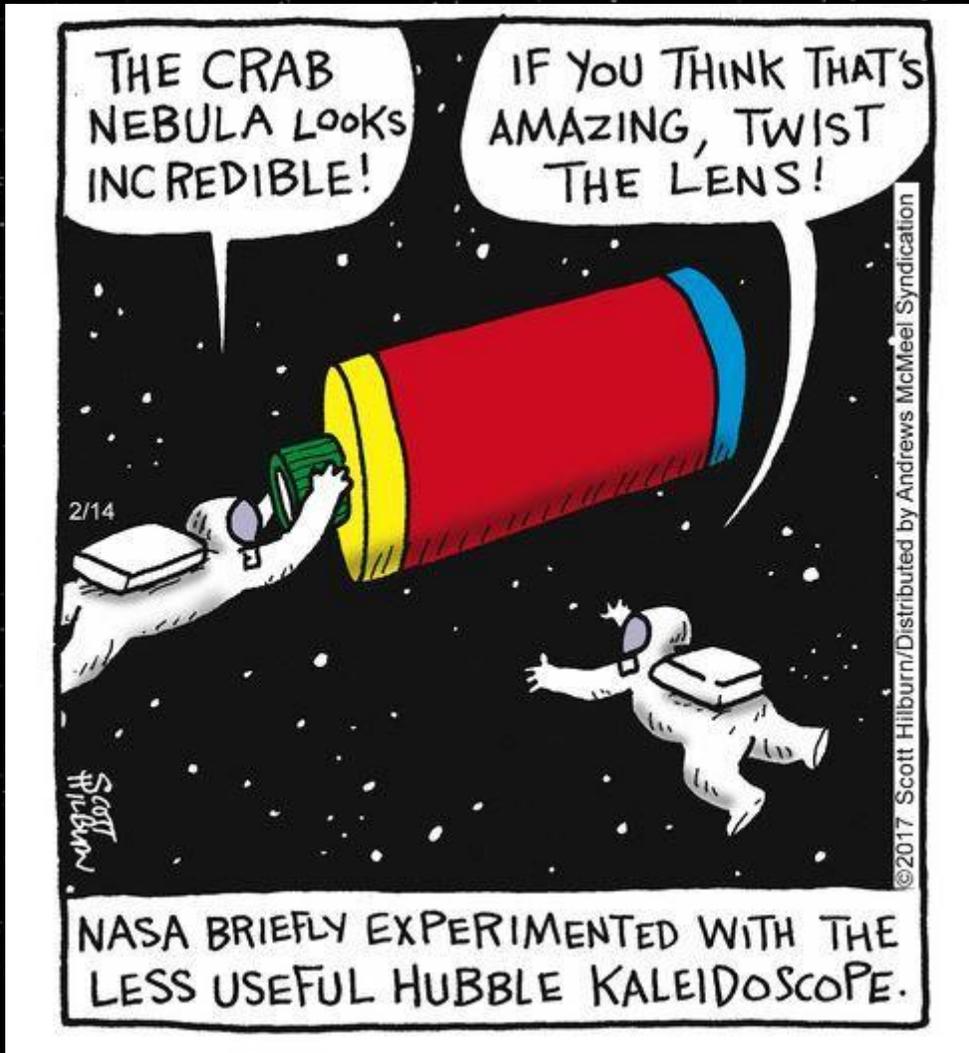


Howard Astronomical League

January 20, 2022



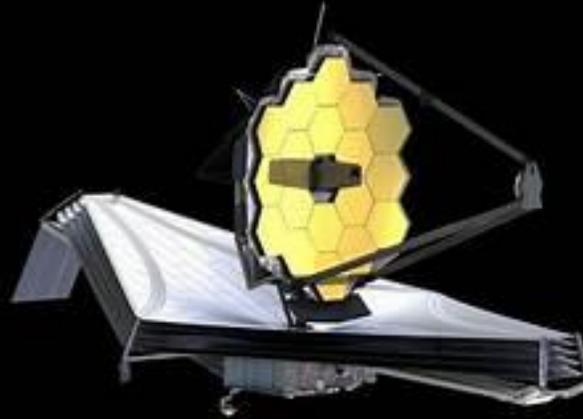
Astro Humor



Welcome New Members and Guests



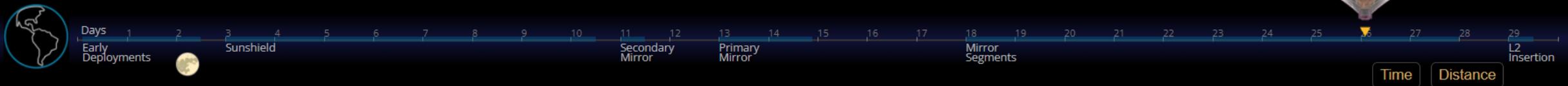
Congratulations to all on the JWST Team



L+ 26:02:30:16 **859453.4 mi.** **39255.1 mi.** **95.6318%** **0.1431 mi/s** **134^F ^a** **-340^F ^c**
Launch Elapsed **From Earth** **To L2 Orbit** **Distance Complete** **Cruising Speed** **Hot Side** **Cold Side**

