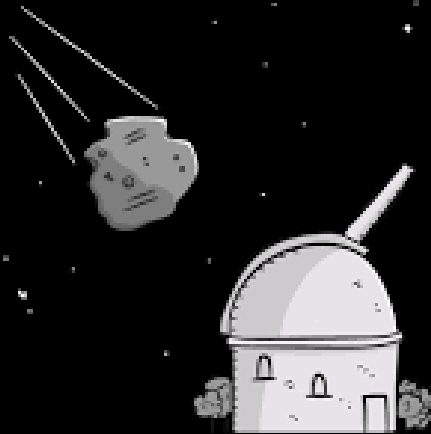


# Howard Astronomical League



January 16, 2020

OBSERVATIONAL HUMOR



© 2018 @kiss and Booo Dinos

**WHEN YOU'RE SHOCKED  
BY THE COSMIC BEAUTY**



**OF THE UNDERSIDE  
ON A FEW FRYING PANS**

# Sigma Orionis & Struve 761

Multipule Star Systems

Constellation: Orion

## Sigma Orionis

Magnifications: 3.8, 10.3, 6.8 & 6.7

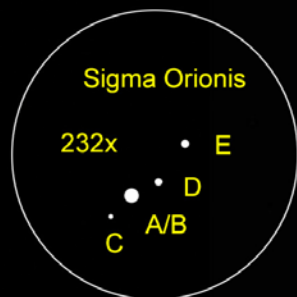
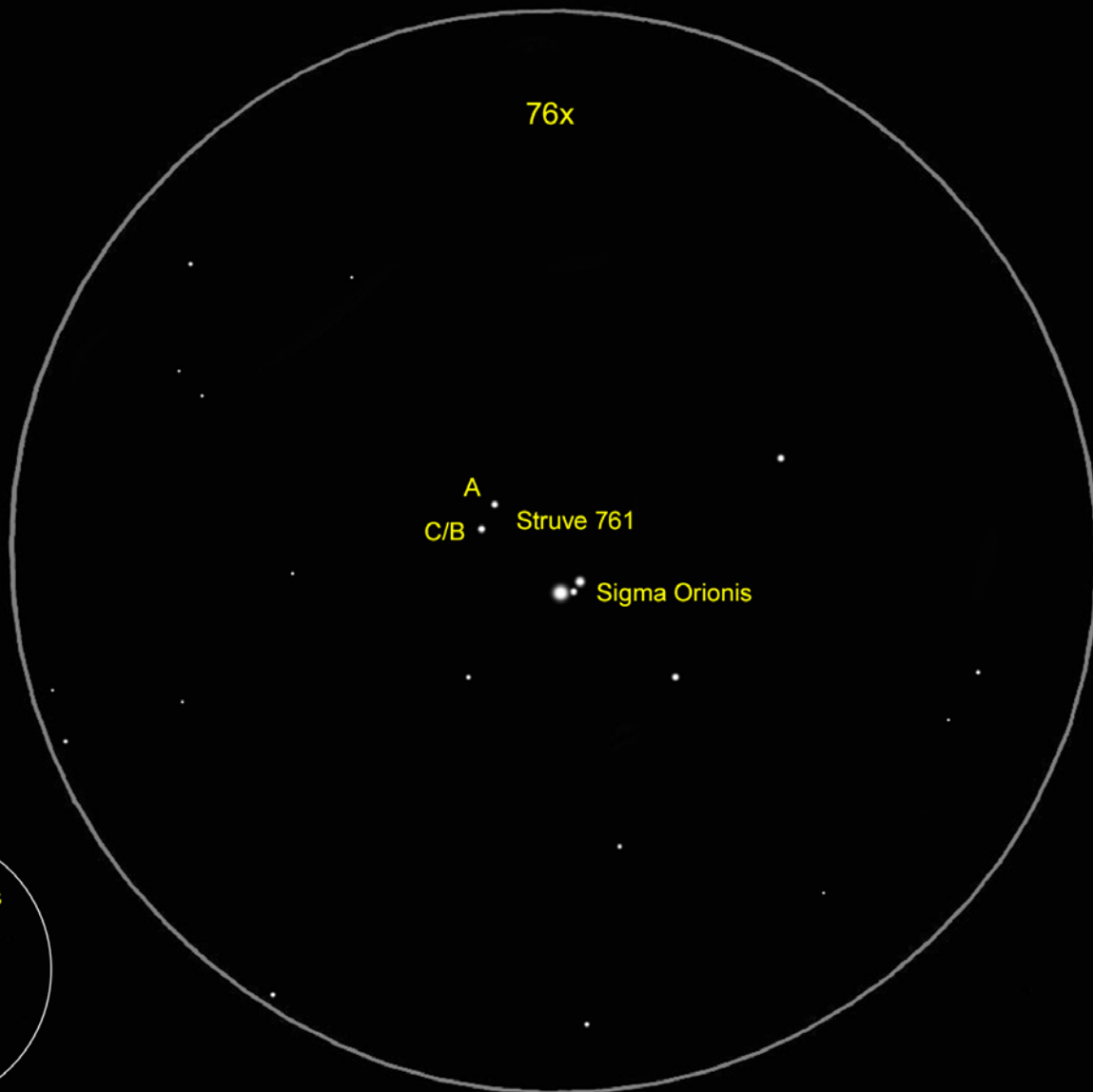
## Struve 761

