



Focal Point



November, 2012

November 16th Membership Meeting: The Morphology of Planetary Nebulae

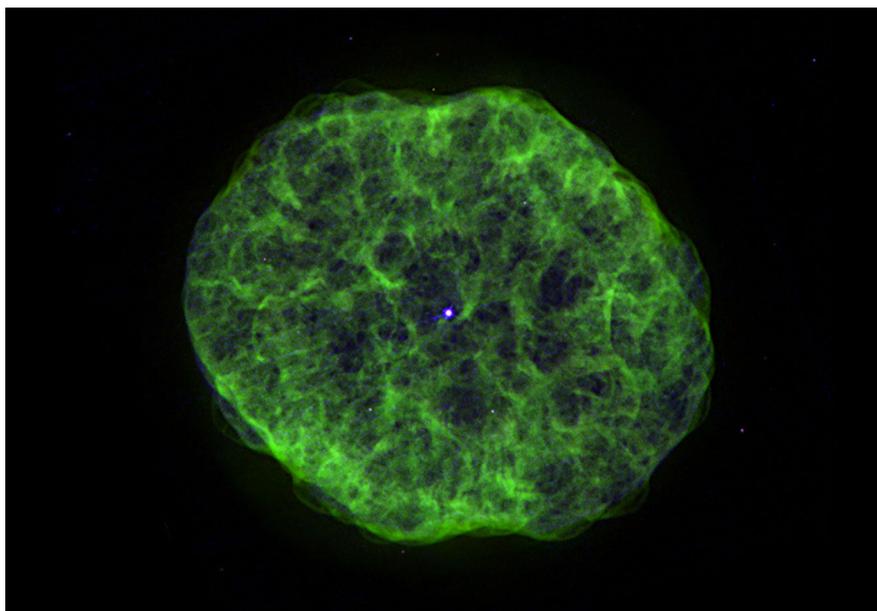
The next Membership Meeting will take place on **November 16st**, at 8:00 PM at the MAS Observatory.

The speaker of the night will be

Prof. **Douglas Arion**, who will present some of his recently obtained research data on the Morphology of Planetary Nebulae.

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A number of planetary nebulae exhibit multiple shell structures, including concentric outer halos. Three such nebulae have been studied by obtaining deep images in [O III] to identify linkages between structures observed in the inner nebula and structures found in the outer halos. Three different planetaries were studied - NGC 246, 1501, and 2022, and all exhibit similar morphologies, suggesting similar evolutionary pathways. Of note are jet structures that appear to extend through all of the shell/halo layers, implying that the layers were

ejected before the jets. Data were obtained on the 0.9m WIYN telescope at Kitt Peak National Observatory and the 1.52m Kuiper Telescope of the University of Arizona Steward Observatory.

Prof. Arion also spearheaded the [Galileoscope Project](#), a cornerstone project of the International Year of Astronomy. It involved the design, production and shipment of more than 200,000 low-cost telescope kits to more than 96 countries, including 6,000 donated to developing nations.

Treasurer's Report

The following people contributed to the MAS treasury above and beyond their dues during this renewal cycle: Neil Drake, Nathan Dykstra, Jeffrey Fillian, Gene Hanson II, Milton Lange, Michael Macali, Joseph Payne, Carl Perez-Pena Jr., Bernie and Marie Sandler, and also Brian Ganiere throughout the year.

Payments of utility bills, Kalmbach and Sky Publishing services, maintenance and insurance fees totaled \$2148.05.

The income was \$543.00.

Currently the checking account balance is at \$7222.65. The Albrecht fund is 8213.98.

Respectfully Submitted,
Neil Simmons, Treasurer

Observatory Director's Report

A new computer was purchase for the 12" LX200 telescope. It controls the mount, but the communication with the CCD camera has not been established yet.

Russell has finished the electrical work in the A-dome. The next phase of work will be fixing the floor.

The clock drive of the Z-scope was found working. Should be tested as frequently as possible.

The doors of the restrooms and dark room should be kept closed during the winter because they are heated.

A new focuser for the B-scope was purchased and installed by Scott Jamieson.

Respectfully Submitted,
Russell Chabot, Asst. Obs. Director

Meeting Minutes

Held on October 19st at the MAS Observatory, New Berlin.

The meeting was called to order at 8:00 PM by President, Henry Gerner

Minutes of the May General Meeting, was read and approved.

The **Treasurer's Report** was read by Treasurer, Neil Simmons. Copy attached.

The **Observatory Director's Report** was read by Assistant Observatory Director, Russell Chabot. Copy attached.