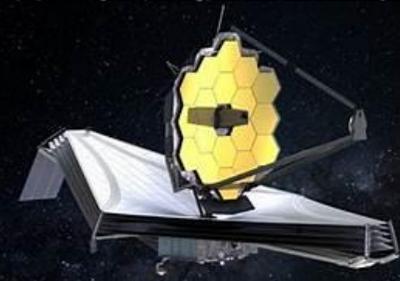
51^F ^b **-330^F ^d**

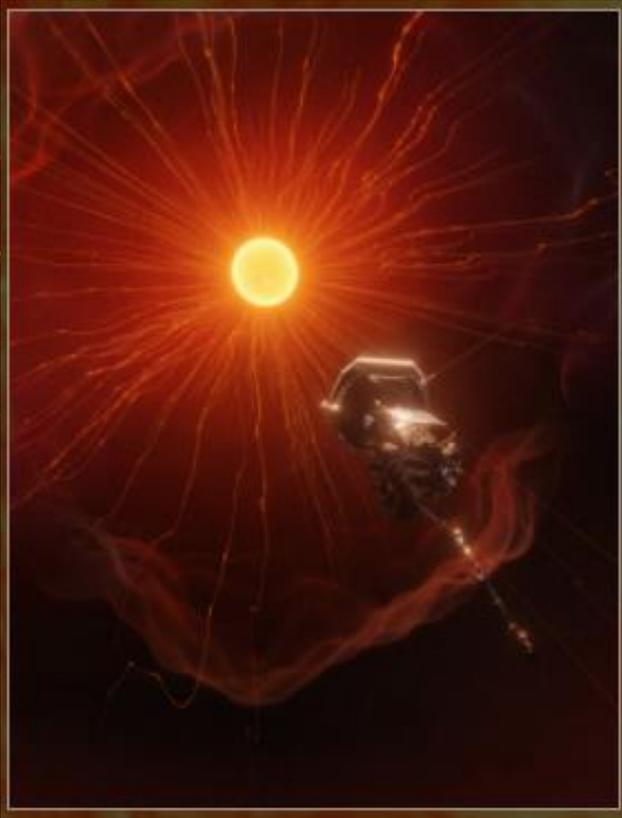
1/20/2022
9:50AM EST



Determining the True Direction Of JWST By Dennis Conti

Stay tuned: Right after the election
and financial report





Parker Solar Probe

2022

February 25, 2022: Perihelion #11

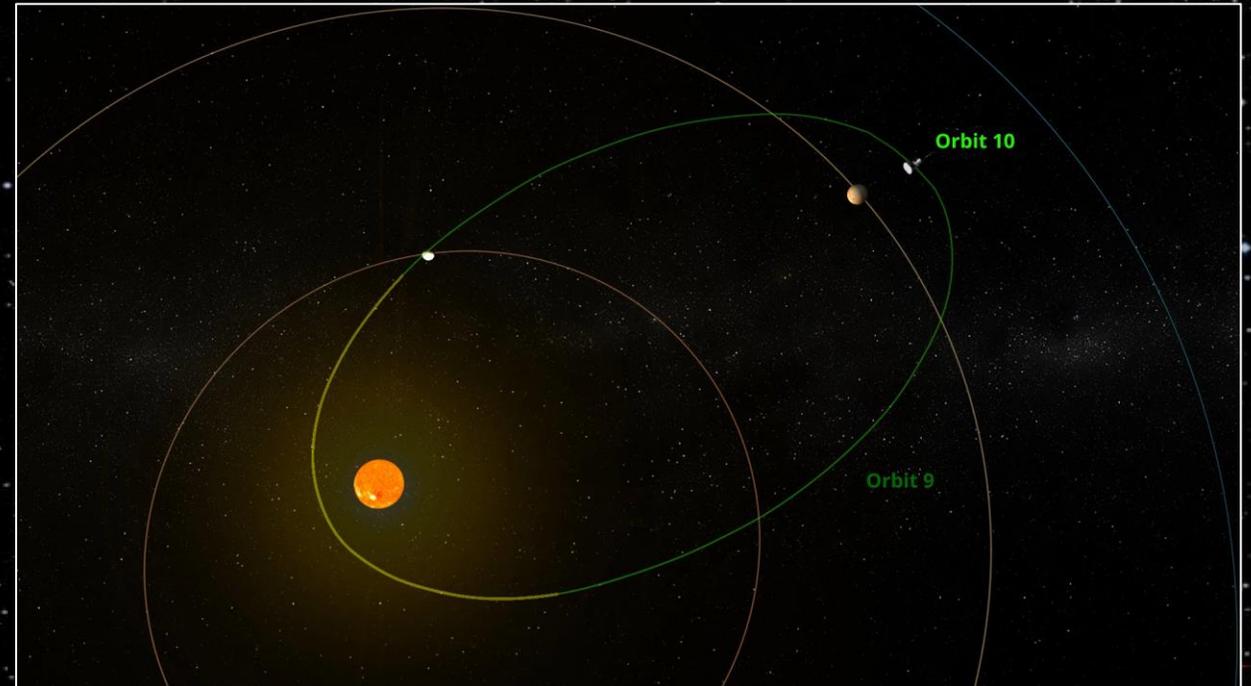
June 1, 2022: Perihelion #12

September 6, 2022: Perihelion #13

December 11, 2022: Perihelion #14

November 26, 2021

Blazing along at space-record speeds that would get it from Earth to the Moon in under an hour, NASA's Parker Solar Probe completed its 10th close approach to the Sun on Nov. 21, coming within 5.3 million miles (8.5 million kilometers) of the solar surface.



THANK YOU

HAL Officers/Positions 2021

President	Phil Whitebloom	president@howardastro.org
1st Vice President	Victor Sanchez	1stvp@howardastro.org
2nd Vice President	Jim Tomney	2ndvp@howardastro.org
Treasurer	Joel Goodman	hal_treasurer@howardastro.org
Secretary	Yvonne Chiarelli	secretary@howardastro.org
Event Coordinator	David Stein	events@howardastro.org
Publicity Chair +	Joel Goodman	halpublicity@howardastro.org
Observatory Director *	Dale Ghent	observatory@howardastro.org
Librarian +	Bob Dutilly	librarian@howardastro.org
ALCor +	Steve Jaworiwsky	halcor@howardastro.org
Webmaster *	Ken Sall	Use "Contact Us" Page

* Appointed as voting officers of the board of directors by President with board approval

+ Appointed non-voting member of the board except when position filled by an elected officer

