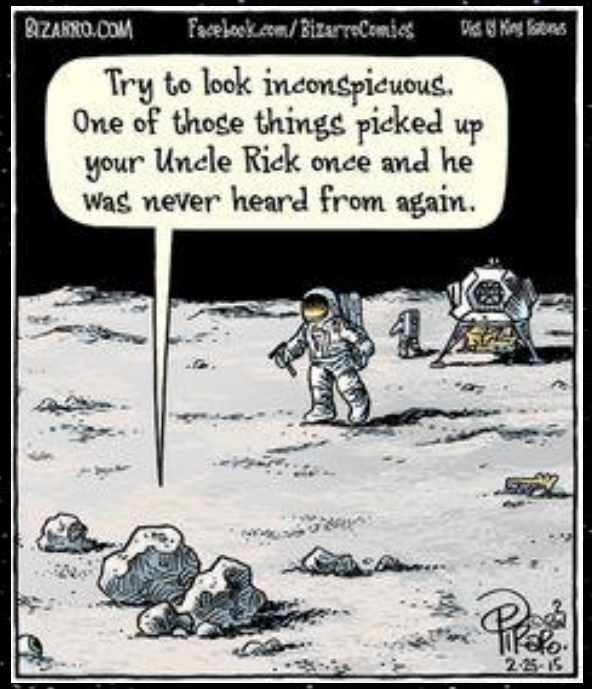
Howard Astronomical League

September 15, 2022

Astro Humor


"We're taking her to Pluto...
She heard it's a dwarf planet."


BIZARRO.COM
Facebook.com/BizarroComics
Try to look inconspicuous. One of those things picked up your Uncle Rick once and he was never heard from again.
2-25-15


"We've discovered a massive dust and gas cloud which is either the beginning of a new star or just a hell of a lot of dust and gas."

Welcoming New Stars to HAL

Hannah Broder

HAL Officers/Positions 2022

President	Phil Whitebloom	president@howardastro.org
1st Vice President	Victor Sanchez	1stvp@howardastro.org
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Observatory Director *	Victor Sanchez	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

Disclaimer: Any resemblance to a current or past member of HAL is strictly coincidental.

Instagram

Howard Astronomical League

HAL Instagram Submission Form

Make sure to fill out the necessary fields for your image(s) to be featured on the Howard Astronomical League Instagram account! Contact Hannah Broder at hannaharb36@gmail.com with any questions.

Your_account.com Switch account

The name and photo associated with your Google account will be recorded when you upload files and submit this form. Only the email you enter is part of your response.

* Required

Email *

Your email

Name *

Your answer

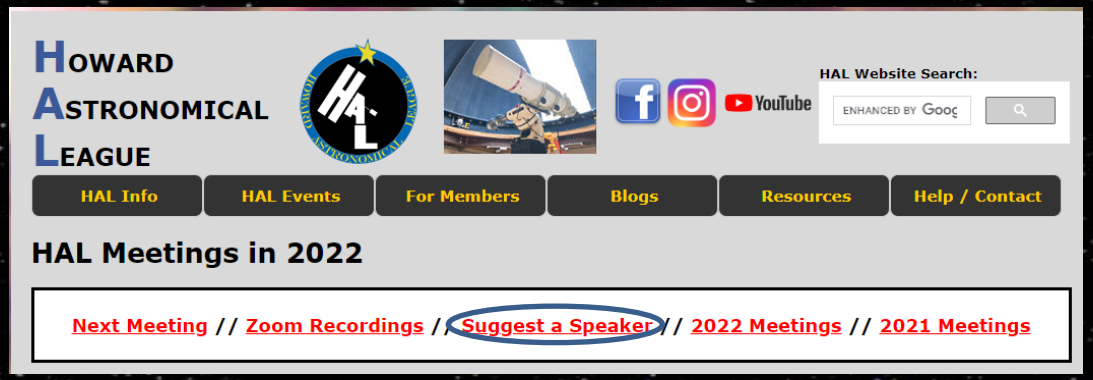
Upload your image below *

Add file

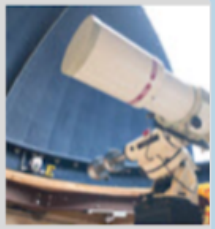
Do you know a future HAL Presenter?

Let us know: https://bit.ly/HALspeaker

You can also find the link on the HAL website under HAL Events In the Our Meetings section



HOWARD ASTRONOMICAL LEAGUE



HAL Speaker Suggestion Form

For HAL members or public to recommend an astronomy-related speaker for a future General Meeting (third Thursday every month).

NOTE: Only a few fields below are required, as denoted by a red asterisk.

Sign in to Google to save your progress. Learn more

* Required

Your Name *

Your answer

Your Email *

Your answer

Suggested Speaker's Name *

Your answer

HAL Public and Members Only Star Parties

September	24	Members
October	1	Public
October	22	Members
November	5	Public
November	19	Members

No Alpha Ridge Impromptu's on these nights

Congratulations!
Ian Slepian

THE ASTRONOMICAL LEAGUE

Messier Observing Program

Messier Observing Program Coordinator:

Scott Kranz
106 N Darrowby Drive
Raymore, MO 64083-9181
(816) 522-8921
E-mail: s.kranz1@comcast.net

Introduction

Almost every amateur astronomer begins to be aware of the Messier Catalog as soon as he or she opens their first book. The novice is sure to find some spectacular object pictured and designated by its "Messier Number" with the universal abbreviation "M". Of the myriads of star clusters and nebulae scattered over the sky only about 100 (perhaps 110 at most) can claim membership to this celebrated list. However, this happens to include most, but not quite all, of the finest of these objects observable from mid-northern latitudes.

There is nothing in the catalog that the owner of so humble an instrument as a three-inch reflector cannot reach under good observing conditions. Many of the objects can be seen with binoculars and some with the naked eye. Thus, the Messier Catalog is a happy hunting ground for any amateur with a taste for deep sky objects.

Even an extremely brief review of the history of Messier's Catalog will explain why it contains so many bright and easy clusters and nebulae.

Quick View of Requirements	
Messier Observing Program	
Regular / Honorary	
Tools Used (Eyes (E), Binoculars (B), Telescopes (T))	T
Manual (M) / Device Aided (DA)	M
Remote Telescopes Allowed	No
Visual (V) / Imaging (I)	V
Number of Levels	2
Number of Observations by Level	70 / 110
Must be an AL Member	Yes
Recommended Minimum Instrument Size	6 inch
Date Deadline for Submission	No
Special Equipment Required	No
Equipment Must Be Constructed	No
Observations Must Be Submitted to an On-Line Database	No

Discord Group Image of the Month August 2022

- **Eastern Veil Nebula (NGC 6992)**
- **imaged by: Jared Case**
- **image capture/processing details: captured on a 130mm Refractor with a monochrome camera**
- **location: Alpha Ridge**
- **date: August 2022**

Tonight's Guest Presenter

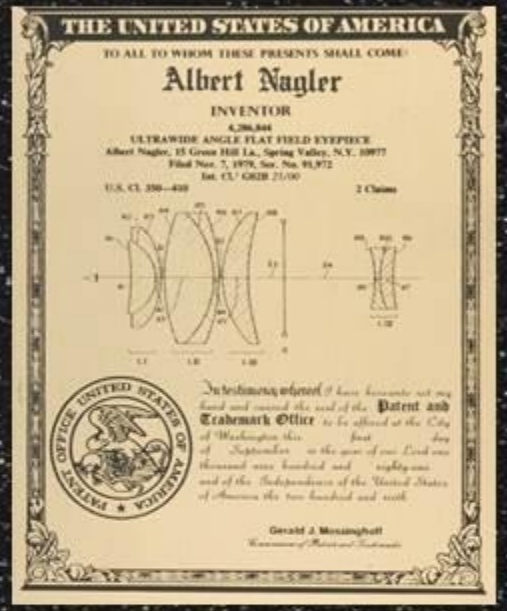
Al Nagler

Founder – Televue Optics

Topic: Thank My Lucky Stars

I Thank My Lucky Stars! ...

– Al Nagler


THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Albert Nagler

INVENTOR

4,286,844

ULTRAWIDE ANGLE FLAT FIELD EYEPIECE

Albert Nagler, 15 Green Hill Ln., Spring Valley, N.Y. 10977

Filed Nov. 7, 1979, Ser. No. 91,972

Int. Cl.³ G02B 25/00

U.S. Cl. 350—410 2 Claims

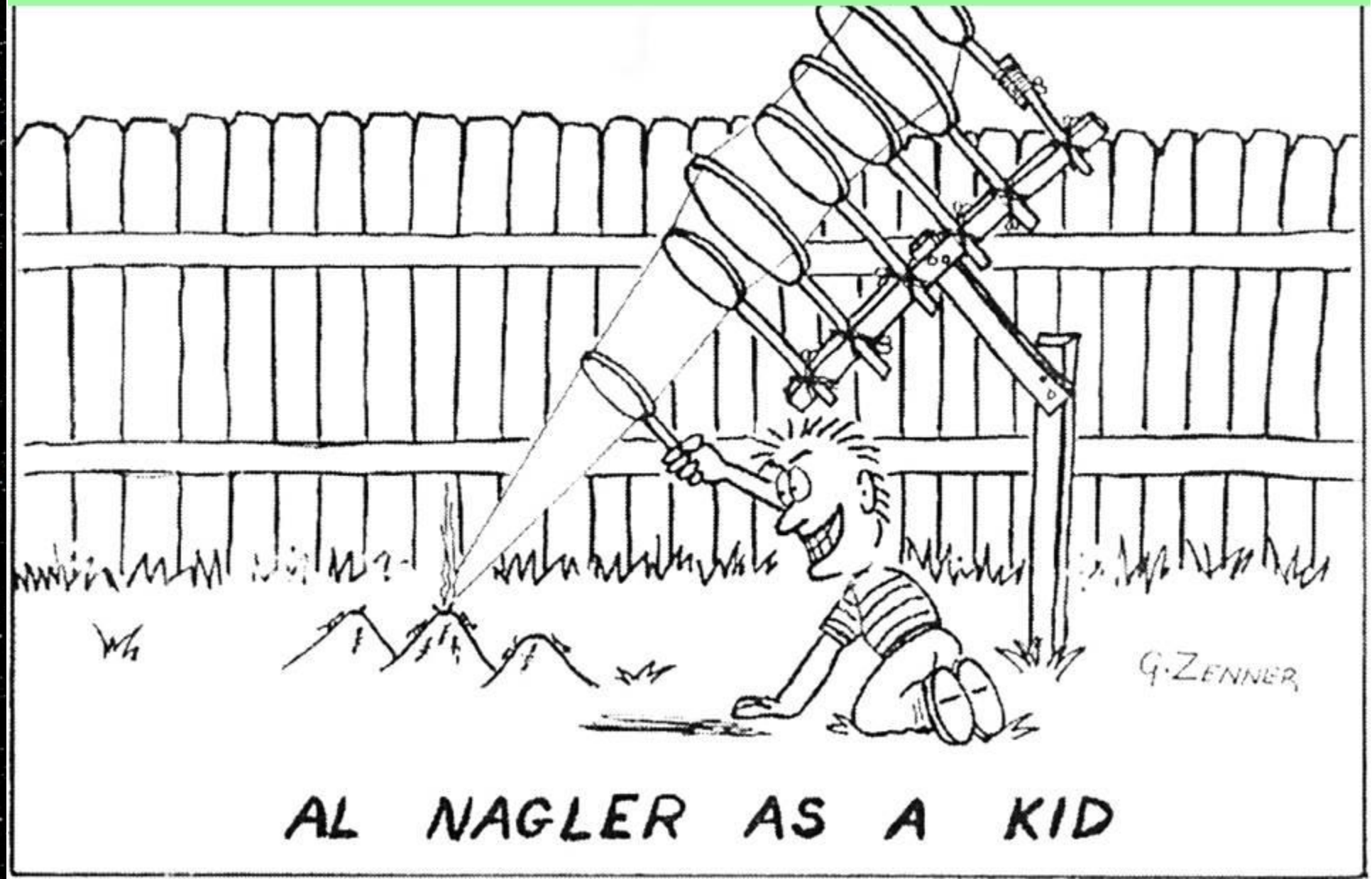
In testimony whereof I have hereunto set my hand and caused the seal of the Patent and Trademark Office to be affixed at the City of Washington this first day of September in the year of our Lord one thousand nine hundred and eighty-one and of the Independence of the United States of America the two hundred and sixth.

Gerald J. Mossinghoff

Commissioner of Patents and Trademarks

How a kid from the Bronx, with a love for astronomy, went on to create optical systems that bridged astronaut training with products to enhance the visual impact of our wondrous universe.

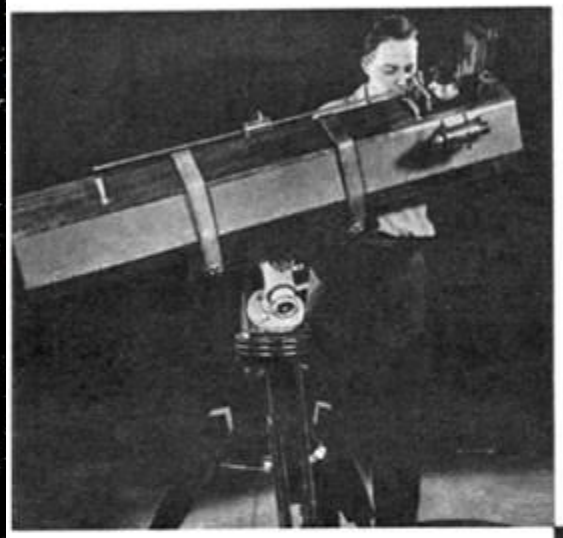
This appeared in an Australian astronomy magazine. Caption is NOT TRUE! Growing up in the Bronx, we eliminated ants by dropping "Spalding" rubber balls on them!



How I Became an Amateur Astronomer

My father took me to the Hayden Planetarium, where I joined the Junior Astronomy Club and made this model of the 40”Yerkes observatory refractor for their museum exhibit.

The Amateur Telescope Maker's Page



This unusually designed instrument is the result of a high school student's first attempt at the construction of a telescope.

Albert Nagler at the business end of his eight inch reflecting telescope. Picture below is a closeup of eyepiece assembly and the finder.

Reflecting Telescope

EVERY fervent amateur astronomer must of necessity eventually become an amateur telescope maker. There are no commercial telescopes in a low price range that have the advantage of a large light gathering system and a mounting capable of coping with all weather conditions. This telescope has these advantages and yet is still portable. The word "portable" does not

The adjustable spider holding the prism consists of three thin brass vanes bolted to a 1½x2 in. brass cylinder.

The declination and polar axis. Note the leather straps used to hold tube to saddle.

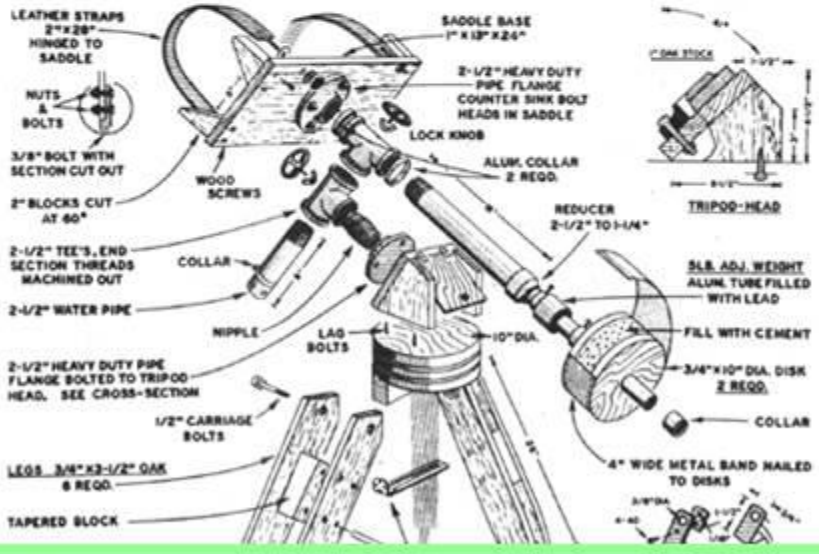
The space beneath the polar axis houses a small box to store extra eyepieces.

full evening's work with the stars.

