



# Mid-Hudson Astronomical Association

## February, 2018

Website: [www.midhudsonastro.org](http://www.midhudsonastro.org)

Yahoo Group: MHAstro

**President :** Jack Chastain  
**Secretary:** Jim Rockrohr  
**Newsletter Editor:** Rick Versace  
**Publicity:** Paul Chauvet  
**Speakers:** Paul Granich

**Vice President:** Paul Granich  
**Treasurer:** Karen Tulchinsky  
**Membership Coordinator:** Caryn Sobel  
**Webmaster:** Paul Chauvet  
**Outreach:** (open)  
**College Liaison:** Dr. Amy Forestell

**Board of Directors:** Joe Macagne, Karl Loatman, Steve Carey, Willie Yee

(Editor's note: No meeting last month so no minutes. Republishing Decembers minutes)

### **Minutes of the monthly meeting of the Mid Hudson Astronomical Association, December 19, 2017**

The meeting was called to order at 7:40 PM by President Willie Yee in the Coykendal Auditorium at SUNY, New Paltz, NY.

The minutes of the October and November meetings were approved as published in the newsletter.

#### **Officer's Reports:**

**Membership:** Caryn Sobel was not present.

**Treasurer:** Karen Tulchinski was present. Current balance is \$2431.84 plus dues received at the meeting. 2018 dues of \$25.00 are currently due.

**Publicity:** Paul Chauvet was present. He's working on 2018 star party schedule. Send him info on public events.

**Webmaster:** Paul Chauvet was present. No issues known.

#### **Outreach:**

- No upcoming events were reported.

- Annual Winter Star Party will be at Chiefland, Florida, February 11-18.

**Upcoming programs:** The following information was shared:

- (None reported)

**Old Business:**

- (none)

**New Business:**

- Motion was made and unanimously passed to honor Willie Yee for his many years of service to the club as he “retires” as president.
- Paul Chauvet mentioned that the New Paltz Evolutionary Studies program is sponsoring the EVOS Lectures and several of them are astronomy related. Check the SUNY New Paltz website for details.

**Observing Reports:**

- The club Star Party on December 16 had 3 people; Jack Chastain and two newbies. They had about 3-1/2 minutes of stars. It was cold and cloudy.
- Paul Chauvet reported seeing some meteors.
- Karl Loatman mentioned the Venus and the moon are great in the morning.
- Bill Walsh mentioned that he “heard” meteors; actually the radio effects of their ion trails on his HAM radio.

**Visitors/New Members:**

There were about 14 people in attendance at the end of the business meeting.

The meeting was adjourned at about 7:57 PM. The next meeting is on January 16<sup>th</sup>, 2018.

The presentations that followed at 8 PM included a presentation by Karl Loatman regarding the history of one of Frederick Church’s paintings, and Willie Yee presented some “Stellar Magic”. A large spread of Christmas goodies was enjoyed following the presentations.

Submitted by James Rockrohr, January 12<sup>th</sup>, 2017.



## What Is the Ionosphere?

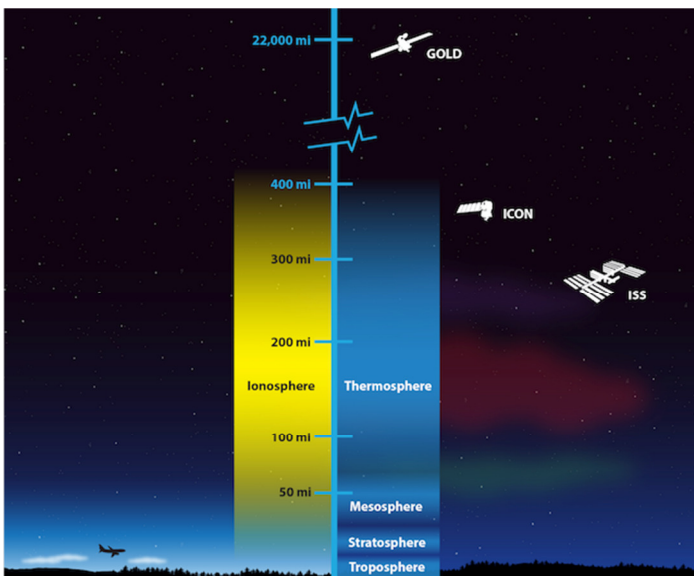
By Linda Hermans-Killiam

High above Earth is a very active part of our upper atmosphere called the ionosphere. The ionosphere gets its name from ions—tiny charged particles that blow around in this layer of the atmosphere.

How did all those ions get there? They were made by energy from the Sun!

Everything in the universe that takes up space is made up of matter, and matter is made of tiny particles called atoms. At the ionosphere, atoms from the Earth's atmosphere meet up with energy from the Sun. This energy, called radiation, strips away parts of the atom. What's left is a positively or negatively charged atom, called an ion.