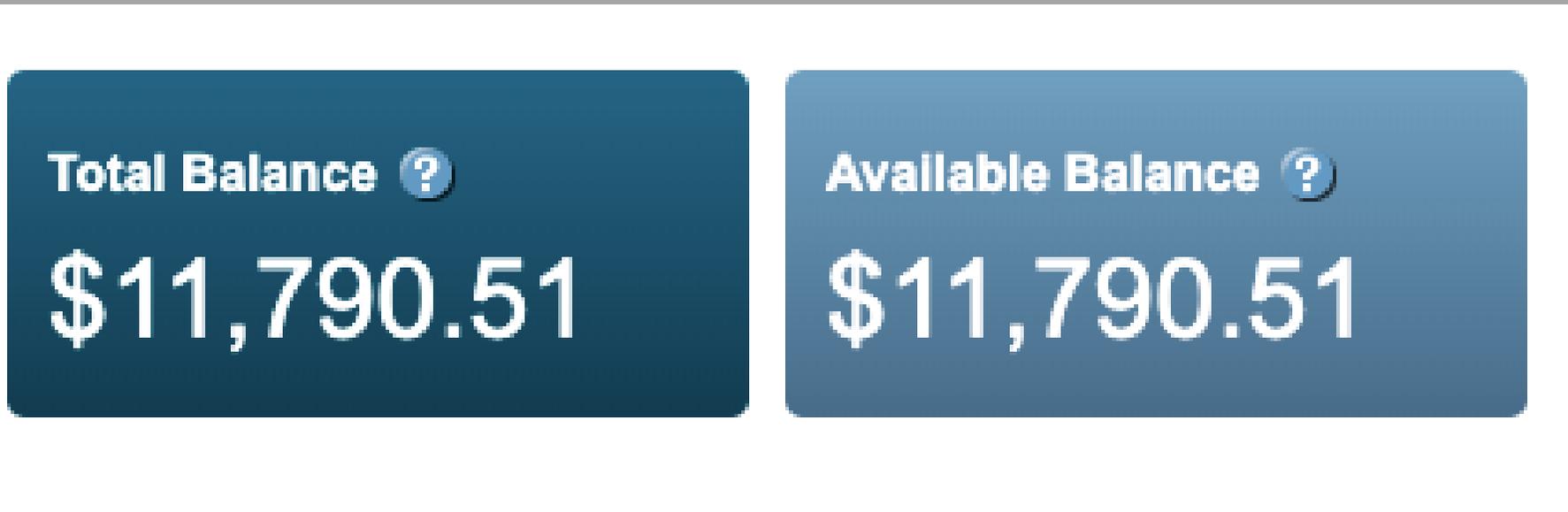
Fiscal 2021 Treasurers Report

Treasurer: Joel Goodman



Treasurer's Report as of 31 December 2021

31 December 2021 M&T Bank Balance

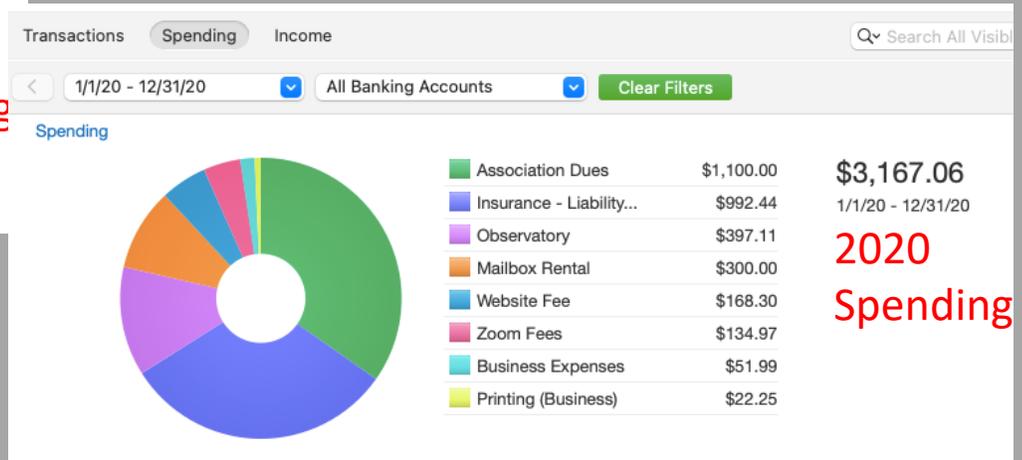
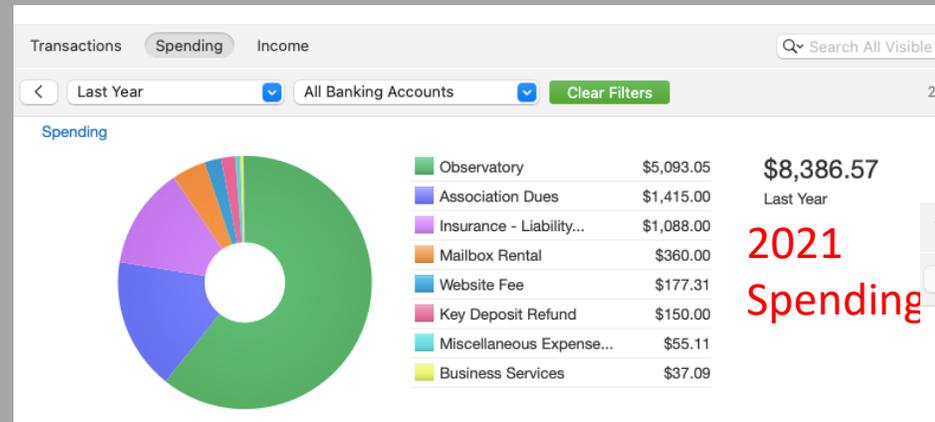
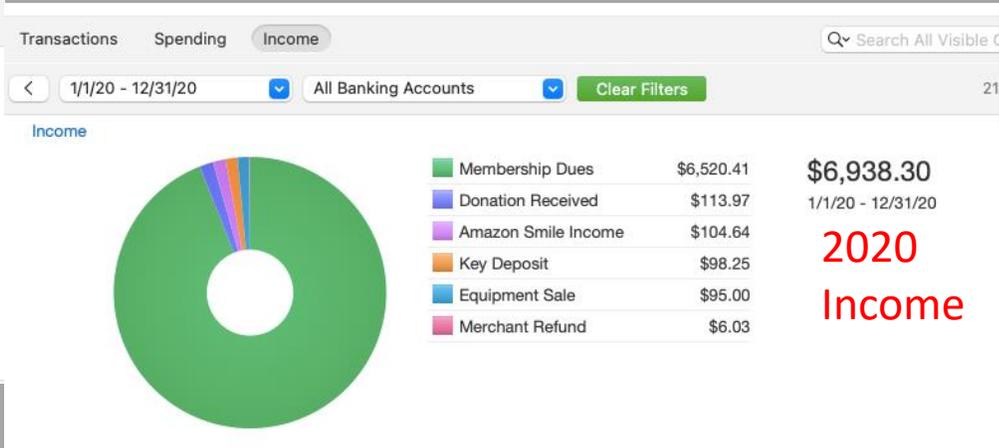


Statistics as of Saturday, January 1, 2022 12:10 PM

Category	Members	Memberships
Currently Paid-Up	353	282
New Members in Last 30 Days	13	12
Last 30 Days - Renewed	12	12
Last 30 Days-Did Not Renew	13	12
Net Gain - Last 30 Days	0	0
Renewals Due Next 30 Days	18	14
Annual Turnover	23.8%	
Annual Membership Turnover	23.4%	
Impromptu List Members	183	