This telescope is an eight-inch Newtonian reflector with a focal length of 52 inches. It was built in the shop of the Bronx High School of Science of New York City. The entire project was completed in eight months' time for less than $100. The telescope weighs about 150 pounds and can be set up in ten minutes. The eight inches of aperture bring into view thousands of faint galaxies, some below the 13th magnitude.

A most beautiful sight is the famed Hercules globular cluster. Resolved into myriads of sparkling stars, it is always breathtaking. Other spectacular objects are the double cluster in Perseus; the Great Nebula in Orion and the Andromeda Galaxy. Of course the planets always present a thrilling sight. A transit of one of the moons of Jupiter appearing as a black dot on the disk of the planet is a never to be forgotten sight.

The tube is a wooden hexagon. It is inexpensive, strong and makes the addition of accessories simple. The tube is



At the Bronx High School of Science, I designed & built an 8" reflector which got me the shop award at the graduation, along with the opportunity to write this article for *Mechanix Illustrated* on its design and construction.

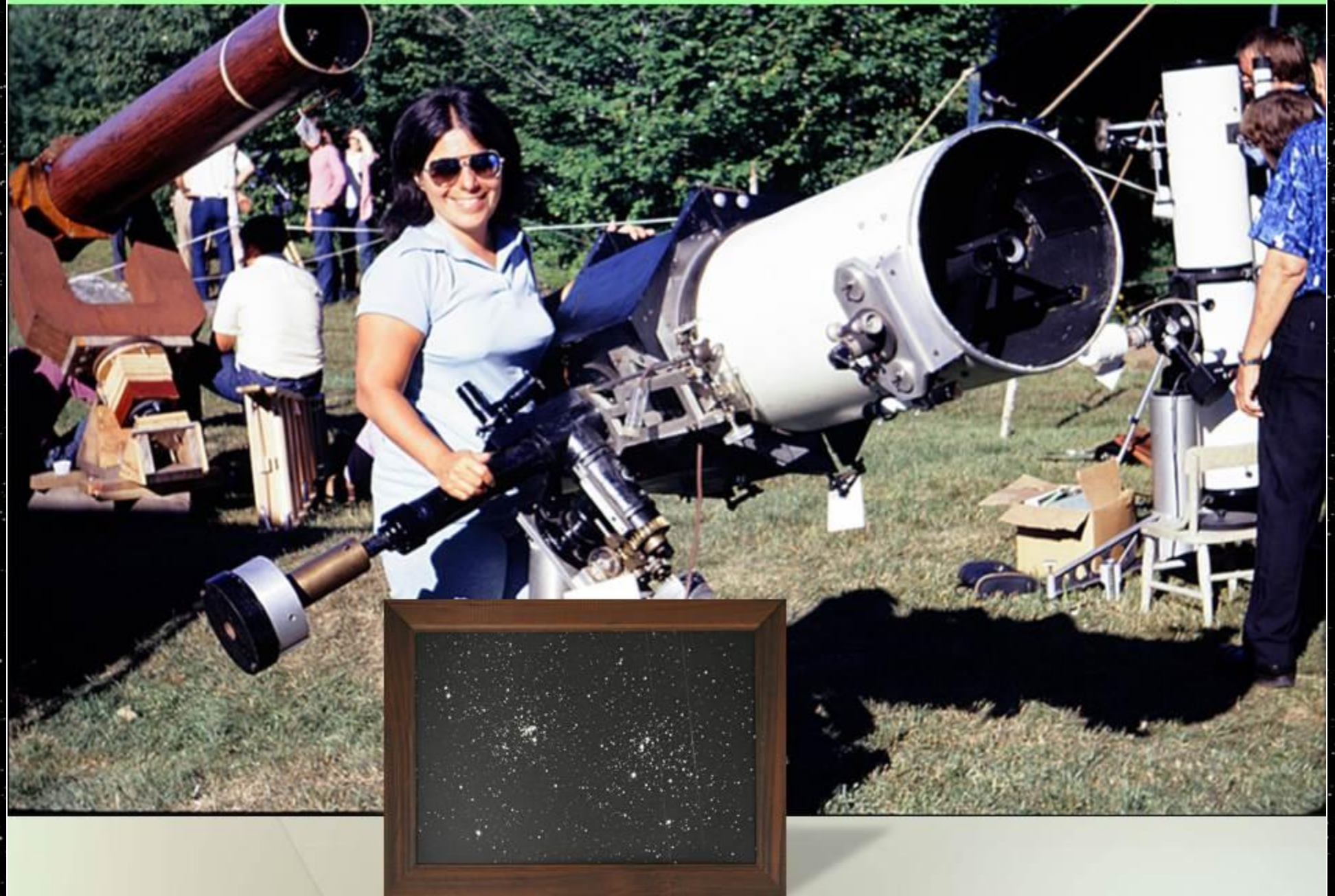
Many years later, I re-connected with my shop teacher, Charlie Cafarella, and gave him a brass telescope from the company my wife Judi and I started in 1977.

I brought my high school scope to *Stellafane* in Springfield, VT, where amateur telescope making began in the US. In 1958, getting 3rd prize kept my enthusiasm growing.

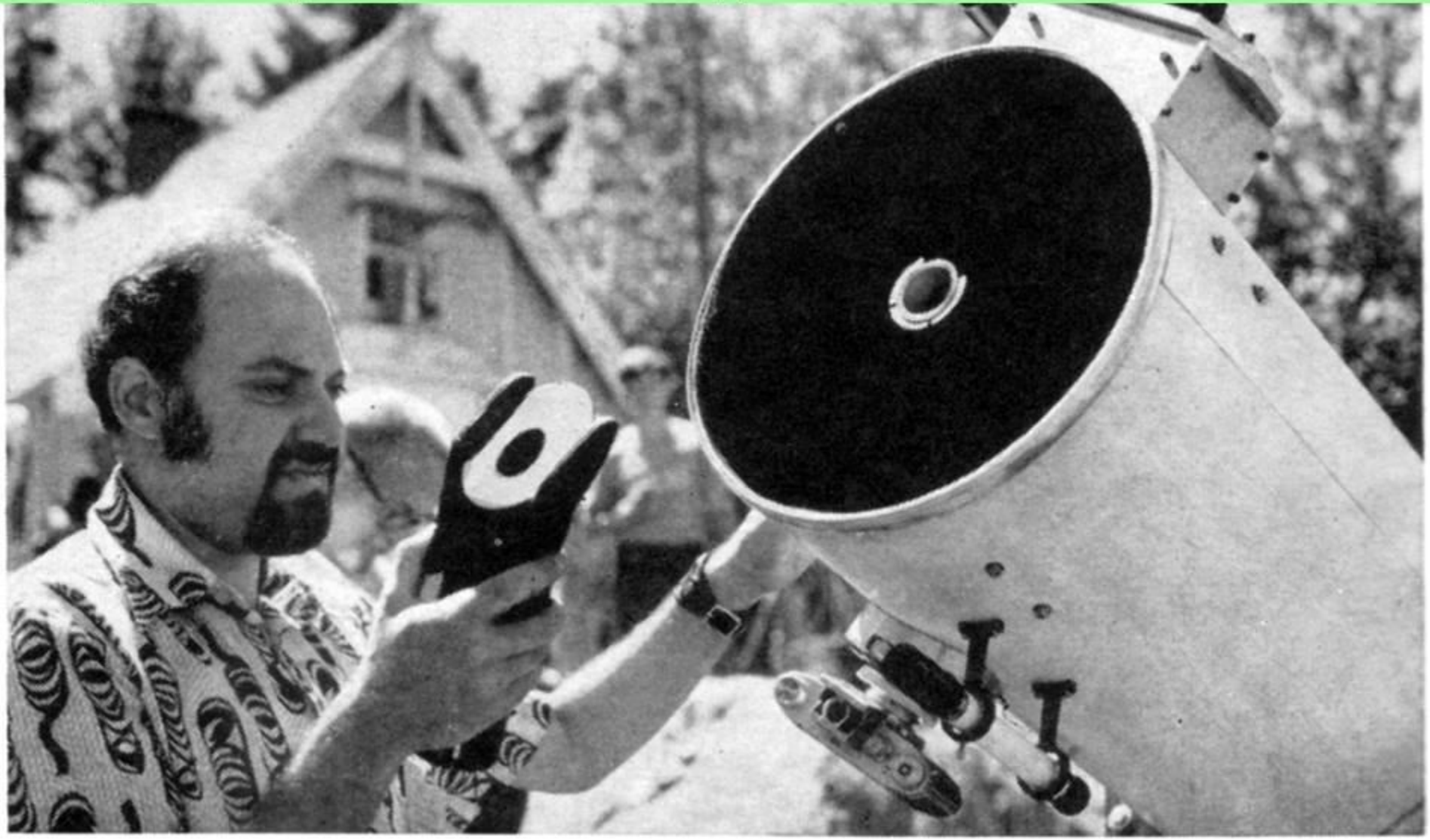
Stellafane features an observatory and clubhouse, and hosts thousands of amateurs at annual conventions. Look at the size of that amateur scope with the man walking up the tube ☺.

And here is the world's first *radio* telescope shown at Stellafane ☺.

My wife Judi with my 12” upgrade to my high school scope, along with an 80-minute film exposure picture of the Double-Cluster taken with the scope.



Getting "first prize for a Newtonian" at the convention along with this picture in *Sky & Telescope* in 1972 was much appreciated.

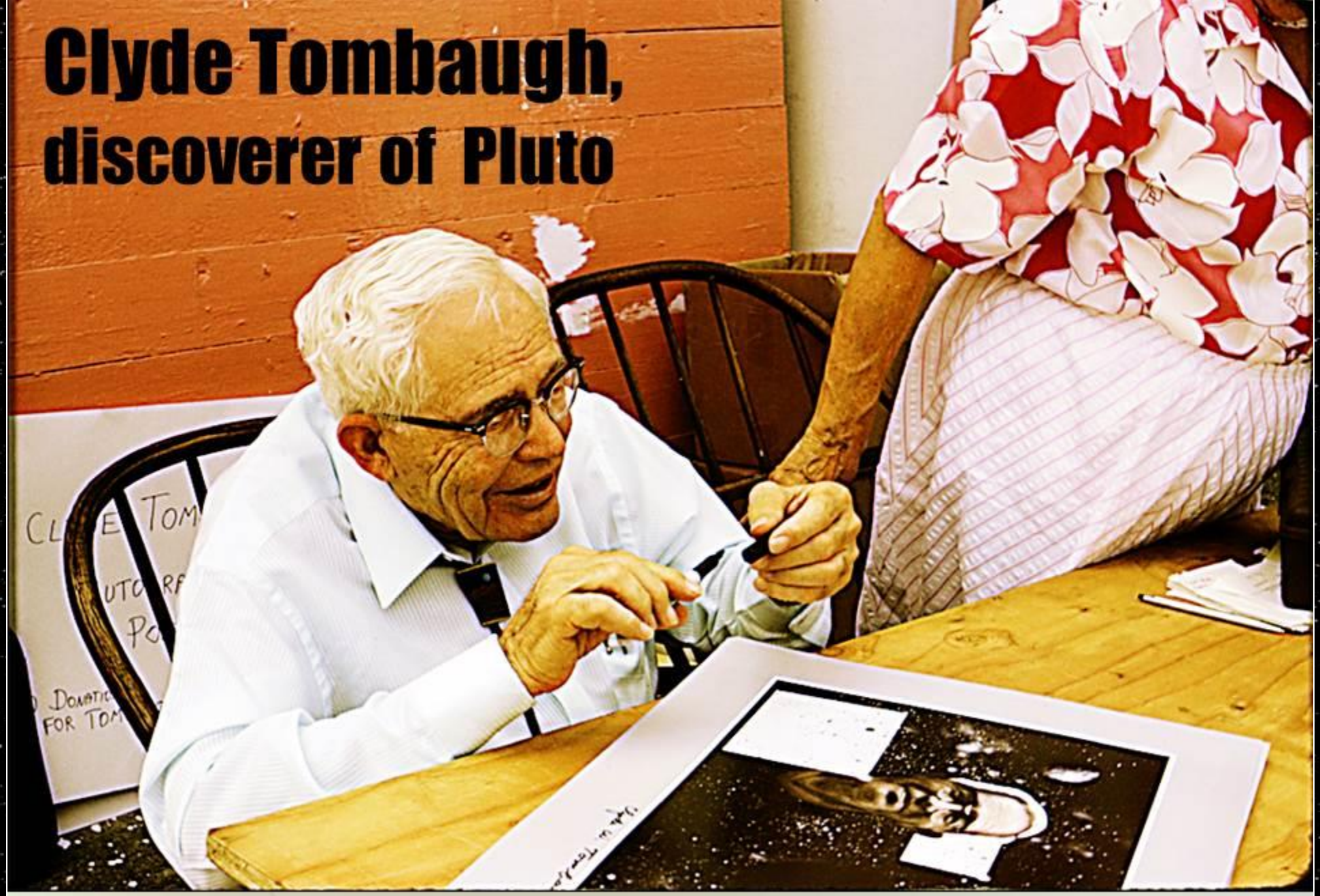


Above: Albert Nagler with the perforated diagonal of his 12-inch reflector, which is described in the text.

Credit: Roger W. Sinnott. Published in *Sky & Telescope*, Oct. 1972.

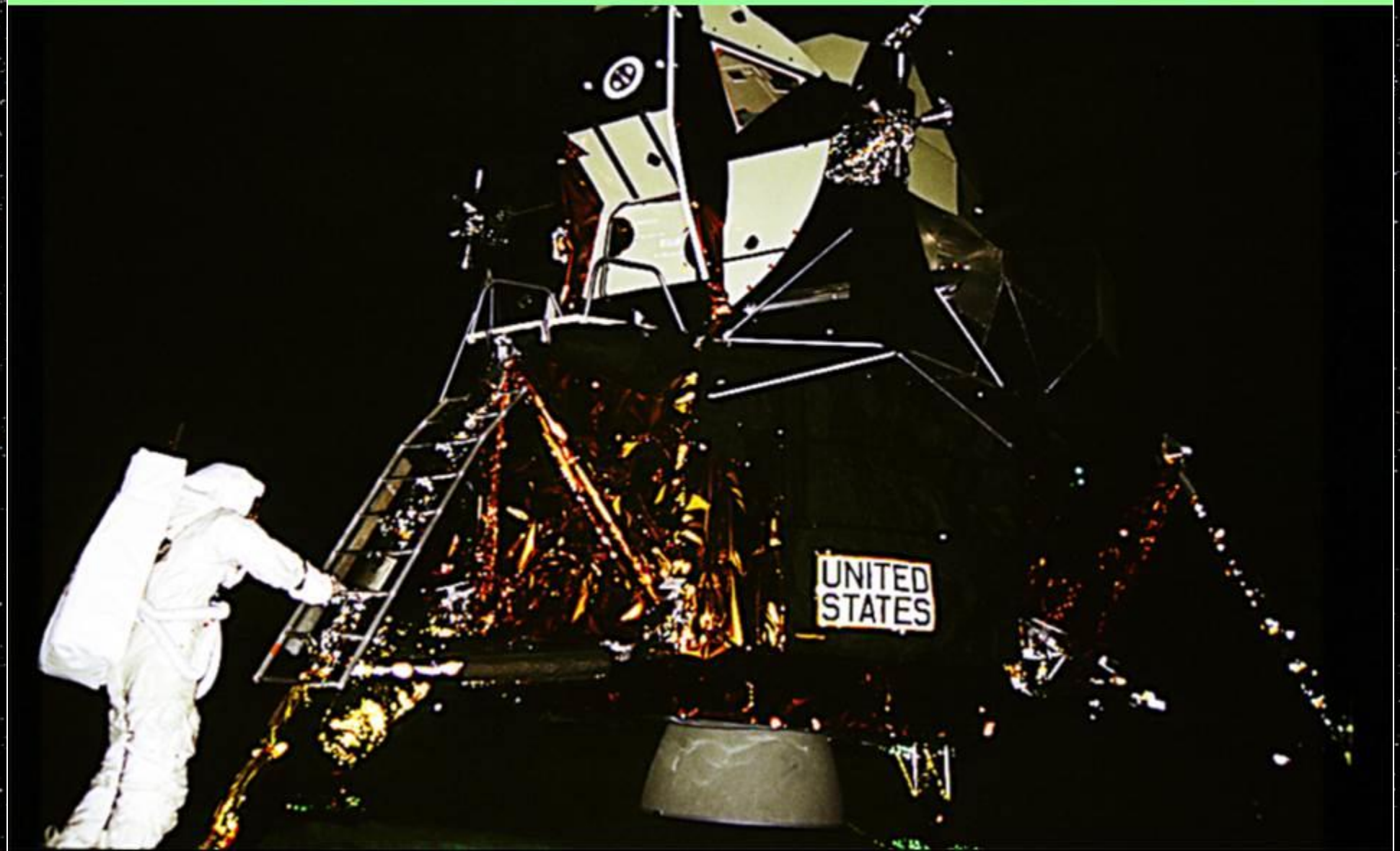
My son David, and daughter-in-law Sandy, greeting Hulan Fleming, amateur astronomer and artist I commissioned to paint a family portrait at my favorite place in the world.