The ionosphere is filled with ions. These particles move about in a giant wind. However, conditions in the ionosphere change all the time. Earth's seasons and weather can cause changes in the ionosphere, as well as radiation and particles from the Sun—called space weather.



*This illustration shows the layers of Earth's atmosphere. NASA's GOLD and ICON missions will work together to study the ionosphere, a region of charged particles in Earth's upper atmosphere. Changes in the ionosphere can interfere with the radio waves used to communicate with satellites and astronauts in the International Space Station (ISS). Credit: NASA's Goddard Space Flight Center/Duberstein (modified)*

These changes in the ionosphere can cause problems for humans. For example, they can interfere with radio signals between Earth and satellites. This could make it difficult to use many of the tools we take for granted here on Earth, such as GPS. Radio signals also allow us to communicate with astronauts on board the International Space Station, which orbits Earth within the ionosphere. Learning more about this region of our atmosphere may help us improve forecasts about when these radio signals could be distorted and help keep humans safe.

In 2018, NASA has plans to launch two missions that will work together to study the ionosphere. NASA's GOLD (Global-scale Observations of the Limb and Disk) mission launched in January 2018. GOLD will orbit 22,000 miles above Earth. From way up there, it will be able to create a map of the ionosphere over the Americas every half hour. It will measure the temperature and makeup of gases in the ionosphere. GOLD will also study bubbles of charged gas that are known to cause communication problems.

A second NASA mission, called ICON, short for Ionospheric Connection Explorer, will launch later in 2018. It will be

placed in an orbit just 350 miles above Earth—through the ionosphere. This means it will have a close-up view of the upper atmosphere to pair with GOLD's wider view. ICON will study the forces that shape this part of the upper atmosphere.

Both missions will study how the ionosphere is affected by Earth and space weather. Together, they will give us better observations of this part of our atmosphere than we have ever had before.

To learn more about the ionosphere, check out NASA Space Place: <https://spaceplace.nasa.gov/ionosphere>

## 2018 Star Party Schedule

Date	Time	Sunset	End Civil Twilight	Nearest New Moon
January 19th	7:00 PM	4:55 PM	5:25 PM	January 17th
February 16th	7:00 PM	5:30 PM	5:58 PM	February 15th
March 16th	7:00 PM	7:03 PM	7:31 PM	March 17th
April 13th	8:00 PM	7:34 PM	8:03 PM	April 16th
May 11th	8:00 PM	8:04 PM	8:35 PM	May 15th
June 15th	8:30 PM	8:31 PM	9:06 PM	June 13th
July 13th	8:30 PM	8:29 PM	9:02 PM	July 13th
August 10th	8:00 PM	8:00 PM	8:31 PM	August 11th
September 7th	7:30 PM	7:18 PM	7:46 PM	September 9th
October 5th	7:00 PM	6:30 PM	6:58 PM	October 9th
November 9th	7:00 PM	4:41 PM	5:10 PM	November 7th
December 7th	7:00 PM	4:25 PM	4:46 PM	December 7th

### Directions To The Star Party Site

[Lake Taghkanic State Park](#) is in the town Ancram, NY. The park entrance is on the Taconic Parkway 10 minutes north of the exit used for Wilcox park.

Star Parties at Lake Taghkanic are held in the West Parking lot, next to the beach. The skies are darker than in Wilcox, with less stray light to deal with. The horizon is also much lower, especially to the south and east, making many more targets possible.

**IMPORTANT:** all events at Lake Taghkanic State Park require an **RSVP** which includes license plate number of the car you are bringing (please do so via [Meetup](#)). The park is patrolled by state police, and all non registered cars will be ticketed and risk our use of the park.

### General Information:

- ♦ For the foreseeable future, all indoor meetings will be held on the 3<sup>rd</sup> Tuesday of each month in Coykendall Science Bldg., SUNY New Paltz (directions above) at 7:30 PM. All indoor events are FREE! All are welcome. The presentations are generally geared towards teenagers and up. For more information, call the Club Hotline.
- ♦ Dates listed for star parties are the primary dates. The rain date is the following night unless otherwise noted. Only one session is held for a given weekend, usually on the primary date, Friday, unless postponed (usually due to inclement weather) to the backup date, Saturday. Exceptions to this are noted in the "Scheduled Events" section above.
- ♦ All outdoor events are FREE! All are welcome. If you bring small children, it is **your** responsibility to keep a close eye on them. Please do not bring white-light flashlights. Instead, bring a red astronomer's flashlight or an ordinary flashlight covered with several layers of red cellophane. If in doubt about the weather, check the status of the event at [www.midhudsonastro.org](http://www.midhudsonastro.org).