Percent Individual vs Family Memberships

Individual	Family
43.6%	56.4%



January 4, 2022

Items Ordered

Product Name

ZWO ASI6200MC-P Full Frame CMOS Color Cooled Astronomy Camera # ASI6200MC-P

ZWO 7-Position Electronic Filter Wheel for 2" or 50.4mm Filters # EFW-7x2

★ REVIEWS

↳ Large Off-Axis Guider for Full Frame Cameras with 1.25" Holder# OAG-L

★ ASI174MM-MINI 2.3 MP CMOS Monochrome Astronomy Camera with USB 2.0 # ASI174MM-MINI

Optolong IR Pass (685nm) Filter - 2"



ZWO 7 Position Electronic Filter Wheel for 2" Filters - E



2022 HAL Election

Election chair: Jim Johnson

2022 HAL Election

Only one nominee for each of the six elected HAL Board positions:

President

Phil Whitebloom

1st Vice President

Victor Sanchez

2nd Vice President

Jim Tomney

Secretary

Yvonne Chiarelli

Treasurer

Joel Goodman

Events Coordinator

Richard Ren

HAL Public and Members Only Star Parties

2022



March	12	Public
March	26	Members
April	9	Public
April	30	Members
May	7	Public
May	21	Members
June	11	Public
June	25	Members
July	9	Public
July	23	Members
August	6	Public
August	27	Members
September	3	Public
September	24	Members
October	1	Public
October	22	Members
November	5	Public
November	19	Members

Our Guest Presenter



Paulo Cacella

Senior Consultant, Central Bank of Brazil
Astronomer

**Topic: Paulo's Discoveries from
his Personal Observatory**

February Guest Presenters

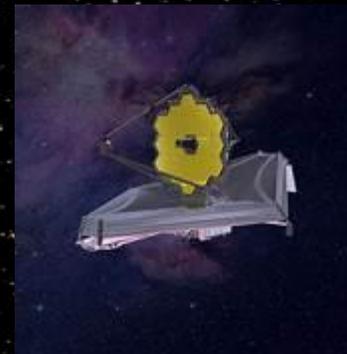


Arjun Meenashi Sundar
Topic – Quantum Tunneling
and Nuclear Fusion

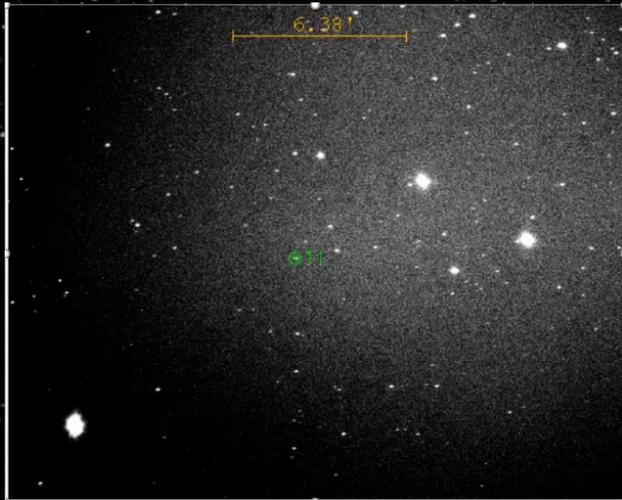


Finalizing the details
Famous Astronomy Author of
over 60 books – Stay Tuned

Determining the True Direction Of JWST By Dennis Conti



Dennis Conti



A dark field of stars, likely a star map or a deep sky image, with a blue banner at the bottom. The stars are scattered across the frame, with some appearing brighter than others. The banner contains white text.

JWST 2021-07-01 00:00 UTC

Brian Rehrey - www.astrobrian.com

JWST in Monoceros

January 12, 2022 (UT)

Alpha Ridge Park

Howard County

Maryland



Wayne Baggett



**HAL MEMBER
ASTRO IMAGES
SKETCHES
AND MORE**



Cheryl Kerr



Cheryl Kerr



Cheryl Kerr

Hickson 44 = Arp 316 (Galaxy Cluster)

Constellation: Leo

Distance: 80 million light years

NGC 3190 (Spiral Galaxy)

Magnitude: 11.2

NGC 3193 (Elliptical Galaxy)

Magnitude: 10.9

NGC 3185 (Spiral Galaxy)

Magnitude: 12.2

NGC 3187 (Spiral Galaxy)