Family portrait at Stellafane in 1989. Lining up for family viewing from right to left: me, our family cat, wife Judi, daughter Meryl, her husband Michael Budnick, David and Sandy.

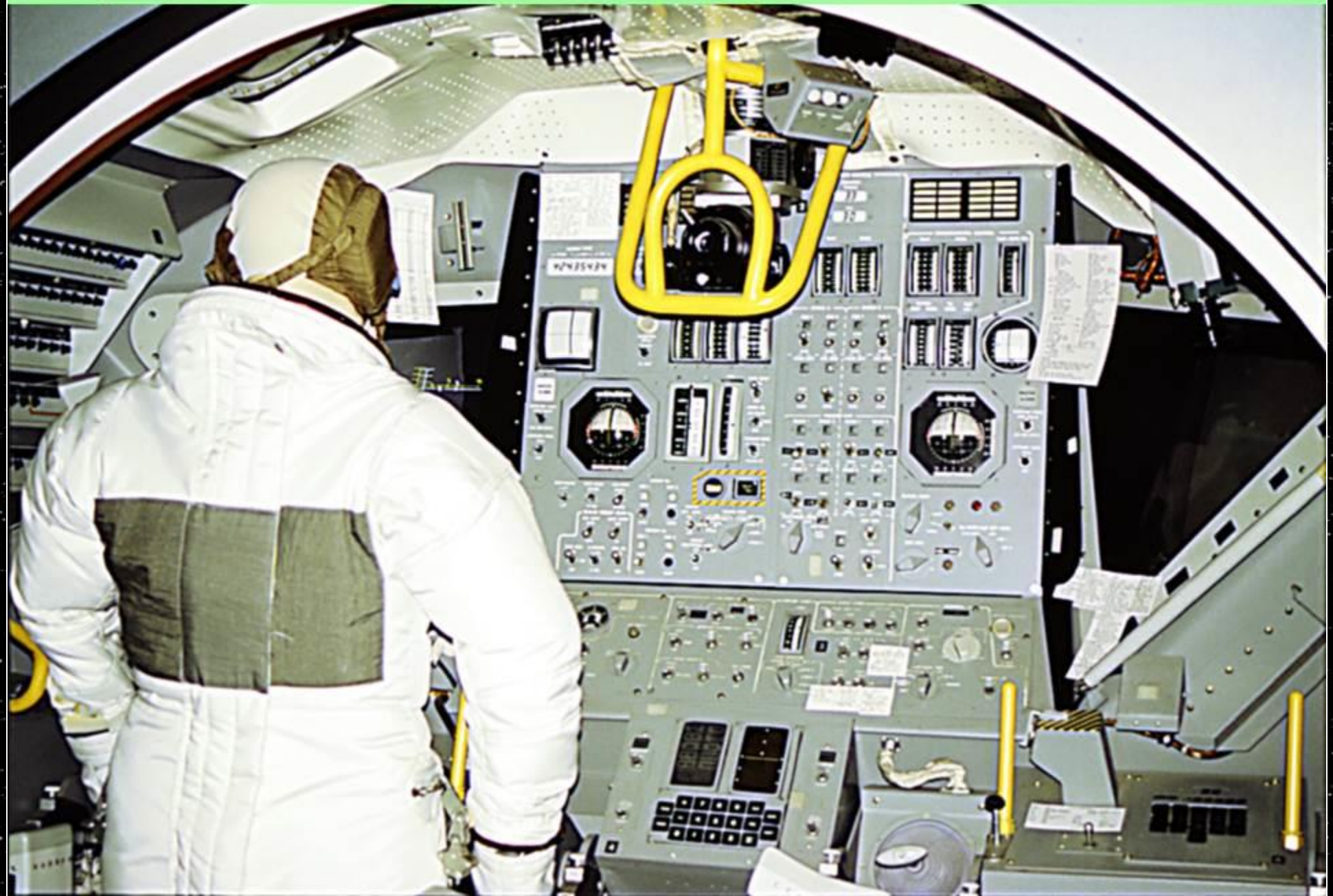


Talk about honored Stellafane guests ☺.

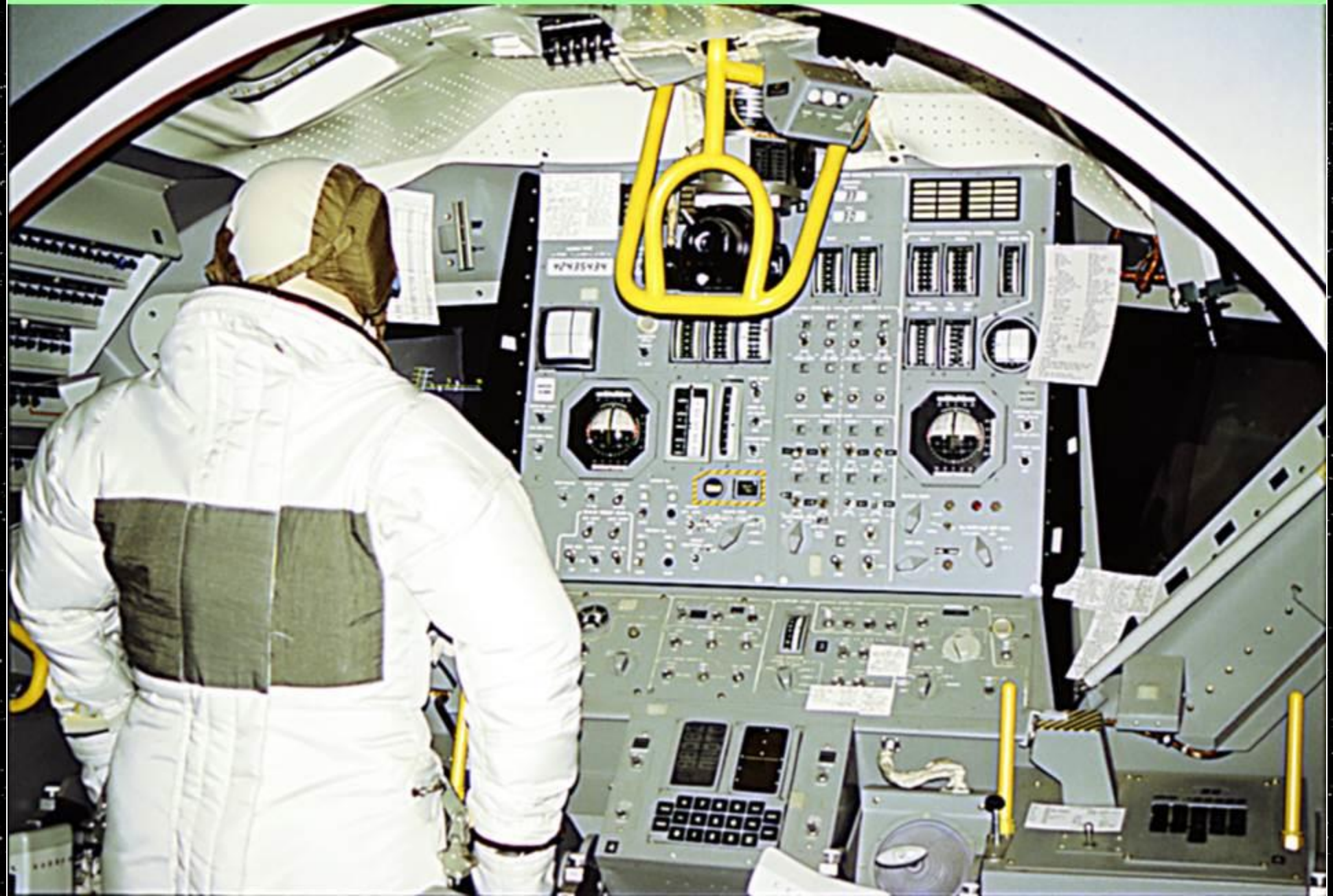
In 1957 I joined Farrand Optical Company and learned optical design to work on many projects through 1973. Imagine being asked to design the optics for the Gemini and Lunar Module simulators that trained our astronauts for lunar landing? I accepted the project ☺.



An astronaut inside the simulator viewing through one of the Lunar Module triangular windows.

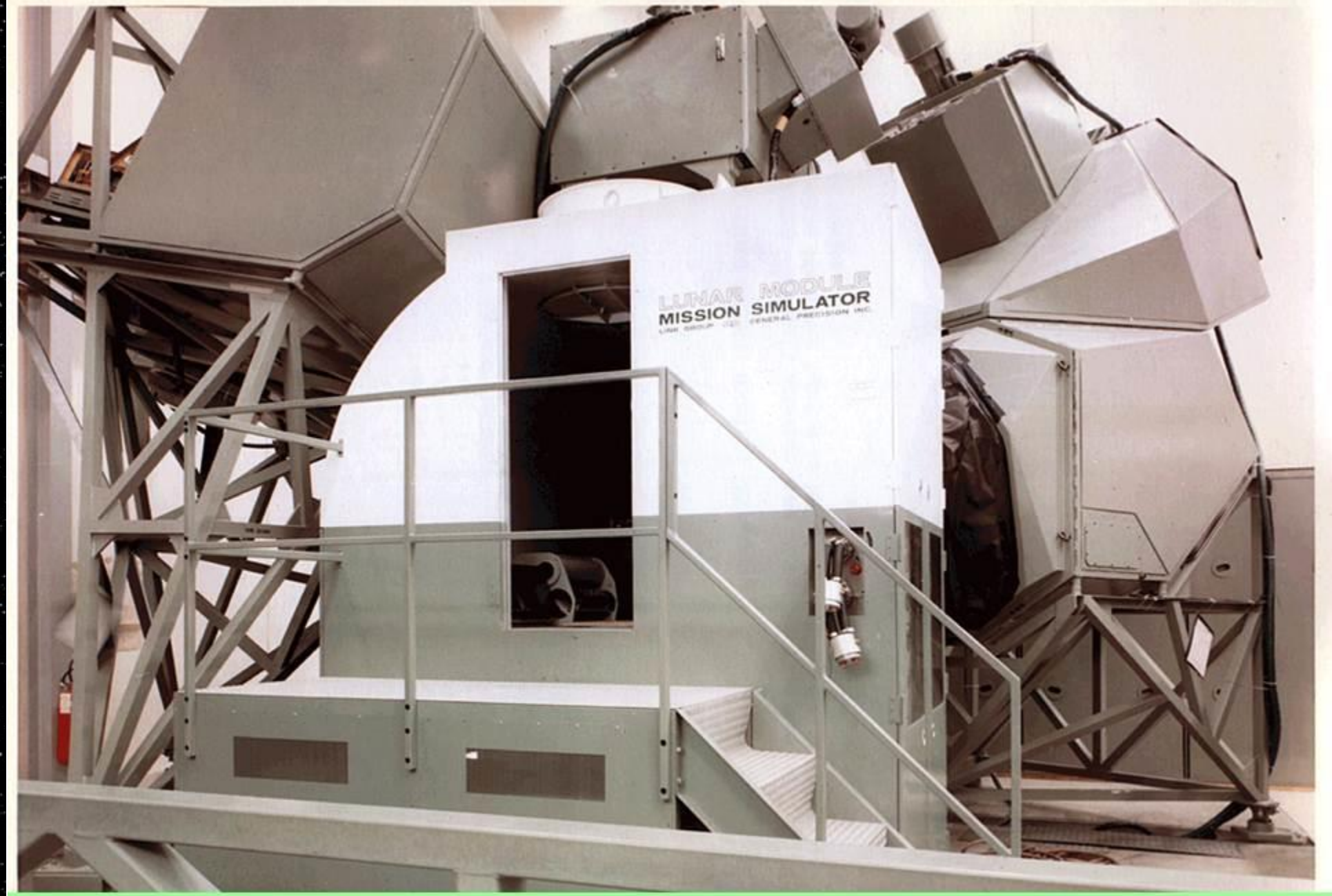


An astronaut inside the simulator viewing through one of the Lunar Module triangular windows.



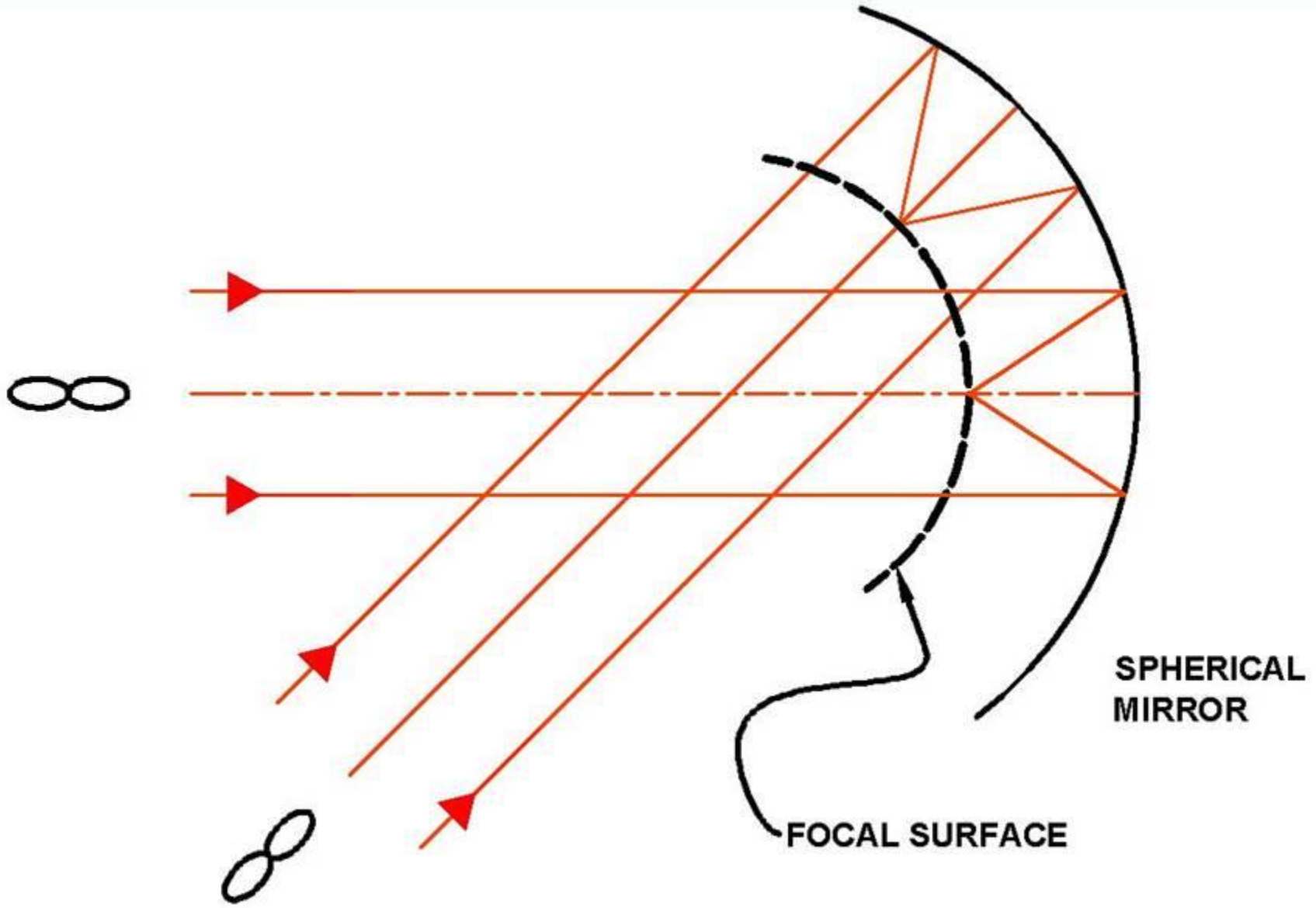
The simulator projected infinity images of the stars and the lunar surface through the Lunar Module's triangular windows.