Magnifications: 7.9, 8.4 & 8.5

Telescope: 60mm Refractor  
Eyepiece: 12mm Delos (76x)  
Field of View: 0.94 degrees  
Orientation: Diagonal View

Telescope: 155mm Refractor  
Eyepiece: 4.7mm Ethos (232x)  
Orientation: Diagonal View

Date: 26-December-2019  
Time: 02:10 to 02:40 EST  
Location: Deck of House  
Drawing by: Richard Orr



## C/2017 T2 (PANSTARRS)

Comet

Constellation: Perseus

Magnitude: 9.5

Distance: 139,433,700 miles

Coma Size: 7,500 miles (actual)

Coma Size: 1.8 arcminutes (apparent)

Telescope: 110mm Refractor

Eyepiece: 4.7mm Ethos (164x)

Field of View: 0.67 degrees

Orientation: Diagonal View

Date: 12-January-2020

Time: 19:05 to 19:30 EST

Location: Carrs Mill Park

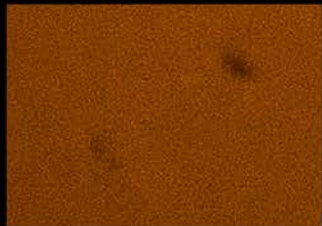
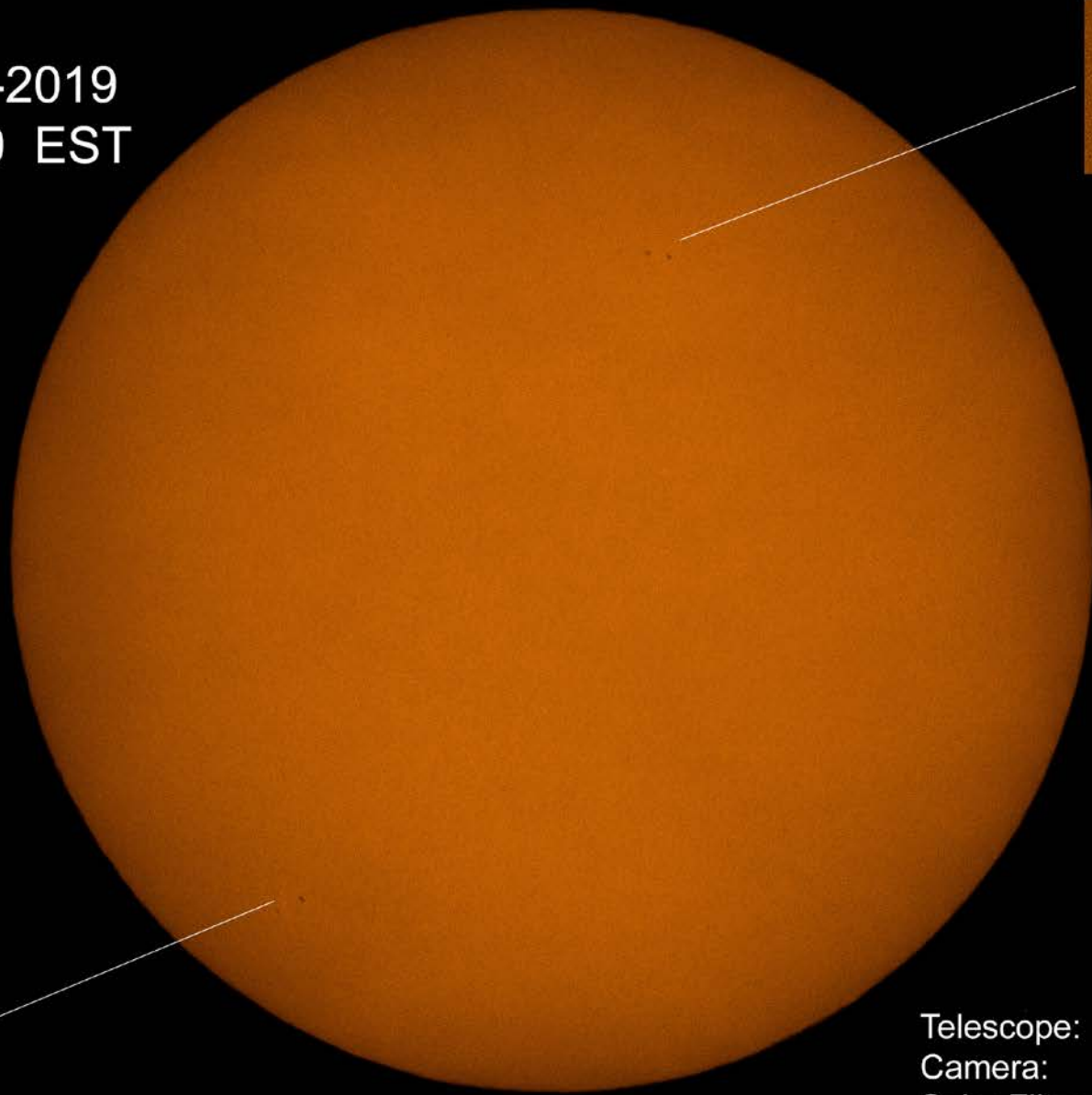
Drawing by: Richard Orr