Magnitude: 13.4

Telescope: 155mm refractor

Eyepiece: 12mm Delos (91x) with
TNVC-Tele Vue Night Vision System

Field of View: 0.32 degrees

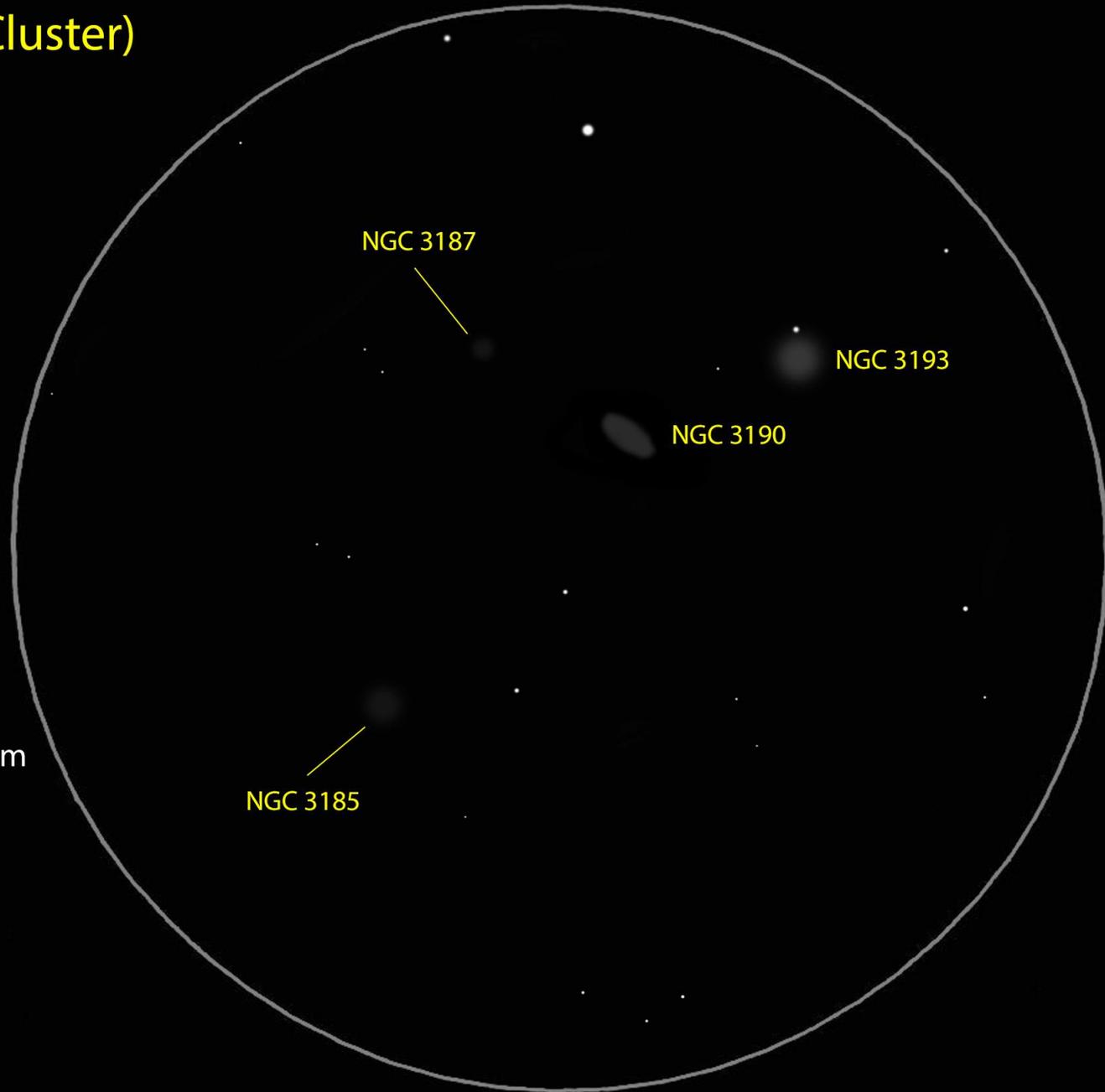
Orientation: Diagonal View

Date: 12-January-2022

Time: 02:40 to 04:20 EST

Location: Deck of House

Drawing by: Richard Orr





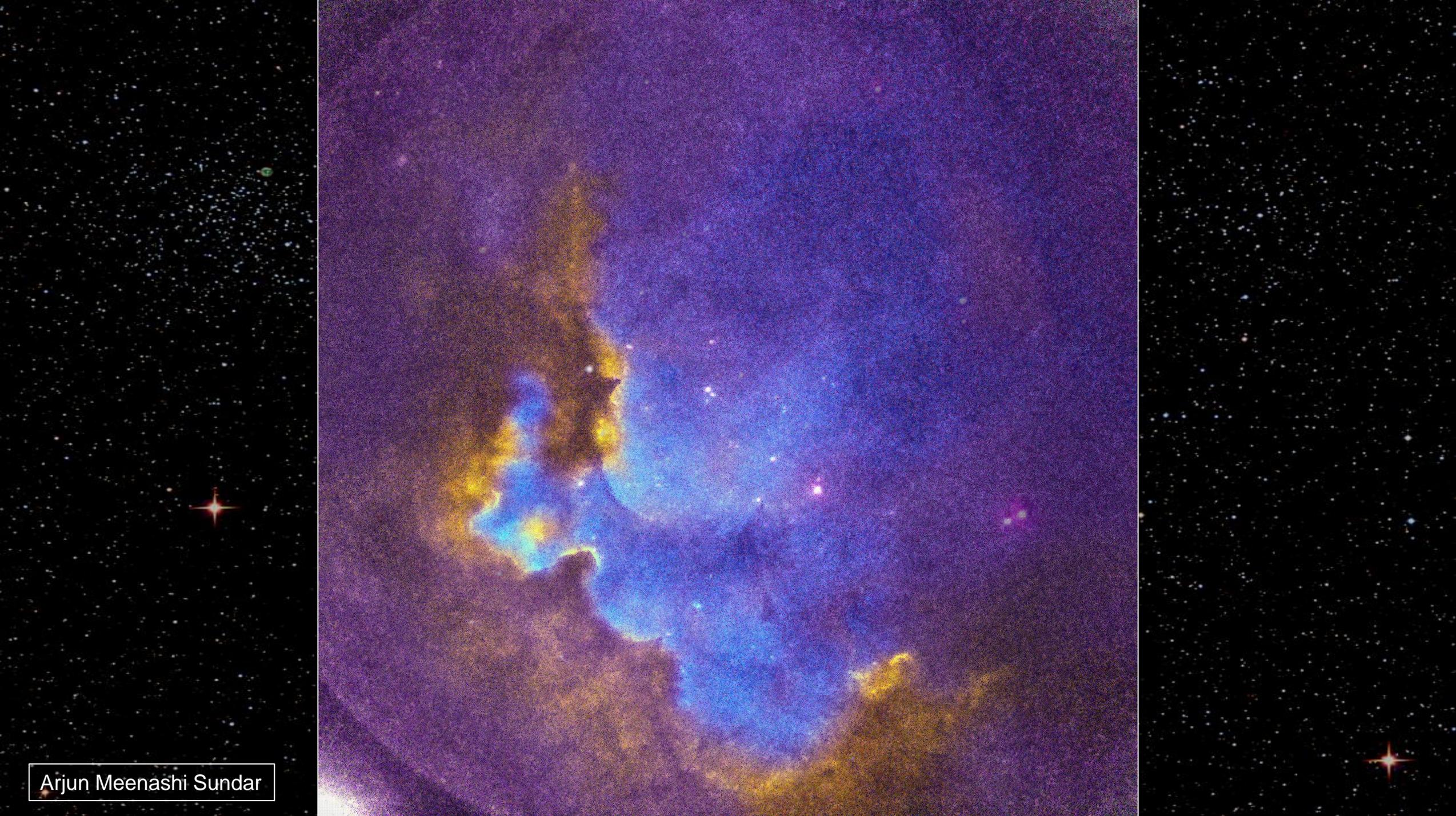




Jared Base
ASTROPHOTOGRAPHY



Andromeda
RVB Broadband
3.80 second sub
ARRT24" scope



Arjun Meenashi Sundar

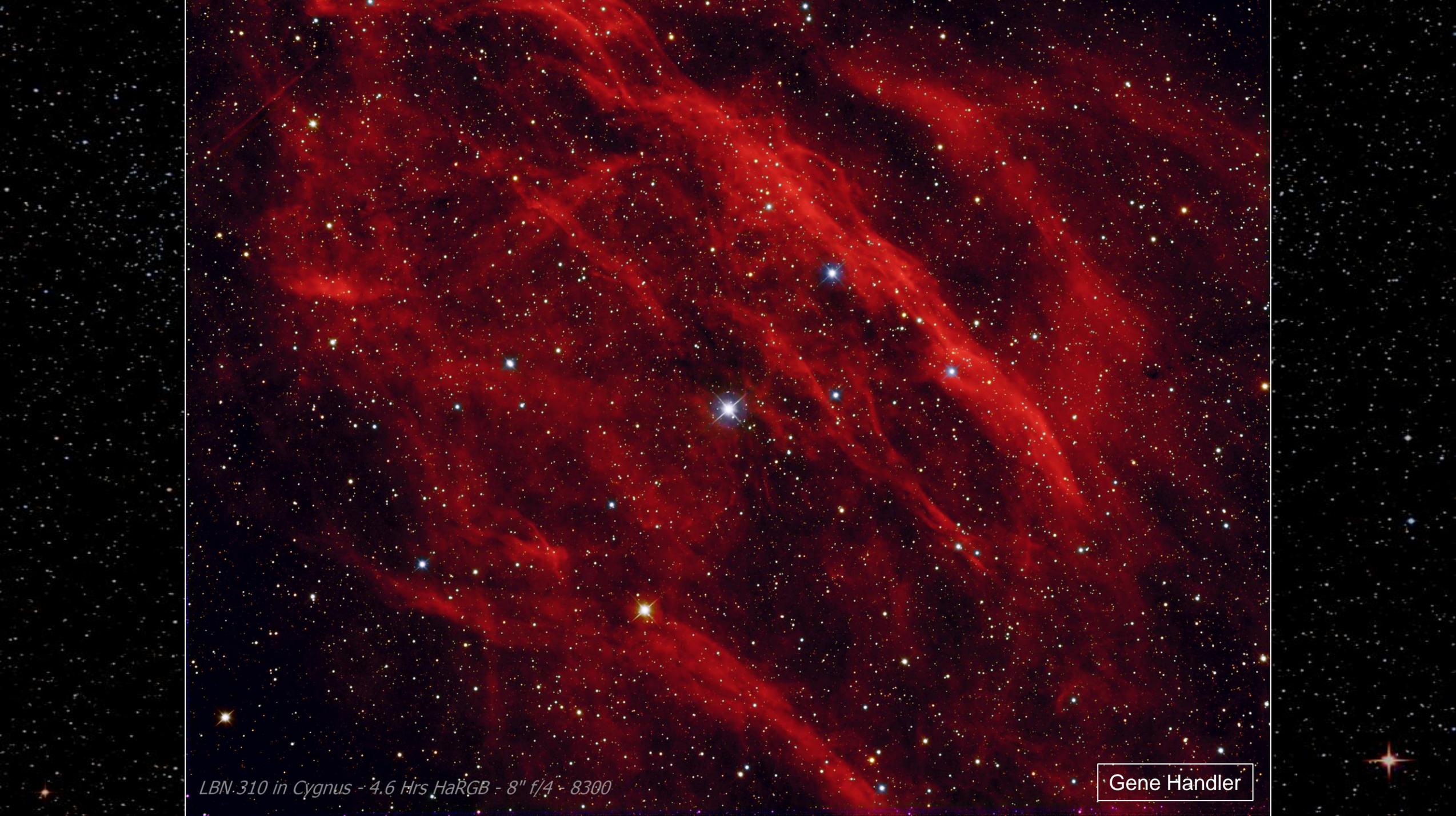


Andromeda
RVB broadband
380 second subs
RRRT 24" scope