Matt, Marty, & Al are standing in front of Apollo Lunar Module Simulator window.
This simulator is being restored at TechWorks! Museum in Binghamton, NY.

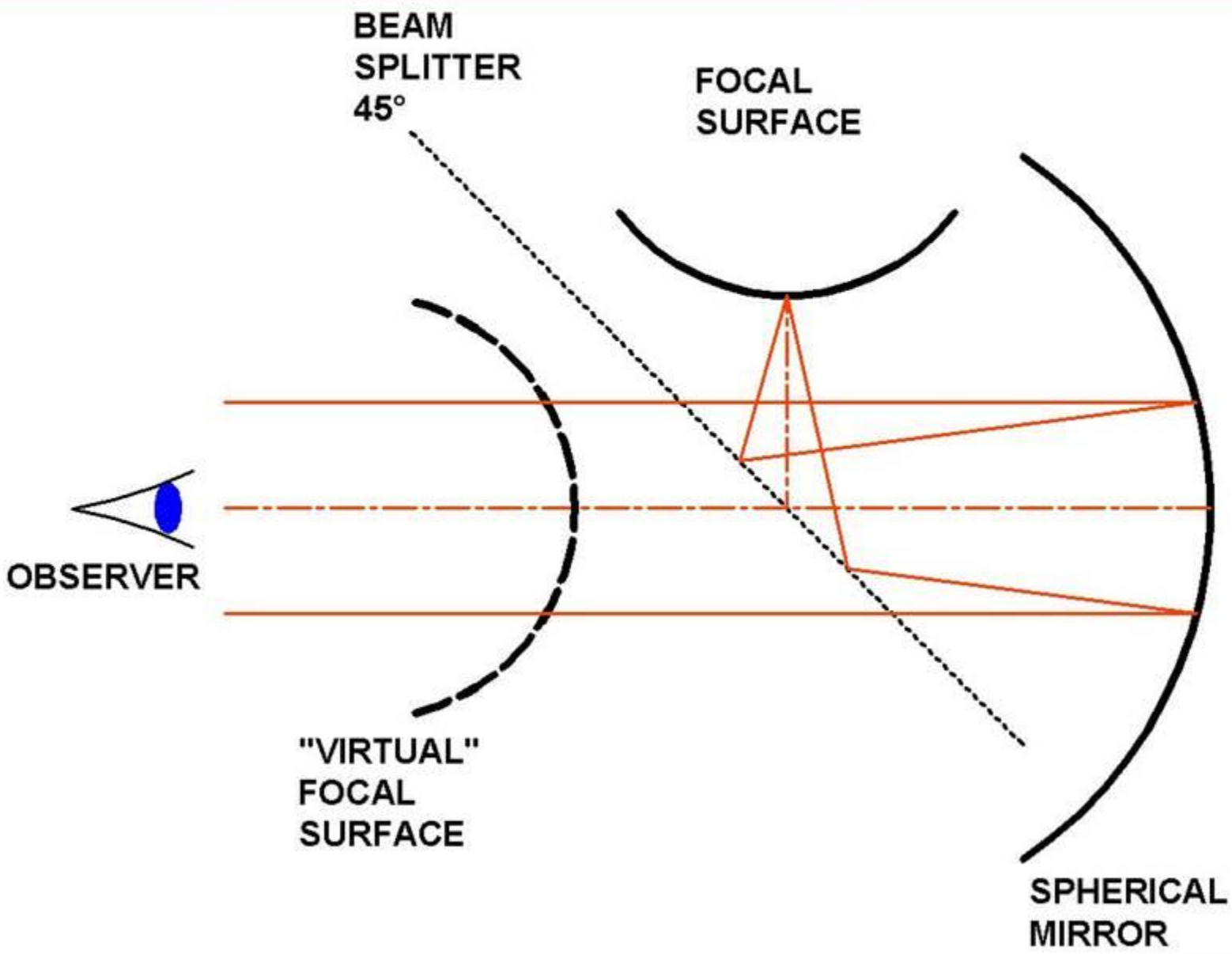


“Giant Eyepieces that Swallow Spacecraft” – an alternative title for this presentation ☺.

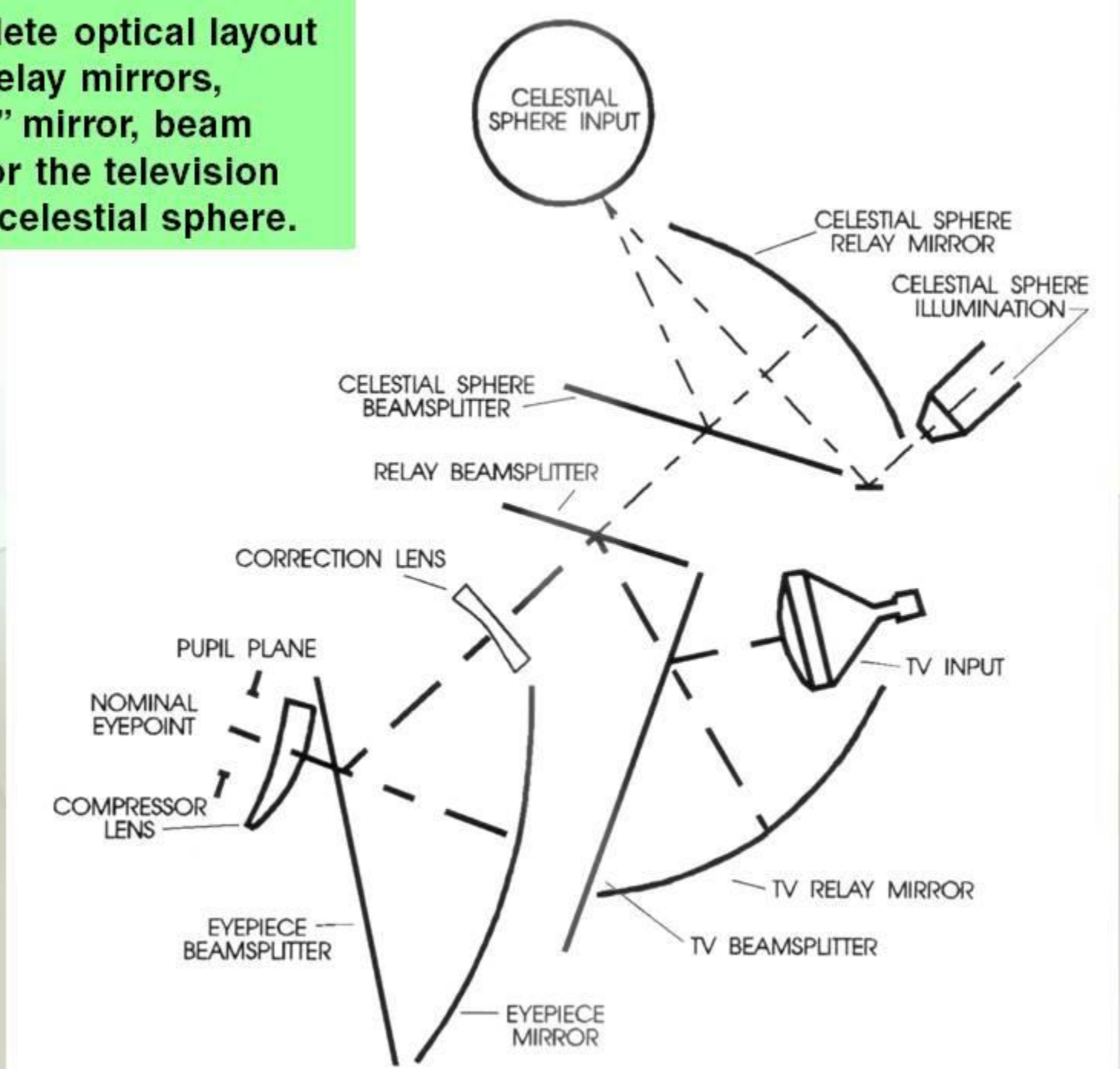
The optical principle of the "giant eyepiece" (in reverse) using a mirror to project the image from a 36" spherical television screen or celestial sphere to infinity.



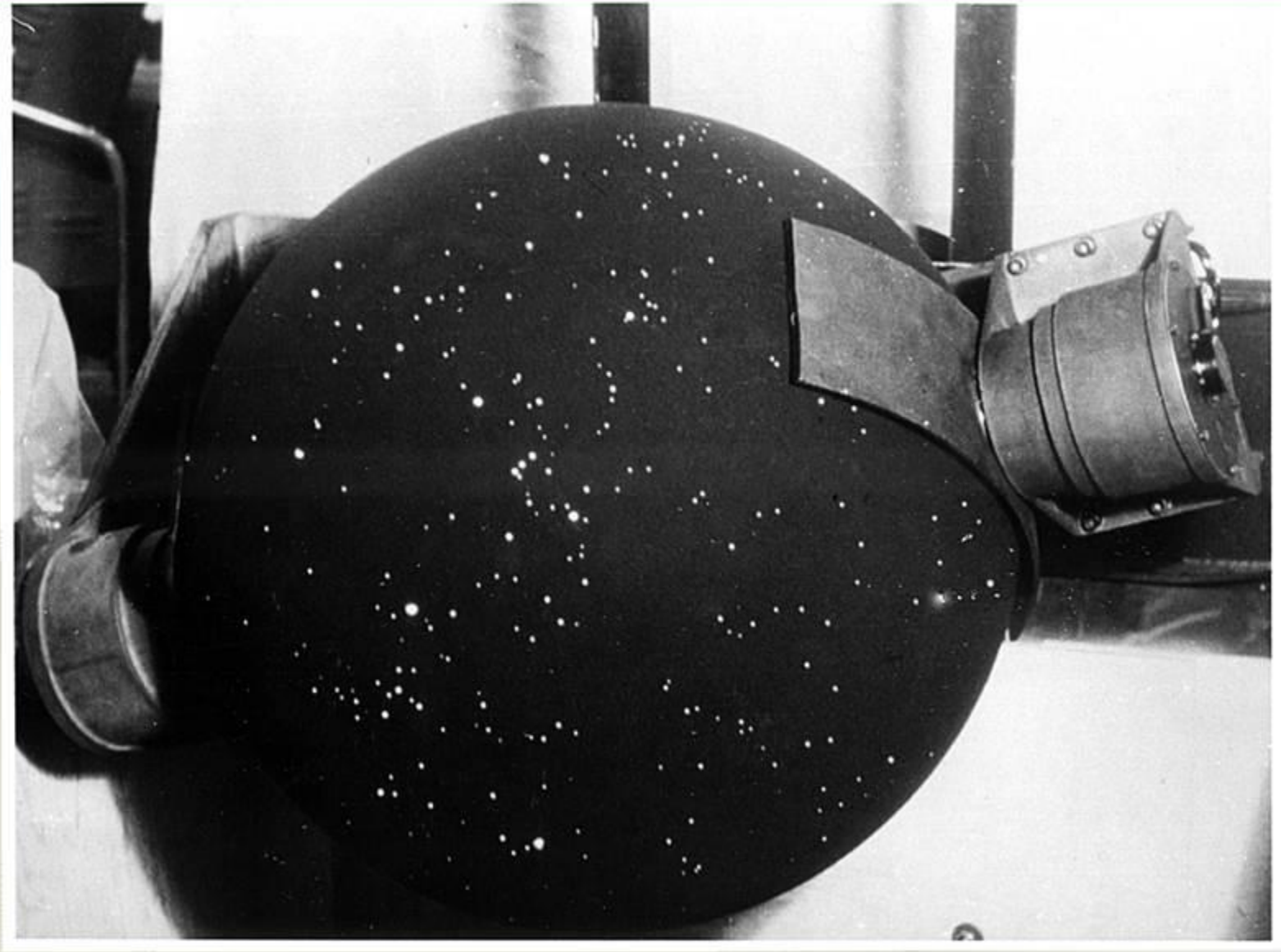
Of course beam splitters were needed to project the focal surface to the viewing location. As an “eyepiece”, the Lunar Module simulator specs were: Field-of-View: 110°, eye-relief: 1-foot, exit pupil: 1-foot.



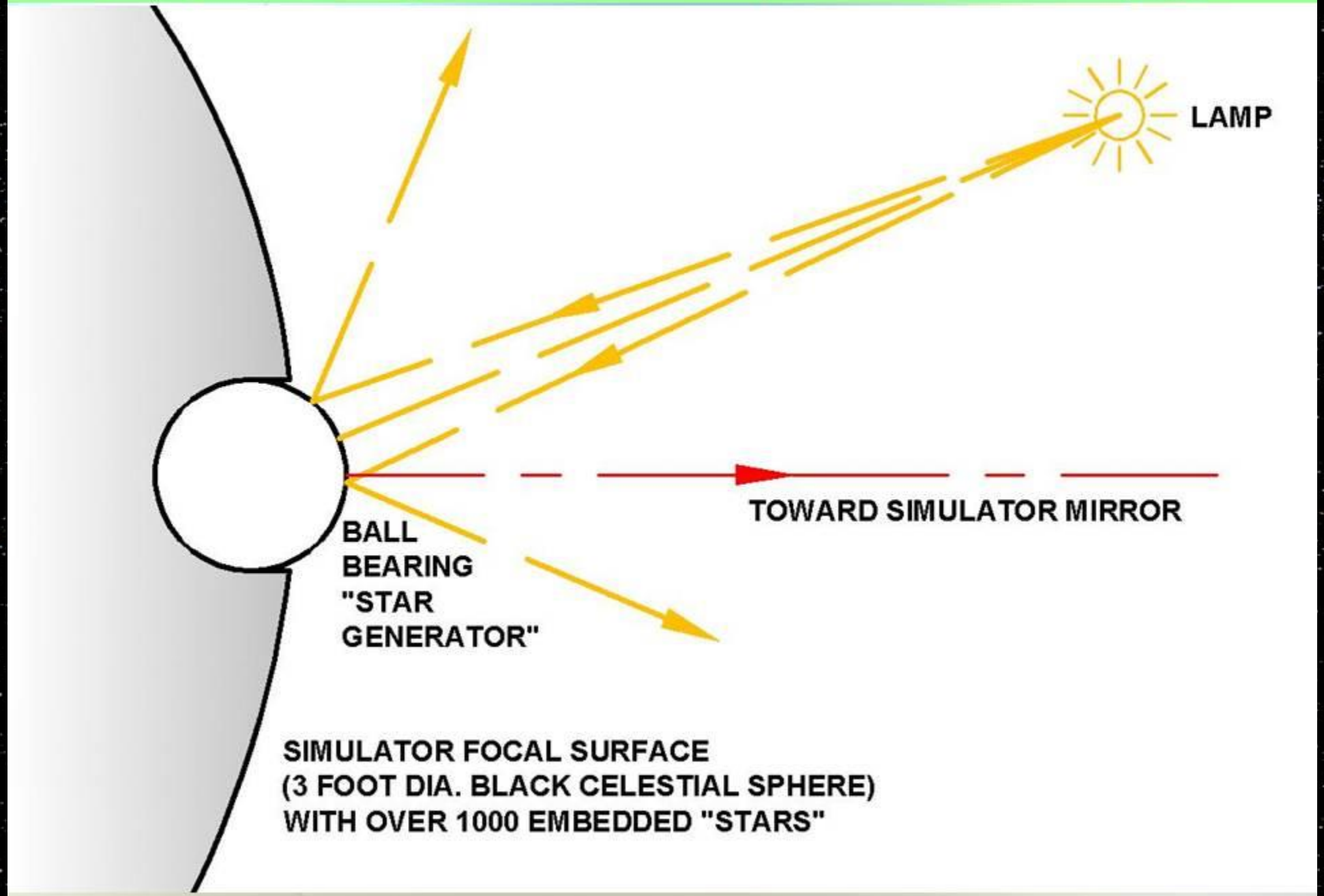
The complete optical layout showing relay mirrors, “eyepiece” mirror, beam splitters for the television input and celestial sphere.



