

Program: "Black Holes" by Greg Cermak

**Volume 26, No.11
March 2021**

Greg Smith – editor.

**Meeting: March 17, 2021
Online at 7:00 p m**

Tid Bits of Interest

We have spent a year meeting at a distance. With the rollout of the vaccine to so many more people, and I hope you get yours very soon, maybe we can begin to think about getting back to personal meetings. Taking it easy at first, but getting closer to normal life during the summer.

It is starting to get warmer, at least these past few days and it looks like next week as well, it is easier to stay out and star watch.

I've got to put up my light shield a couple of Times already. Mainly to work with my "electronic" scope. I've also had some time just enjoying the night sky by just looking at it. Binoculars have been good to. I do need a darker sky than downtown Longview can provide.

It still is great to get back out there and acquaint myself with the night sky. After several months of clouds, a clear night is refreshing.

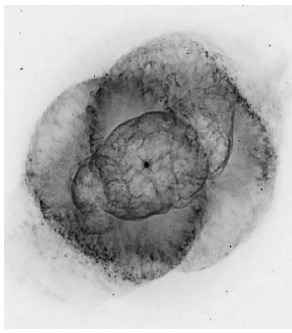
I was watching a broadcast by members of the team that is in charge of the Mars helicopter 'Ingenuity' and they had viewers send in questions about the helicopter and what is was going to be doing. There was one question that I did not hear asked, 'About how much Martian dust did they expect to kick up by the rotors?'

Ingenuity has a camera that will be looking down to the surface to enable it to know where it is in relation to the rover. If this thing kicks up a lot of dust, it may not see anything. The helicopter is to only rise about 5 meters or about 16 feet above the surface. I hope the downwash from the blades is not too significant. With the 'air pressure' at only 1% of Earth, maybe dust that is kicked up will fall back quickly. Otherwise, they may create their own Martian dust storm.

Talking about Martian dust, did you read the online article from Sky and Telescope about what some astronomers are now saying about the Zodiacal Light? It seems that the Zodiacal Light we see in the spring and autumn, might be made up of Martian dust. It is not known how Martian dust escapes the planet, but the dust is only found near Mars' orbit.

We dodged a bullet, when the Asteroid Apophis flew by March 6th, but it will be back on Friday the 13th in April of 2029. It will mess then too. But a return in 2069 is to be a real close one, if not an impact. So forewarn your grandkids.

**Every Day is a Star Filled Day,
Every Night is a Starry Night**



Water
Every
Where!



Other planets in our Milky Way may have continents just like Earth.

By Chris Ciaccia

Scientists believe there may be planets in the Milky Way galaxy that have water and landmass properties similar to that of Earth.

A new study suggests that water may be present during a planet's formation, with the researchers noting this was true for Earth, Mars, and Venus. And because there's nothing special about our solar system, the same conditions likely occurred as exoplanets in the galaxy formed.

"All our data [computer modeling] suggest that water was part of Earth's building blocks, right from the beginning," Anders Johansen, the lead author of the new research and an astronomer at the University of Copenhagen, said in a statement. "Because the water molecule is frequently occurring, there is a reasonable probability that it applies to all planets in the Milky Way. The decisive point for whether liquid water is present is the distance of the planet from its star."

During the study, the researchers calculated how fast planets are formed. They found that tiny, millimeter-size particles of ice and carbon were the primary building blocks of Earth, along with pebbles that drift through the protoplanetary disc, an idea known as "pebble accretion."

Early in its history, Earth grew by capturing pebbles that contained ice and carbon, until the planet reached about 1% of its current mass. For the next 5 million years, Earth continued to grow until it reached its current size, while the surface temperature continued to rise, resulting in the ice in the pebbles evaporating before reaching the planet's surface, Johansen explained.

The researchers also found that the pebbles are comprised of between 10% and 35% ice for protoplanets, with smaller proportions for larger objects.

Some previous studies, such as one published in August 2019, have suggested that around 60% of Earth's water comes from asteroid impacts.

With water found "everywhere" in the galaxy, according to Johansen the pebble accretion theory may give credence to the idea that other Milky Way planets formed in a similar manner to Earth, Mars and Venus and thus may be suitable for life.

"All planets in the Milky Way may be formed by the same building blocks, meaning that planets with the same amount of water and carbon as Earth — and thus potential places where life may be present — occur frequently around other stars in our galaxy, provided the temperature is right," Johansen said.

One of the new study's co-authors, University of Copenhagen professor Martin Bizzarro, also noted that not only do the planets in their model get the same amount of water, but they may sport continents as well, citing the theory that planets in the Milky Way had the same

building blocks and temperatures. "It provides good opportunities for the emergence of life," he said.

Next, Johansen and the researchers will utilize the spectroscopy features of future space telescopes, such as the James Webb Space Telescope, to determine exactly how much water vapor these planets have.

Minutes of the February Meeting

Ted Gruber opened the meeting at 7pm and welcomed the zoom attendees.

The Program

Greg Babcock shared about his journey to downsize the size of the telescope he now uses. Going from a 24" to a 16". He designed and built an easy to transport 16" mirrored reflector telescope that stands about 4' tall; rather than the 7'+ 24" that he used before. The 24" now resides in Argentina high in the Andes.

Mark Thorson shared on the history of the mechanical clock work models of the solar system. Some very elaborate, showing the movements of the moons of the various planets, to very simpler ones that show just the Earth and the Moon.

- Sky report – see on the web site

Business Meeting Topics

- 2021 outlook - resumption of in-person meetings, finding a new meeting place
- Star party schedule for May-September (Club events at Mike's, Sidewalk Astronomy?)
- Insurance renewal - \$315 due by 3/17 (15 days before 4/1)
- The Human Sundial may be going away in the next couple of years as LCC wants to tear down the buildings that surround it and build a new Science building in that spot.
- Next meeting (Zoom 3/17).

☞ March 2021 Meeting ☞

DATE: **Wednesday March 17, 2021**
TIME: 7:00pm
PLACE: Your Laptop / Tablet / or Smartphone.

A **Zoom** enabled meeting

PROGRAM: **"Black Holes" by Greg Cermak.**

Friends of Galileo Club Officers

PRESIDENT	Ted Gruber
VICE-PRESIDENT/ PROGRAM CHAIR	Mark Thorson
SECRETARY	Greg Smith
TREASURER	Steve Powell
WEBSITE	Ted Gruber
NEWSLETTER ED.	Greg Smith
ALCOR	Tom Meek

Next Month's Newsletter Deadline

The deadline for items in next month's newsletter is:
Wednesday: seven days before next meeting.

Please feel free to send in your thoughts and experiences about your astronomical adventures.

Submit your material by E-mail to: gryth@msn.com

Greg Smith
 1622 22nd Ave
 Longview, WA