# Sun

24-December-2019

10:45 to 12:30 EST



Telescope: 155mm Refractor  
Camera: Nikon D810  
Solar Filter: Thousand Oaks



Venus, Jupiter, ISS | Nikon D850 | ISO 100 | f/4 | 8s | 24-120mm | 2019-11-25 | Gambrills, MD

**Jim Lane**



Saturn, Venus, Jupiter | Nikon D850 | ISO 2000 | f/4 | 1/30s | 24-120mm | 2019-11-25 | Gambrills, MD

Jim Lane

# Thanks to all of our Volunteers and Officers

<b>President</b>	Phil Whitebloom	president@howardastro.org
<b>1st Vice President</b>	Mike Krauss	1stvp@howardastro.org
<b>2nd Vice President</b>	Victor Sanchez	2ndvp@howardastro.org
<b>Treasurer</b>	Chas Rimp	hal_treasurer@howardastro.org
<b>Secretary</b>	Cheryl Kerr	secretary@howardastro.org
<b>Event Coordinator</b>	David Stein	events@howardastro.org
<b>Publicity Chair +</b>	Joel Goodman	halpublicity@howardastro.org
<b>Observatory Director *</b>	Joel Goodman	observatory@howardastro.org
<b>Librarian +</b>	Bob Dutilly	librarian@howardastro.org
<b>ALCor +</b>	Steve Jaworiwsky	halcor@howardastro.org
<b>Webmaster *</b>	Paul Montanaro	Use "Contact Us" Page