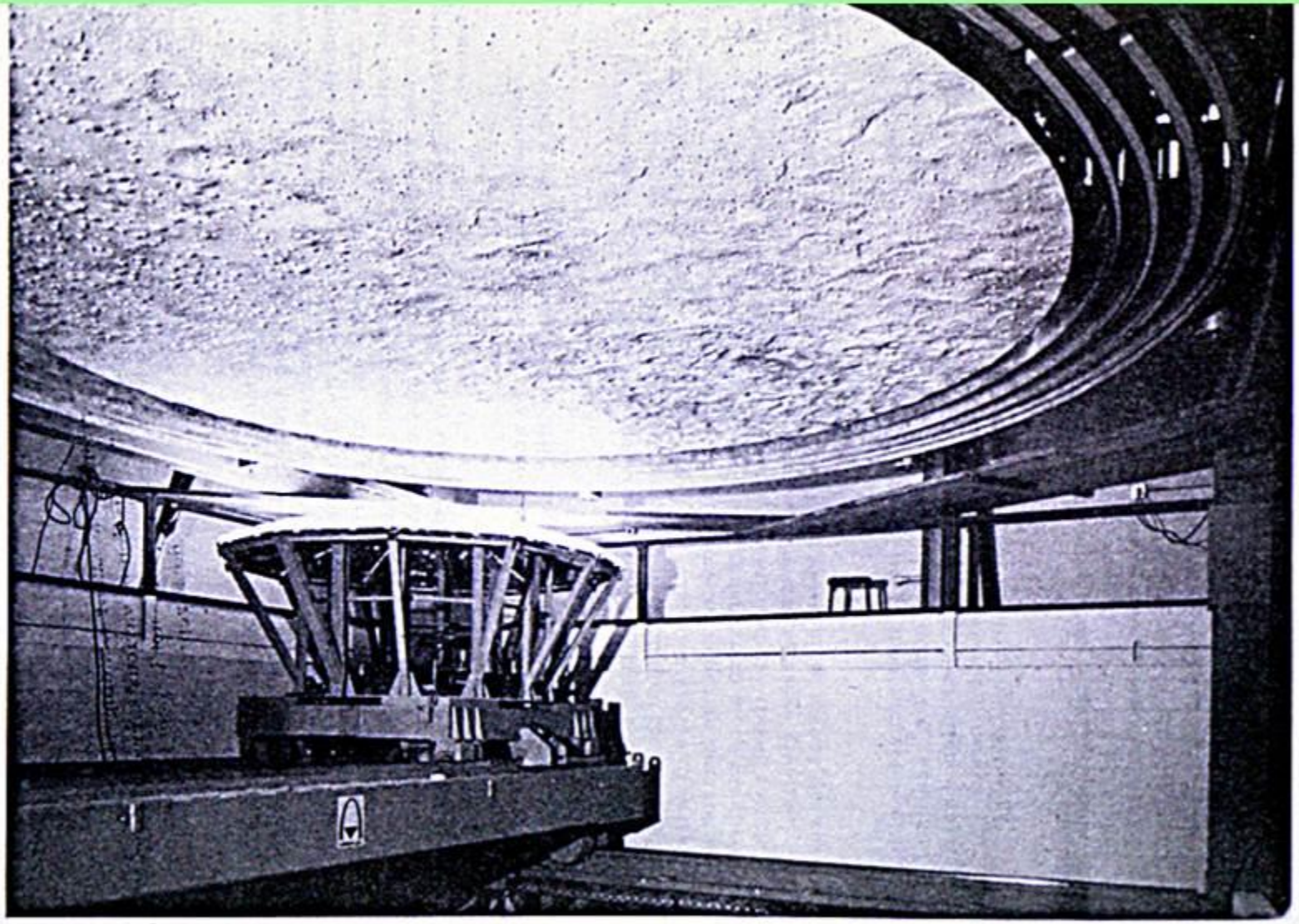
A 3-foot diameter black aluminum sphere with 1,000 embedded ball bearings for stars to 5th magnitude showed such natural star images. I secretly had the ball bearings for Betelgeuse, Aldebaran, and Antares gold plated as my amateur contribution ☺.



The principle of creating ideal artificial stars (which I use even today ☺).

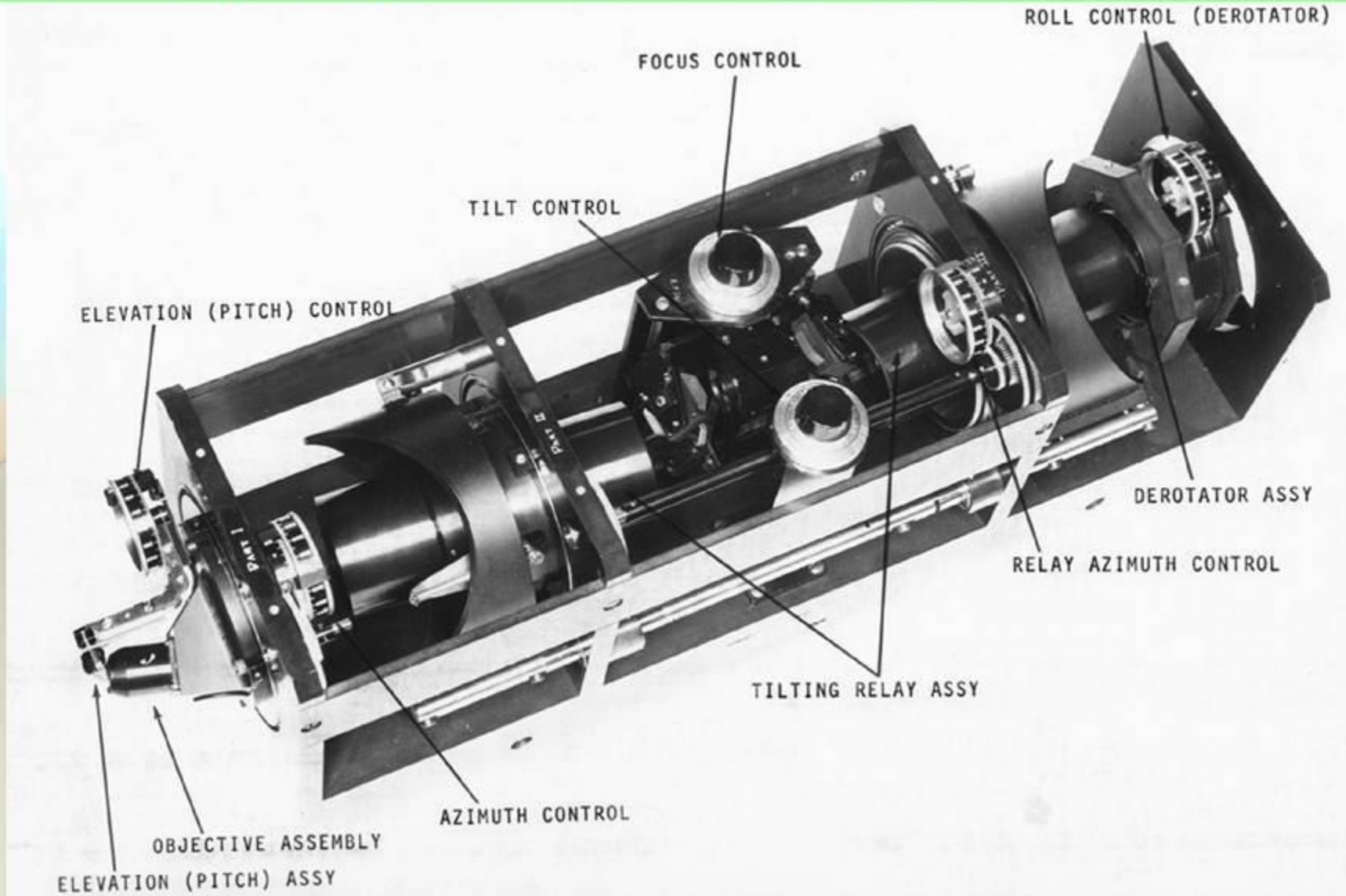


A 3D lunar model viewed by an “optical probe” camera that moves vertically and horizontally provide “landing views” on the 36” television input to the simulator.



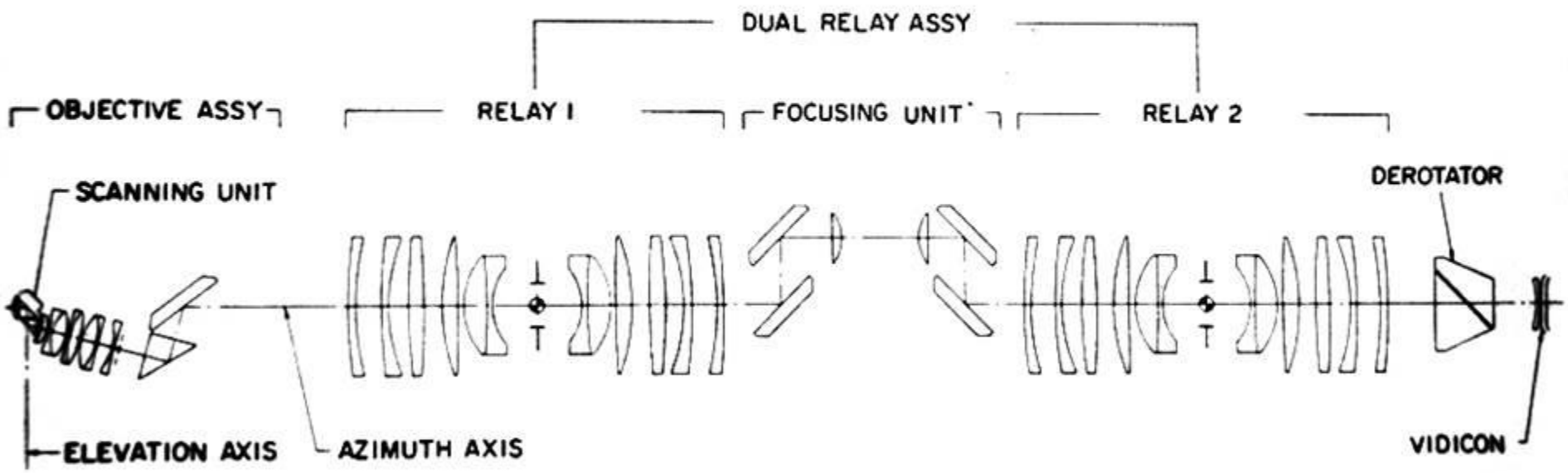
LUNAR MODEL AND THREE AXIS TRANSLATIONAL DRIVE SYSTEM
(LUNAR VIEW SHOWING LUNAR MODEL AND X AND Y CARRIAGES)

Al Nagler's design of a 140° *Optical Probe* camera for a more complex version for aircraft landing training illustrates the same principles as the Lunar Module probe system.

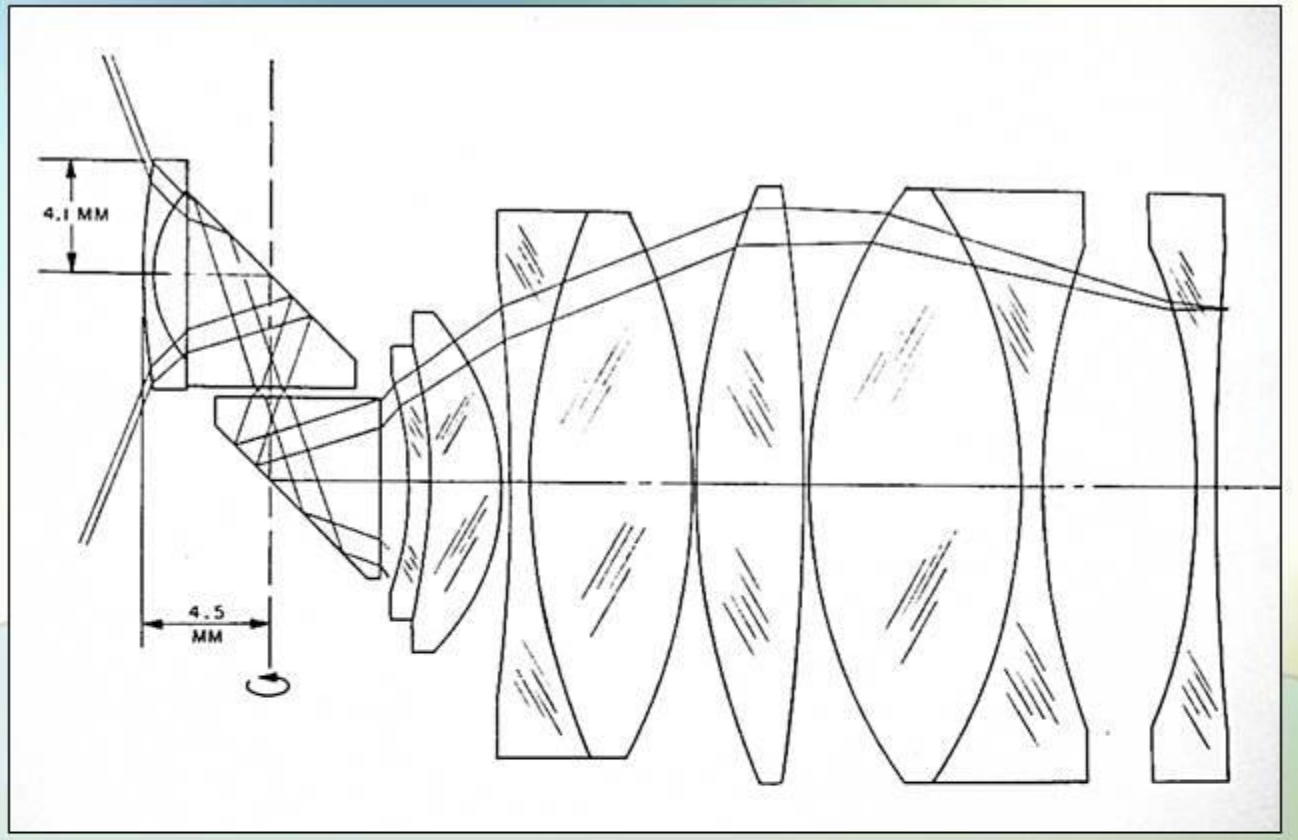


140° PROBE - ENGINEERING FEASIBILITY MODEL

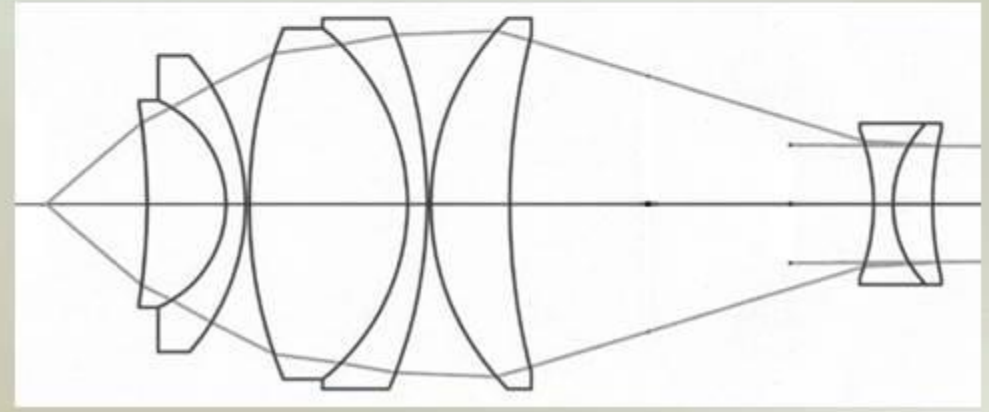
Using tilting relay lenses with a small objective lens with scanning prisms permitted focusing just ¼-inch above the lunar model while keeping the entire view in focus during the simulated landing training.