Galaxies M77, NGC 1055 & NGC 1072 - 2.7 Hr's LRGB - 8" f/4 - 8300

Gene Handler





LBN 310 in Cygnus - 4.6 Hrs HaRGB - 8" f/4 - 8300

Gene Handler

**California Nebula (NGC 1499) – Ellicott
City, MD (Dec. 4)**

William Optics Redcat - 51/250mm (f/4.9),
ZWO ASI183MC-Pro, Gain-111, ZWO
Duo filter,
138x240s (9 hr. 12 mins.) – John Nagy



Comet Leonard (C/2021 A1) passing Messier 3 – Carrs Mill, MD (Dec. 3)
Sky-Watcher Esprit 100 - 100/550mm (f/5.5), ZWO ASI183MC-Pro, Gain-111,
45x60s (45 min.) – John Nagy



Luna (69% full) – Ellicott City, MD (Dec. 12)

Sky-Watcher Esprit 100 - 100/550mm (f/5.5), ZWO ASI183MC-Pro, Gain-111, ZWO Duo filter,
102 x 3.50ms (357 ms) – John Nagy



Crab Nebula (Messier 1) – Ellicott City, MD (Jan. 11)
Sky-Watcher Esprit 100 - 100/550mm (f/5.5), ZWO ASI183MC-Pro, Gain-111, ZWO Duo filter,
45x300s (3 hr. 45 min.) – John Nagy





A digital sketch to approximate the view of Venus as it passed some $\sim 5^\circ$ north of the Sun on its most recent inferior conjunction around noon Jan 8th.

Jim Tomney

**Venus at Inferior Conjunction
15x70 Oberwerk Binoculars
Jan 8, 2022 at 13:10 EST**



Mengnan Tian

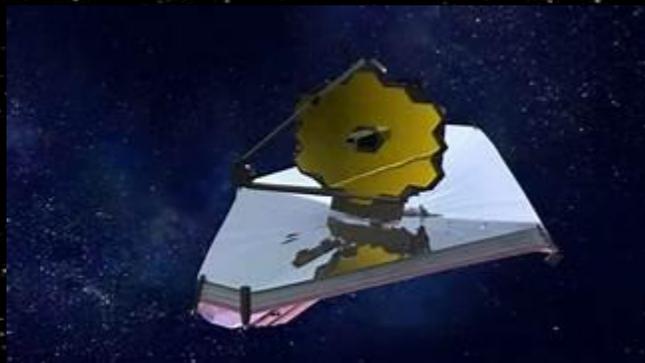






Brad Martin

Thank You



CLEAR SKIES!