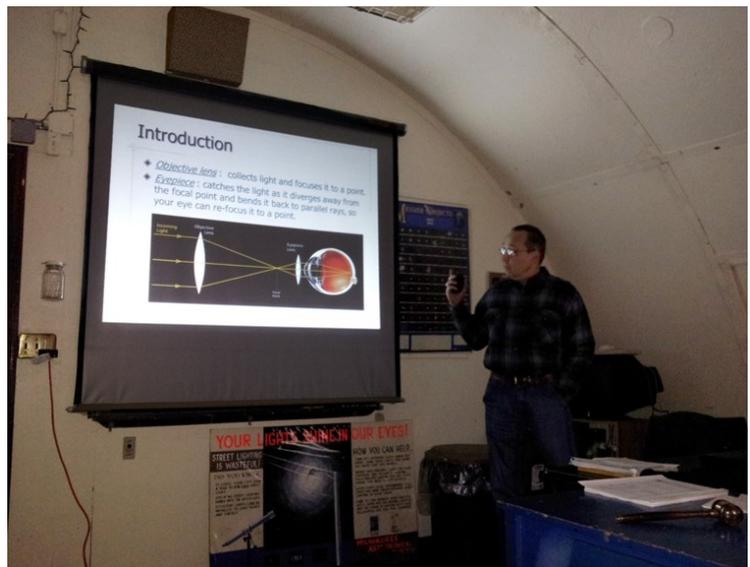
There was no **Correspondence**

Old Business - it was decided to buy a new focuser for the B-scope.

New Business - the membership application of Frank Evans was accepted.

Announcement - Scott Jamieson's successful effort to fix the furnace was thanked.

The Program MAS member Randy Culp gave a presentation entitled "Telescope Equations: Useful Formulas for Exploring the Night Sky".



The meeting was adjourned at 9:15 PM

Respectfully Submitted,
Agnes Keszler, Secretary

XMAS Party

The Milwaukee Astronomical Society is organizing the annual Christmas Party on December 7nd at 6:00 PM at the Observatory. Pizza and beer/soda will be served. Donations of \$5/person, or \$ 8/family will be collected.

Please, join us and bring your family to celebrate together!



13.1" AstroSystems kit-made Dob for sale: Price is dropped



I've dropped the price of my Dob to \$2.600

Astromart ad (with many more photos):

http://www.astromart.com/classifieds/details.asp?classified_id=798568

Rob Powell

1429 W. River Oaks Ln.

Mequon, WI 53092

cell: 262.894.2737

email: archerychampion@gmail.com



13.1 inch Discovery mirror, refigured by Galaxy Optics in 2004; center spotted; f/4.5 This scope is a reliable powerhouse. A very portable and easily assembled Newtonian reflector.

Included features: 2.6" Secondary mirror (center spotted) with dew heater; 2" focuser with 1.25 adapter (compression-ring style); Light shroud; Tailgate mirror cell assembly (allows quick access to the primary mirror); SkyCommander digital setting circles with Orion

encoders; QuickSwitch Filter Slide: 5-position filter slide (accommodates 2" filters, not incl.); Mirror cover with built-in 4" aperture mask (hinged); 9x60 finder scope (AstroSystems "Woody Finder", with 25mm Plossl EP); Azimuth brake; Telrad finder; Wheelbarrow handles (detachable); Upper cage carry case; Truss tube carry case.

Will deliver within 75 miles of Milwaukee, WI (or a reasonable distance farther, for round trip gas costs) .

In the Astronomical News

Armchair Astronomers Find Planet in Four-star System

A joint effort of citizen scientists and professional astronomers has led to the first reported case of a planet orbiting twin suns that in turn is orbited by a second distant pair of stars.

Aided by volunteers using the Planethunters.org website, a Yale-led international team of astronomers identified and confirmed discovery of the phenomenon, called a circumbinary planet in a four-star system.

Only six planets are known to orbit two stars, according to researchers, and none of these are orbited by distant stellar companions. Dubbed PH1, the planet was first identified by citizen scientists participating in Planet Hunters, a Yale-led program that enlists members of the public to review astronomical data from NASA's Kepler spacecraft for signs of planets. It is the project's first confirmed planet discovery.

The volunteers -- Kian Jek of San Francisco and Robert Gagliano of Cottonwood, Arizona -- spotted faint dips in light caused by the planet as it passed in front of its parent stars, a common method of finding extrasolar planets. Schwamb, a Yale postdoctoral researcher, led the team of professional astronomers that confirmed the discovery and characterized the planet, following observations from the Keck telescopes on Mauna Kea, Hawaii. PH1 is a gas giant with a radius about 6.2 times that of Earth, making it a bit bigger than Neptune.

PH1 orbits outside the 20-day orbit of a pair of eclipsing stars that are 1.5 and 0.41 times the mass of the Sun. It revolves around its host stars roughly every 138 days. Beyond the planet's orbit at about 1000 AU (roughly 1000 times the distance between Earth and the Sun) is a second pair of stars orbiting the planetary system.