The probe's objective lens, with external pupil (embedded between tilting sapphire prisms) and a negative correcting lens near the focus led Al Nagler toward his dream years later. In 1977, along with his wife Judi, he founded Tele Vue Optics to realize his goal of providing "spacewalk" eyepiece views through amateur telescopes.

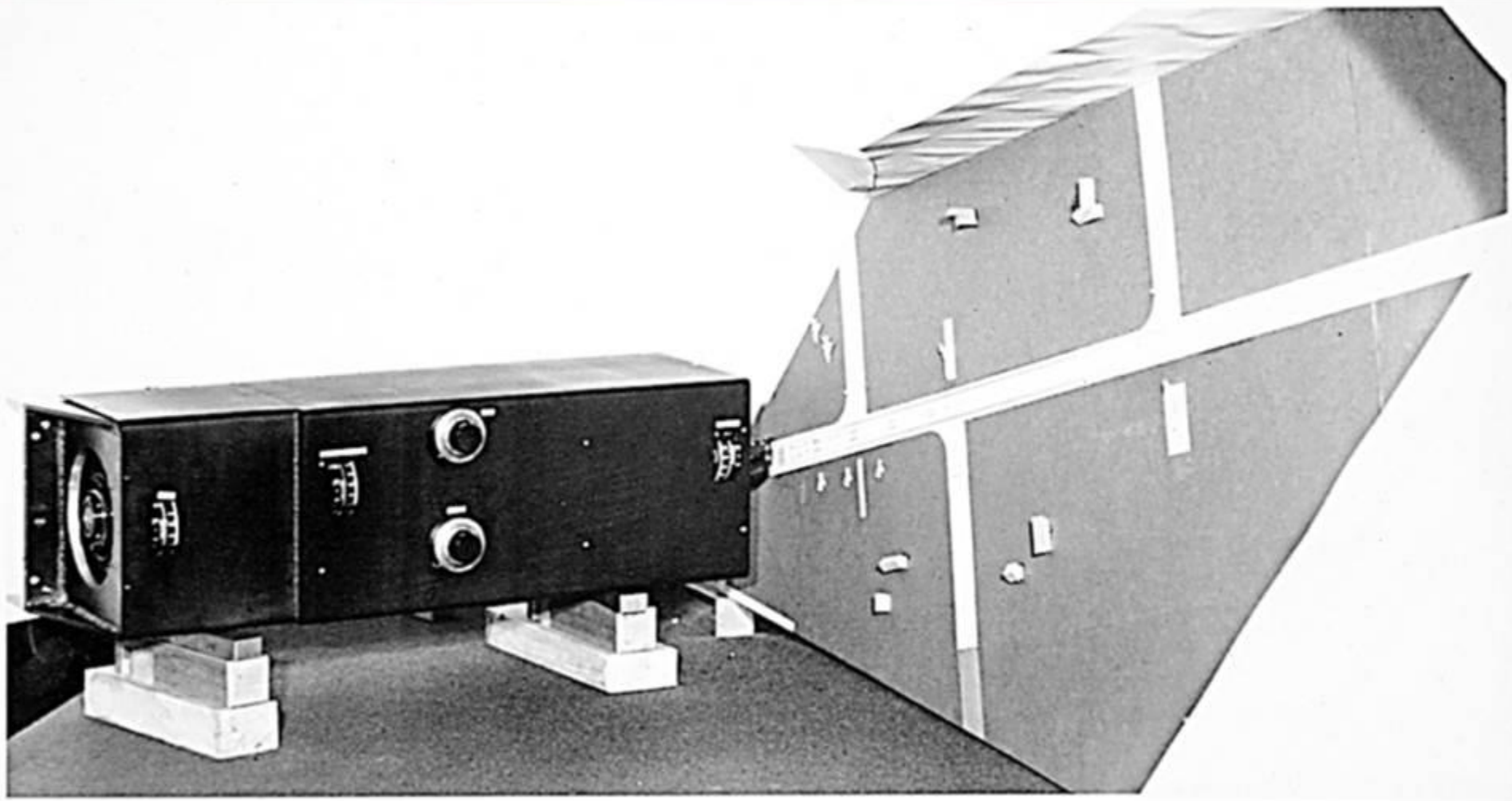


Optical Probe Objective (Inspiration for Nagler Type-I Eyepiece)



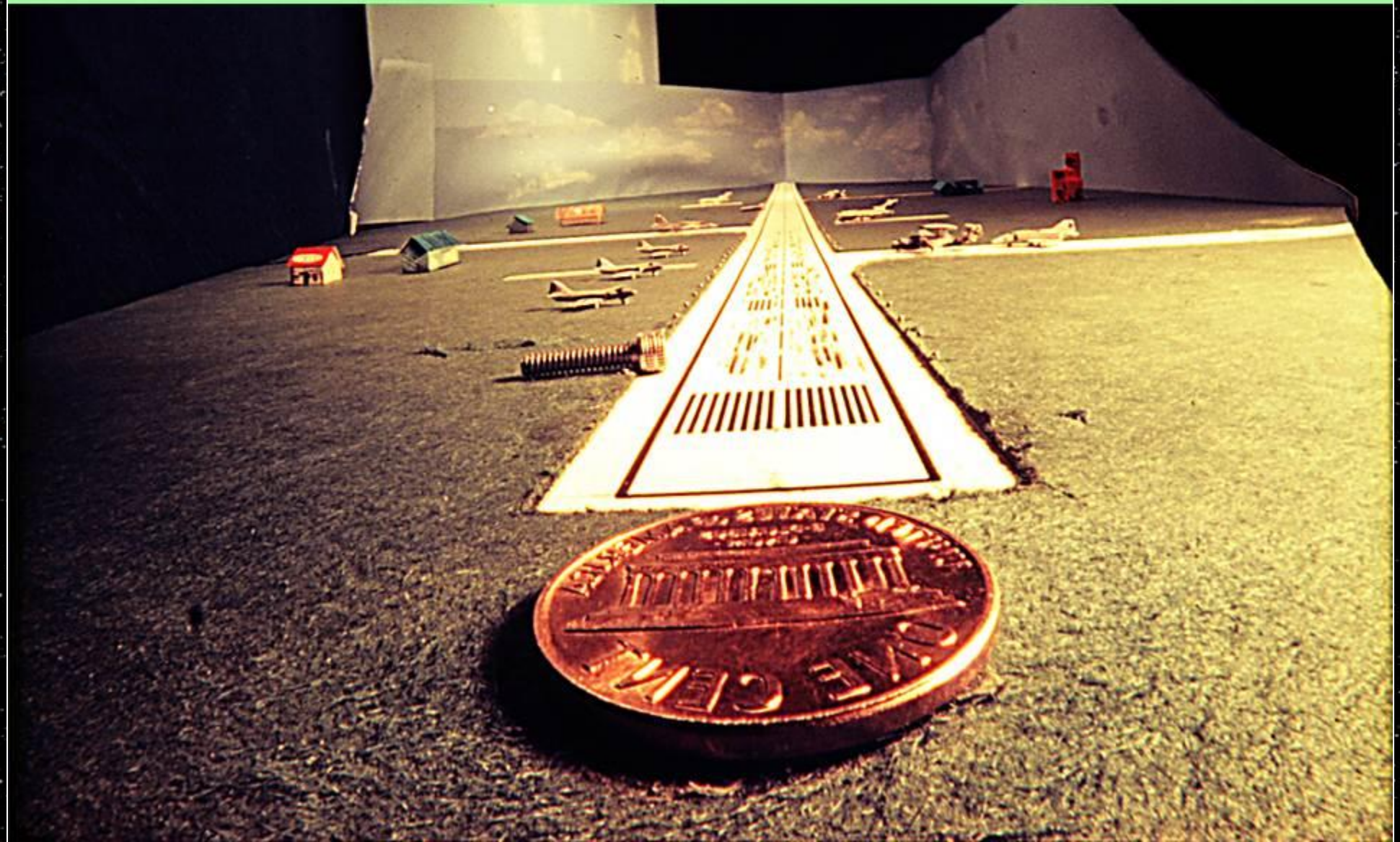
Nagler Type-I Eyepiece

To demonstrate Optical Probe performance with a 35mm camera body placed at the probe's focus, Al made a model airport runway.



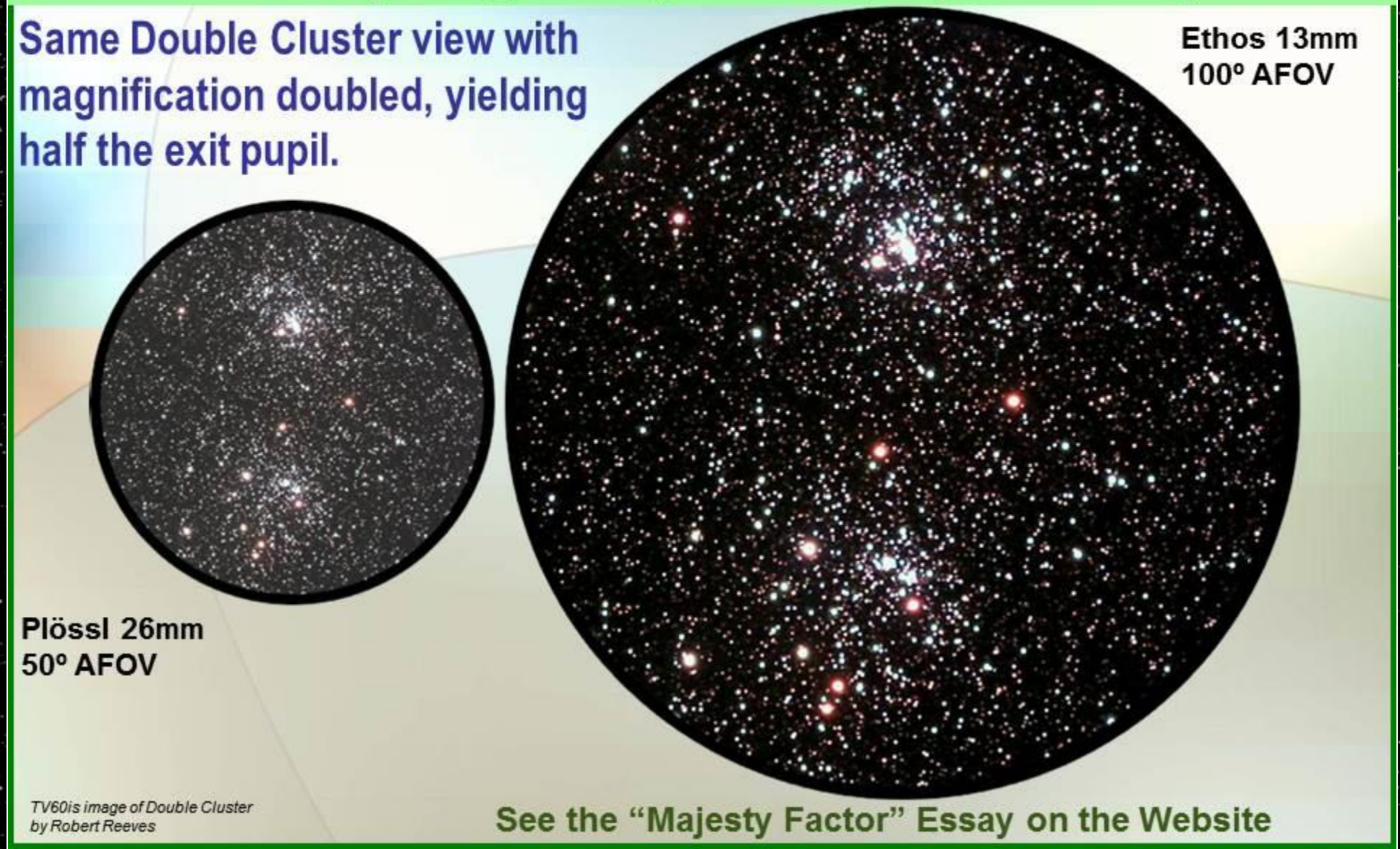
140° PROBE FEASIBILITY MODEL SHOWN AT MINIMUM ALTITUDE ON RUNWAY MODEL

Using a penny and a #4-40 machine screw parked on the paper "grass" illustrates the close focus, as well as maintaining full field focus of the surface parallel (not perpendicular) to the probe's viewing axis. (This is essential for lunar landing simulation as well.)



At the 2009 Stellafane convention where Alan Bean gave a magnificent presentation of his Apollo 12 voyage, Al met him at dinner and handed him a booklet on the simulator design with the cover marked "Dear Alan – Glad it worked!" ☺.

Paul Dellechiaie, with assistance from Al and David Nagler, in 2007 expanded eyepiece technology to 100° and 110°: the simulator views in the Lunar Module yielding wider, sharper deep sky eyepiece views than ever with darker sky backgrounds, per Al's *Majesty Factor* essay.



(Response from a Cloudynights.com user to *Majesty Factor* essay.)

World's Largest Astronomy Expo

Bringing you the Universe in two exciting event-packed days, NEAF is renowned worldwide as the ultimate astronomy experience. Nowhere else can you find so much in one place or at one time.

2015 Speakers

- **Marc Rayman,** Chief Engineer for the NASA/JPL Dawn Mission to Vesta & Ceres
- **Bill Gerstenmaier,** Director of NASA's Human Space Flight Program
- **Alan Hirshfeld,** U of Mass, Author of *Parallax* and *Starlight Detectives*
- **Peter Saulson,** Spokesperson for the LIGO gravity wave detection project
- **Matt Penn,** Chief telescope scientist, Kitt Peak McMath-Pierce Solar Telescope
- **Stephen Ramsden & Ben Jenkins,** Charlie Bates Solar Astronomy Project
- **Christopher Go,** Astro Imager
- **J. Kelly Beatty,** *S&T* Senior Editor
- **Dave Eicher,** *Astronomy* Magazine Editor-in-Chief

Al's efforts as board member of the Rockland Astronomy Club continues the development of the world's largest astronomy exposition, NEAF, with presentations by NASA scientists, astronauts and educators such as Neil deGrasse Tyson.

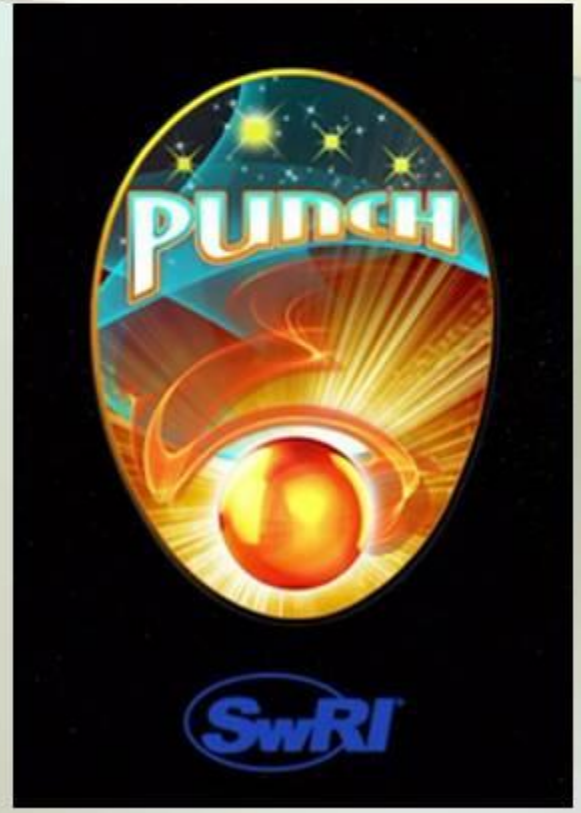
I Thank My Lucky Stars - Projects!