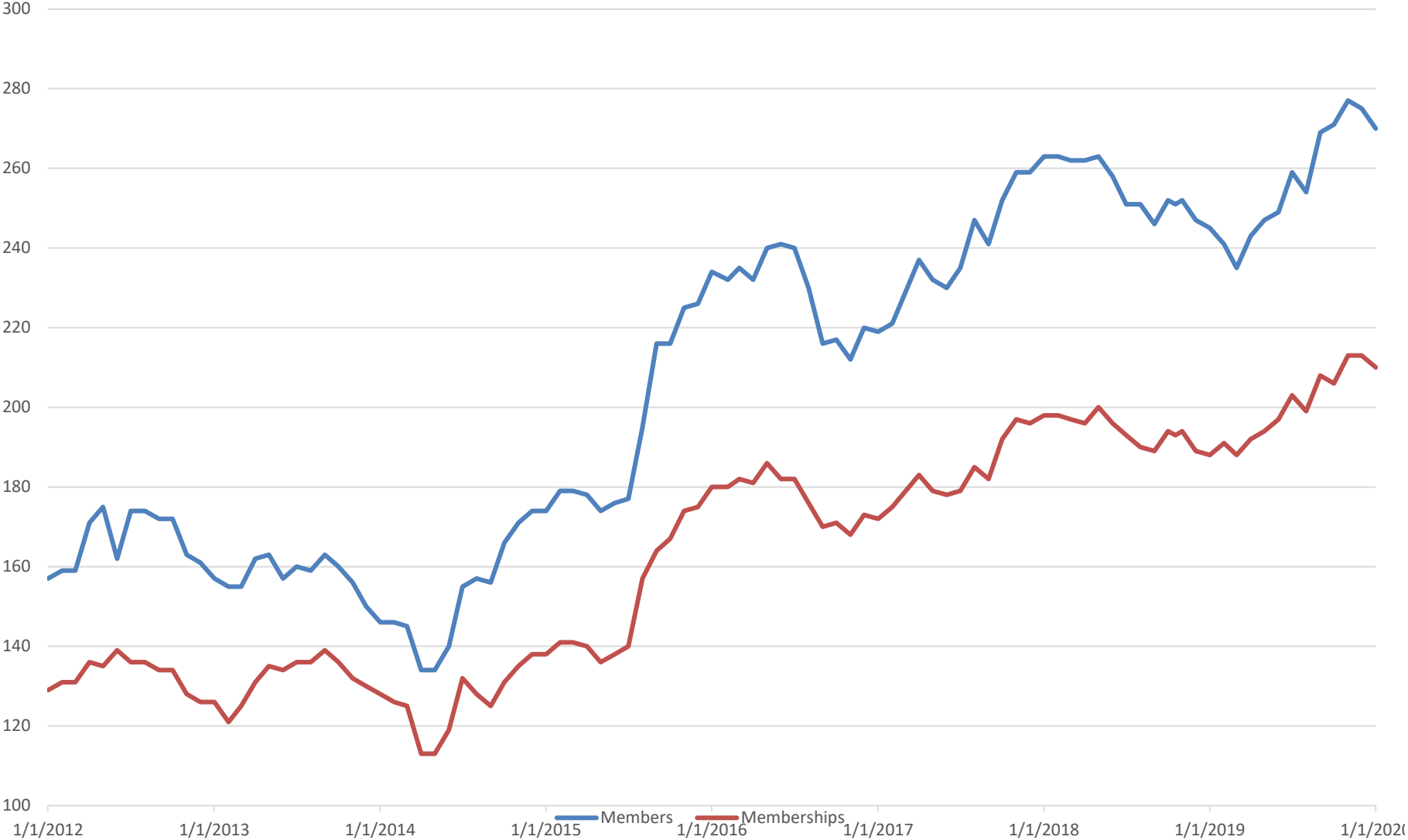
# HAL 2019 Treasurer's Report



# HAL's Key \$\$\$ Events in 2019

- **2019 Starting Bank Balance: \$8348.11**
- **2019 Ending Bank Balance: \$9279.25 \***
  - \$850 unavailable due to keyholder deposits
  - Spendable Amount Available: \$8429.25
- **2019 Income: \$7059.80**
  - Memberships: \$5670.57
  - Donations: \$ 835.69
  - Equipment Sales: \$ 242.45
  - Amazon Smile: \$ 87.08
- **2019 Spend: \$6128.74**
  - **Club Recurring: \$3460.14**
    - Website, CSC, AL, IDA, Insurance, Mailbox, Brochures, Property Tax
  - **Observatory Non-Recurring: \$1798.73**
    - New Laptop, Illig Solar Filter, Painted Pier for Watson Display, Repair & Maintenance

# HAL Member & Membership Growth



# Behind the Scenes

- 2019 Club Membership Change:
  - +22 Memberships, +25 Members
- Howardastro Yahoogroup Membership:
  - 428 (Fairly Static)
- Facebook Membership:
  - 432
  - Doubled in Past Year
- Impromptu List Membership
  - 152

# 2020 HAL Election

**Election chair:** Jim Johnson

# 2020 HAL Election

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

President

Phil Whitebloom

1<sup>st</sup> Vice President

Victor Sanchez

2<sup>nd</sup> Vice President

JoAnn Shapiro

Secretary

Cheryl Kerr

Treasurer

Joel Goodman

Events Coordinator

David Stein

# Tonight's Guest Speaker

**Gary Frishkorn**

Software/Systems Engineer (Retired) – Johns Hopkins Applied Physics Lab

**Title: "6 inch Aperture Binocular and Chair Mount"**

# February Guest Speaker

**To Be Determined**

Watch your email for information.

# Next HAL Meeting

Thursday

February 20<sup>th</sup>

7:00PM

Astro-School begins at 6:15