"The thousands of people who are involved with Planet Hunters are performing a valuable service," said coauthor Jerome Orosz, who earned his Ph.D. at Yale in 1996 and is now associate professor of astronomy at San Diego State University. "Many of the automated techniques used to find interesting features in the Kepler data don't always work as efficiently as we would like. The hard work of the Planet Hunters helps ensure that important discoveries are not falling through the cracks."

Gagliano, one of the two citizen scientists involved in the discovery, said he was "absolutely ecstatic to spot a small dip in the eclipsing binary

star's light curve from the Kepler telescope, the signature of a potential new circumbinary planet."

He continued, "It's a great honor to be a Planet Hunter, citizen scientist, and to work hand-in-hand with professional astronomers, making a real contribution to science."

Jek expressed wonder at the possibility of the discovery: "It still continues to astonish me how we can detect, let alone glean so much information about

another planet thousands of light years away just by studying the light from its parent star."

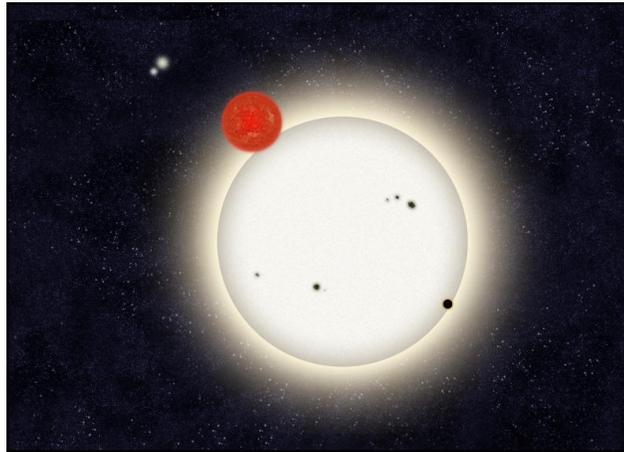
The research was supported by NASA and the National Science Foundation Astronomy and Astrophysics Postdoctoral Fellowship.

by Eric Gershon

Electronic images, full list of authors, and preprint of the paper can be found [online](#):

Username: planet

Password: hunters



A family portrait of the PH1 planetary system: The newly discovered planet is depicted in this artist's rendition transiting the larger of the two eclipsing stars it orbits. Off in the distance, well beyond the planet orbit, resides a second pair of stars bound to the planetary system. (Image by Haven Giguere/Yale)

Adopt a Telescope Program - Signup Sheet

	Adoptee	Scope	Location
1	Sue Timlin	18" F/4.5 Obsession	Wiesen Observatory
2	Neil Simmons	12.5" F/7.4 Buckstaff	B Dome
3	Russell Chabot	12.5" F/9 Hallbach	A Dome (Armfield)
4	Dan Yanko	18" F/4.5 Obsession (Kyle Baron)	Albrecht Observatory
5	Tamas Kriska	25" F/15 Zemlock	Z Dome
6	Henry Gerner	12" LX 200	Tangney Observatory
7	Jeffrey Fillian	14" Z-Two scope	Ray Zit Observatory
8	Kevin & John McCarthy	10" LX 200	Jim Toeller Observatory

At Your Service

Officers / Staff

President	Henry Gerner	414-774-9194
Vice President	Brian Ganiere	414-961-8745
Treasurer	Neil Simmons	262-889-2039
Secretary	Agnes Keszler	414-475-6267
Observatory Director	Gerry Samolyk	414-529-9051
Asst. Observatory Director	Russell Chabot	414-881-3822
Newsletter Editor	Tamas Kriska	414-475-6267
Webmaster	Robert Burgess	920-559-7472

Board of Directors

Robert Burgess	920-559-7472
Russell Chabot	414-881-3822
Henry Gerner	414-774-9194
Chris Hesseltine	414--379-5744
Al Hovey	414-529-1878
Agnes Keszler	414-475-6267
Tamas Kriska	414-475-6267
Neil Simmons	262-889-2039
Michael Smiley	262-825-3981
Sue Timlin	414-460-4886
Dan Yanko	262-255-3482

October/November Key Holders

11/17	Scott Jamieson	262-592-3049
11/24	Lee Keith	414-425-2331
12/1	Tamas Kriska	414-475-6267
12/8	Scott Laskowski	414-421-3517
12/15	Jill Roberts	414-587-9422
12/22	Tom Schmidtkunz	414-352-1674



MAS Observatory

18850 Observatory Rd
New Berlin, WI
Phone: (414) 477-6220

www.milwaukeeastro.org