Project Apollo 11 / Punch

Paul Dellechiaie, Al Nagler, & David Nagler

To celebrate the 50th anniversary of the first Moon landing, and our simulator involvement, we developed the Apollo 11 eyepiece.

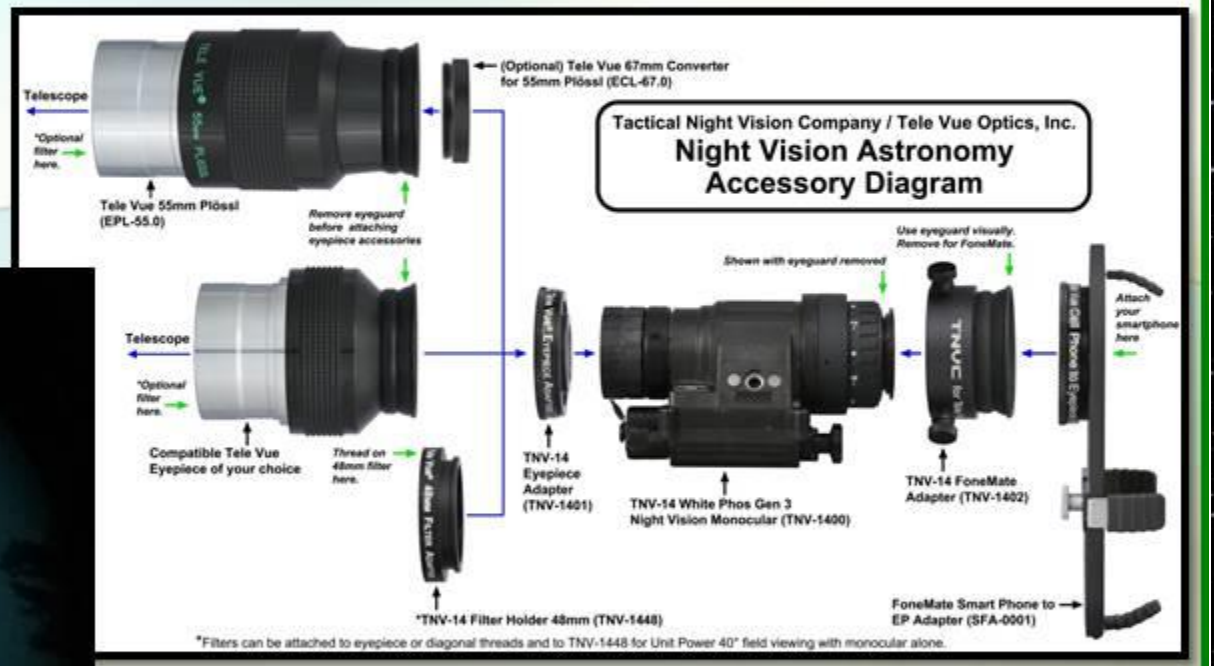
In June 2019, NASA selected Southwest Research Institute (SwRI) to develop satellites to launch in 2023 to explore how the Sun's atmosphere interacts with the planetary medium. This "PUNCH" mission (Polarimeter to Unify the Corona and Heliosphere) will use optics developed and built by Tele Vue for Al's first "space mission".



I Thank My Lucky Stars - Projects!

Project Night Vision

Night Vision Neowise by Al Nagler taken on Sunday, 12 July 2020 from northern New Jersey at about 4:15 am. Tele Vue-76 APO refractor + 67mm Plössl + TNVC, Inc. PVS-14 L3 Gen3 Un-Filmed White Phosphor night vision monocular + Tele Vue FoneMate + Samsung Galaxy J3 smartphone.



What Dennis di Cicco said about our Night Vision in *Sky & Telescope*

- The versatility … just might make it a game changer in the world of amateur astronomy.
- The resulting night-vision system (picked as one of the 2018 Hot Products in last January's issue) proved to be the most impressive visual light amplifying setup I've ever used.

"Image Intensified Observing." Sky & Telescope. (2018 June): 58-62.

Why be an Amateur Astronomer?

It may be of no more practical use than a love of music, art or nature's beauty. But understanding the history of our universe, knowing our place in it, and seeing its wonders can be compelling and uplifting.

After all, we are made of "star stuff", and may be the only creatures that can appreciate its own place in the cosmos.

Perhaps if all humanity were amateur astronomers, preserving our incredible planet would be an easier task.

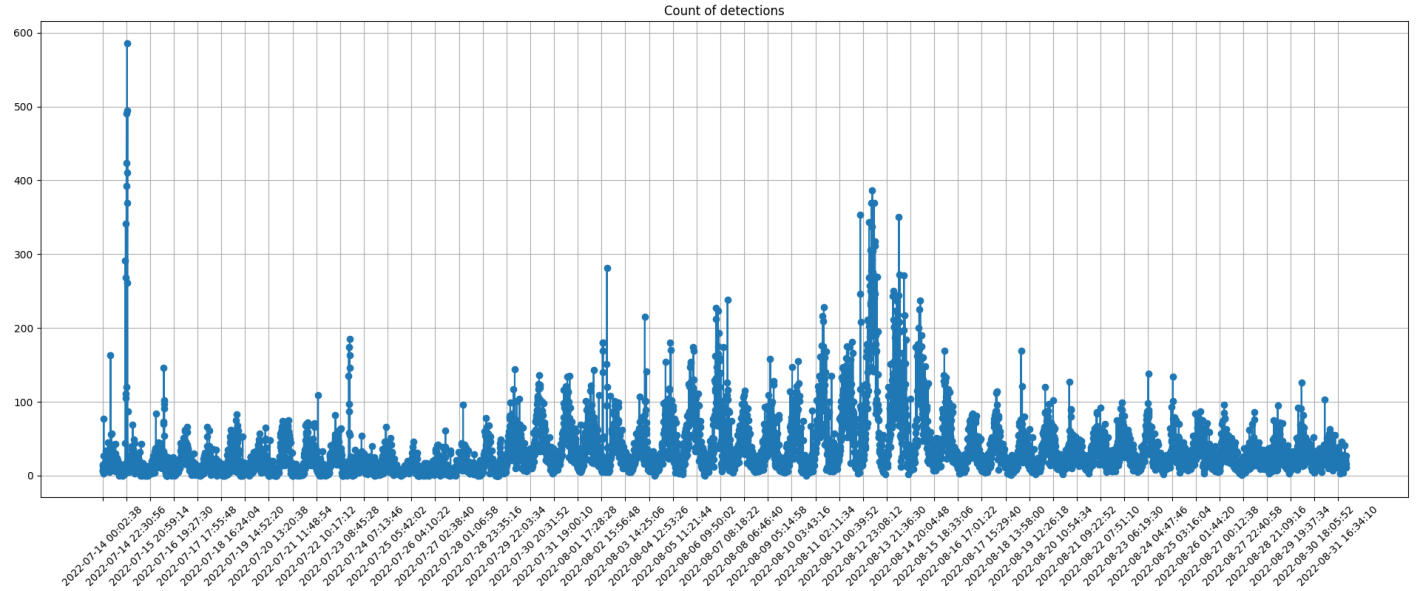
— Al Nagler

I Thank My Lucky Stars! ...

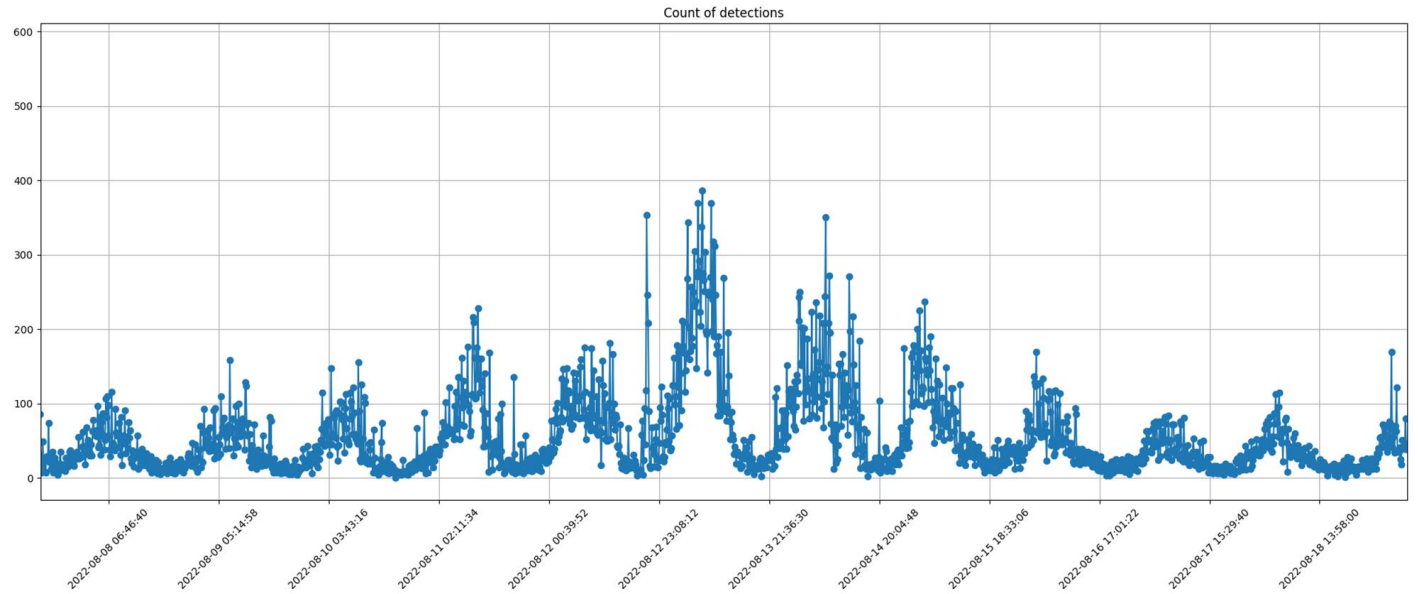
— Al Nagler

HAL Astro-Images, Sketches, and More

Meteors detected via bistatic radar reflections
Signal source: Analog TV station CHBX 55.240 MHz | Ste. St. Marie, Ontario, Canada
Observation location: central Maryland, USA
Date/Time range: 2022-07-14 00:02:38 to 2022-08-31 23:54:36 local time

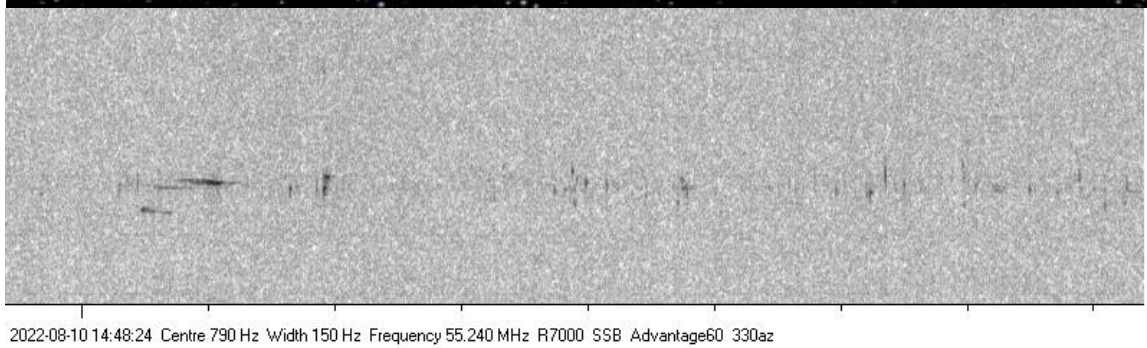


Meteors detected via bistatic radar reflections
Signal source: Analog TV station CHBX 55.240 MHz | Ste. St. Marie, Ontario, Canada
Observation location: central Maryland, USA
Date/Time range: 2022-07-14 00:02:38 to 2022-08-31 23:54:36 local time



Perseid Meteor Shower
July 14 – Sept 1, 2022
by Jim Lane

Bistatic reflections of an analog TV signal from Sault St. Marie, Ontario, Canada.



Cheryl Kerr

Cheryl Kerr

IC1396
The Elephant Trunk Nabula
by Victor Sanchez

Milky Way
Almost Heaven Star Party
by Daniel Lohin

NGC 6717 (Palomar 9)

Globular Cluster

Magnitude: 9.3

Distance: 23,100 light years

IC 4802

Star Grouping

Constellation: Sagittarius

Telescope: 110mm refractor

Eyepieces: 13mm Ethos (59x) -- details added using 12mm Delos (64x) with TNVC-TeleVue Night Vision Device

Field of View: 1.32 degrees (13mm Ethos)

Orientation: Diagonal View

Date: 24-August-2022

Time: 22:40 to 23:15 EDT

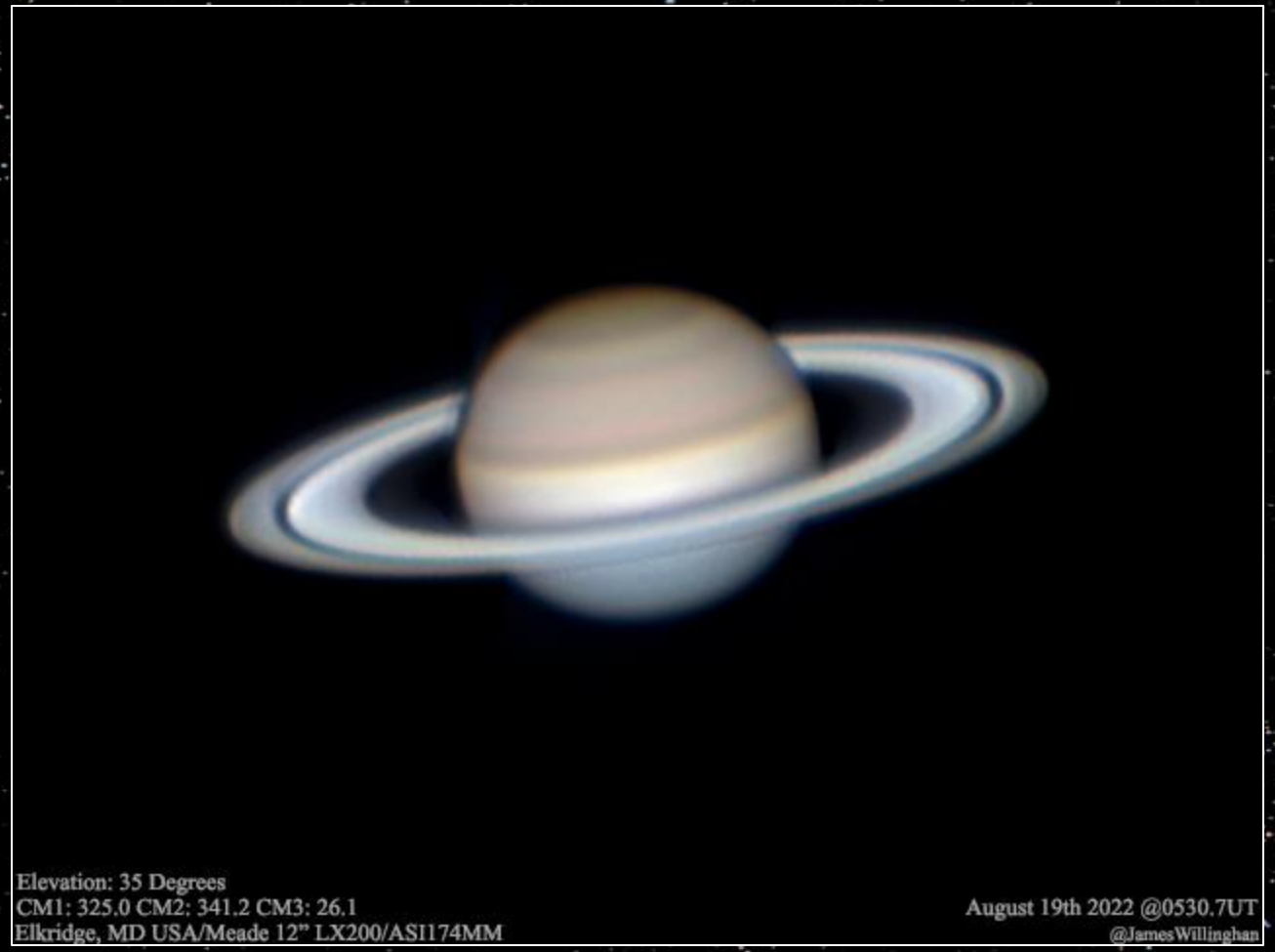
Location: Alpha Ridge Park

Drawing by: Richard Orr


James Willinghan

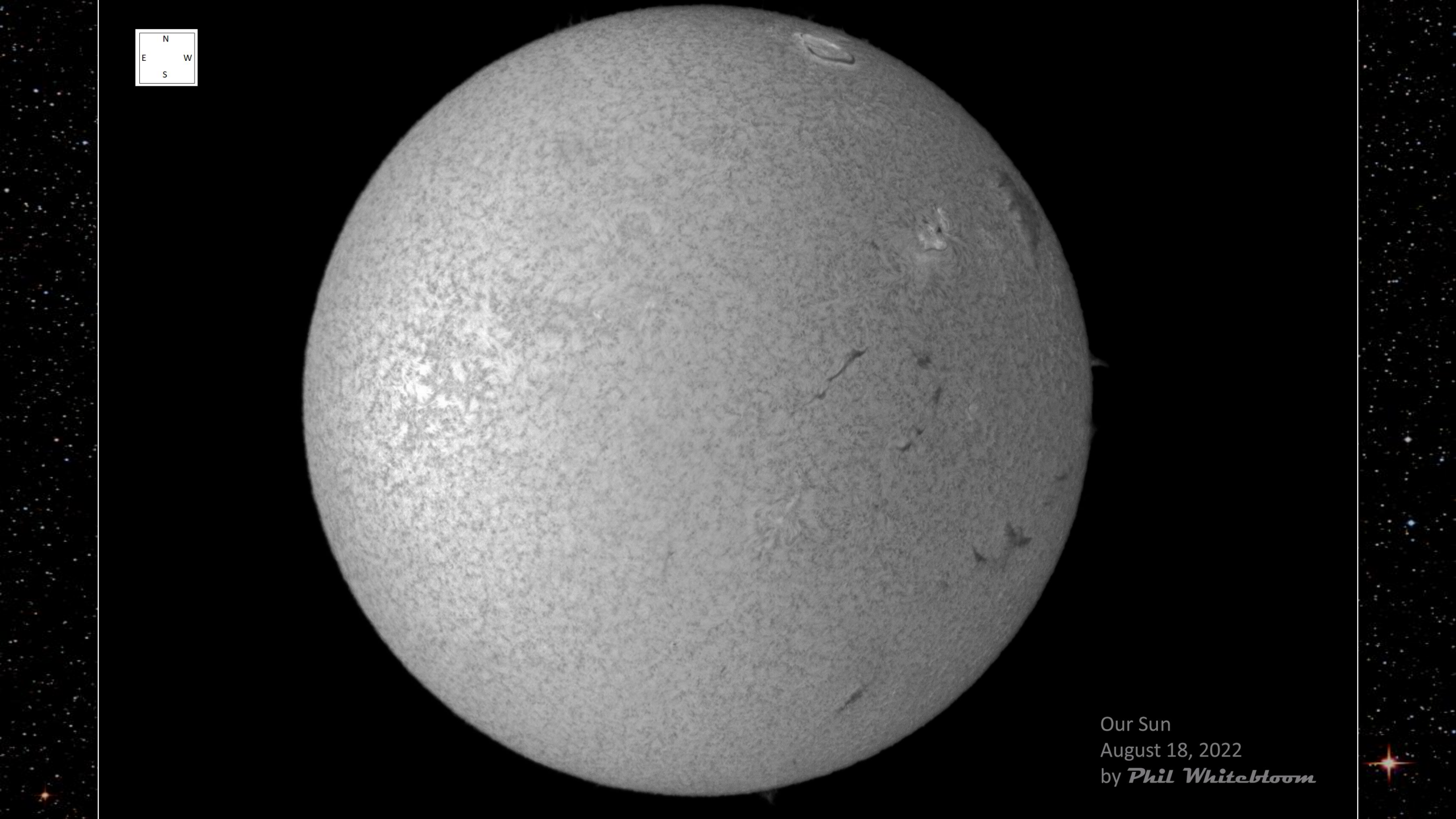

CM: 31.1
Elevation: 54 Degrees
Elkridge, Maryland USA/Meade 12" LX200/ ASI 174MM
September 9th 2022 @0808.0UT
@JamesWillinghan


CM: 31.1
Elevation: 54 Degrees
Elkridge, Maryland USA/Meade 12" LX200/ ASI 174MM
September 9th 2022 @0808.0UT
@JamesWillinghan

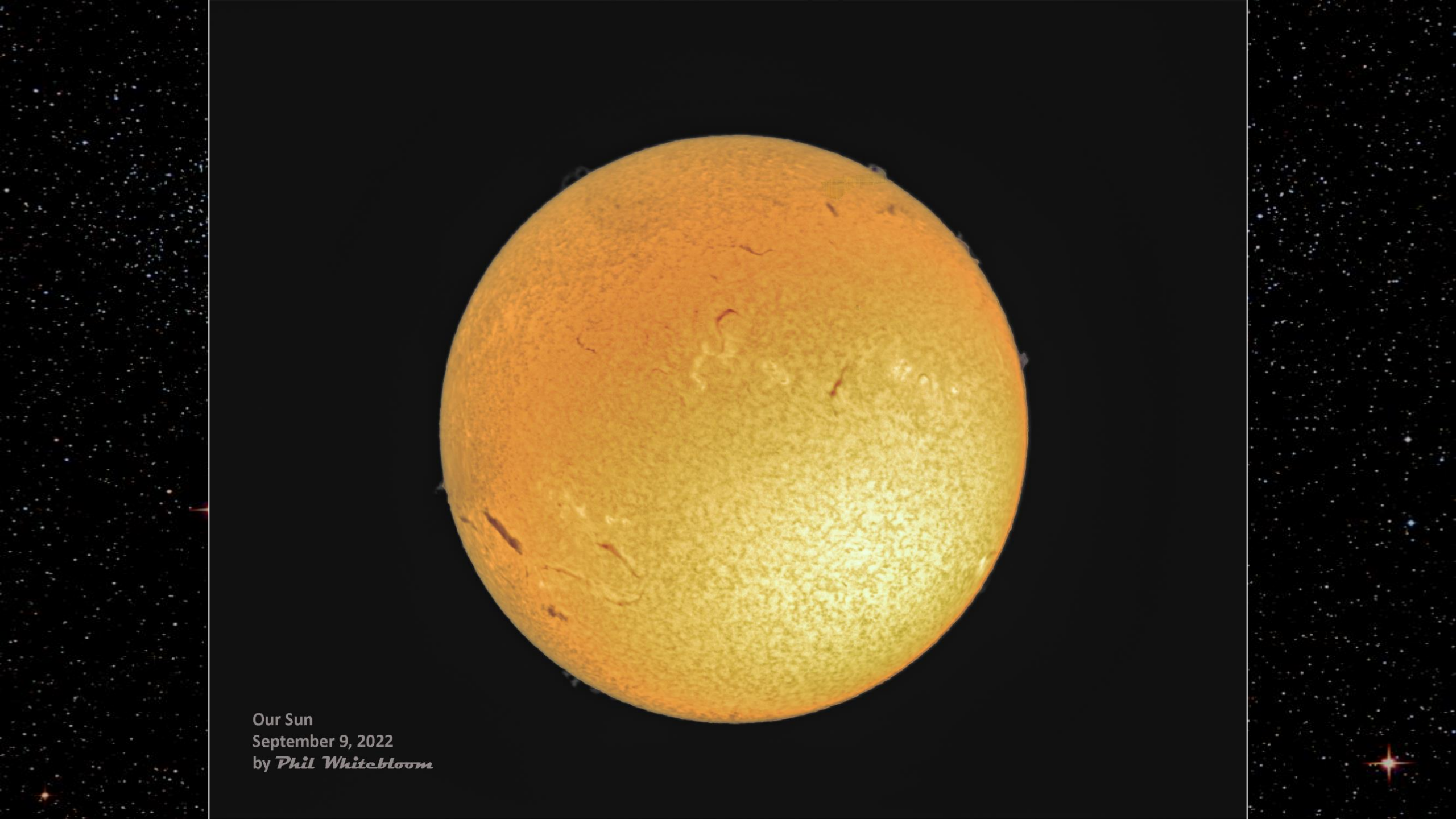

Elevation: 35 Degrees
CM1: 325.0 CM2: 341.2 CM3: 26.1
Elkridge, MD USA/Meade 12" LX200/ASI174MM
August 19th 2022 @0530.7UT
@JamesWillinghan


Elevation: 50 Degrees
CM1: 248.2 CM2: 50.1 CM3: 334.2
Elkridge, MD USA/Meade 12" LX200/ASI174MM
September 2nd 2022 @0554.0UT
@JamesWillinghan


Elevation: 50 Degrees
CM1: 259.8 CM2: 8.4 CM3: 294.3
Elkridge, MD USA/Meade 12" LX200/ASI174MM
September 9th 2022 @0530.0UT
@JamesWillinghan

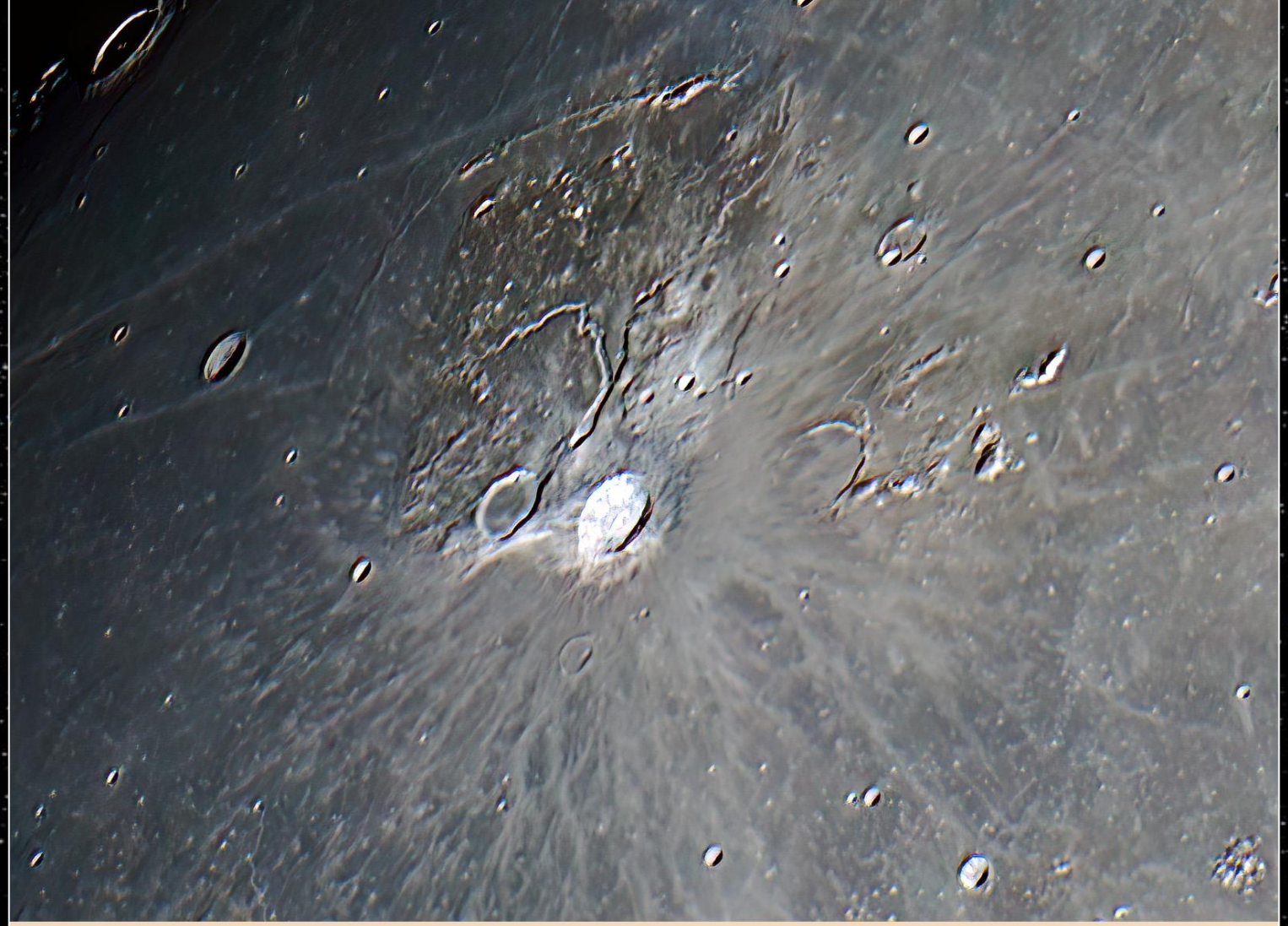


Our Sun
August 18, 2022
by Phil Whitebloom


Our Sun
September 9, 2022
by Phil Whitehoom


M57
Ring Nebula
August 28, 2022
Alpha Ridge Park
Marriottsville, MD 21075
by Phil Whitebloom


The Pleiades
by Phil Whitehoom



The Moon - 2022-09-09 03:19 UTC
Aristarchus Plateau

Jim Johnson, Ashton MD

ZWO ASI178MC/EFW 8 x 1.25”
Meade LX850 (12” f/8)/2.5x PowerMate
Losmandy G11

NGC 7635 - “The Bubble Nebula”

By: Ken Everhart
July 1, 2022 (UTC)
Green Bank, West Virginia

Telescope: Meade LX850 - 14”
Camera: Zwo ASI2600MM
Processing: Pixinsight
Photoshop Elements

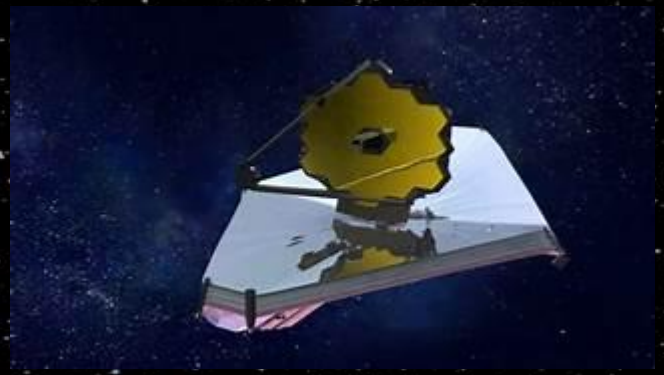
.
SII: 10 X 300 Secs.
Ha: 15 X 300 Secs.
OIII: 15 X 300 Secs.

SATURN, 8/23/2022, 20" F/3.5 DOB,
NEXIMAGE 5 CAMERA, iCAP 2.4,
BEST 500 OF 2K FRAMES IN AS!,
RSTAX 6, WINDOWS PHOTO
IAN SLEPIAN

JUPITER, 8/24/2022, 20" F/3.5 DOB, WITH 2X PM, NEXIMAGE 5 CAMERA, iCAP2.4, BEST 40% OF 1500 FRAMES IN AS!, RSTAX 6, AND WINDOWS PHOTO.
IAN SLEPIAN

IO

Thank You



CLEAR SKIES!