"Science is the best idea human's have ever had. The more people who embrace that idea, the better." Bill Nye





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### Successful Landing of Starliner

The Boeing CST-100 Starliner spacecraft is seen after it landed in White Sands, New Mexico, Sunday, Dec. 22, 2019. The landing completes an abbreviated Orbital Flight Test for the company that still meets several mission objectives for NASA's Commercial Crew program. Starliner spacecraft launched on a United Launch Alliance Atlas V rocket at 6:36 a.m. Friday, Dec. 20 from Space Launch Complex 41 at Cape Canaveral Air Force Station in Florida.

Technology.org



### 'Ring of Fire' Solar Eclipse

The moon crossed the face of the in a dazzling "ring of fire" solar eclipse on Dec. 26 2019 to the delight of potentially millions of spectators around the world in the Eastern Hemisphere. Even astronauts in space marveled at the view.

The eclipse, known as an annular solar eclipse, began in Saudi Arabia, with the moon passing in front of the sun, but not completely covering the star's face. Instead, it left a brilliant ring, or annulus, that gave it a "ring of fire" effect. It was the last solar eclipse of 2019, indeed, of the decade.

Space.com

December 30, 2019



### **Mars 2020 Rover Completes Its First Drive**



NASA's next Mars rover has passed its first driving test. A preliminary assessment of its activities on Dec. 17, 2019, found that the rover checked all the necessary boxes as it rolled forward and backward and pirouetted in a clean room at NASA's Jet Propulsion Laboratory in Pasadena, California. The next time the Mars 2020 rover drives, it will be rolling over Martian soil.

MarsDaily.com

### 'Cotton Candy' Planet Mysteries Unravel in New Hubble Observations

New data from NASA's Hubble Space Telescope have provided the first clues to the chemistry of two of these super-puffy planets, which are located in the Kepler 51 system. This exoplanet system, which actually boasts three super-puffs orbiting a young Sun-like star, was discovered by NASA's Kepler space telescope in 2012. However, it wasn't until 2014 when the low densities of these planets were determined, to the surprise of many.





## Laser Ranging Telescopes Can Detect Small Bits of Space Junk



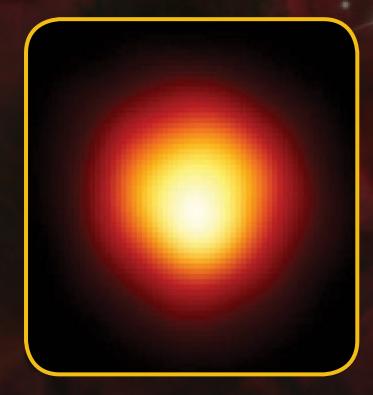
Researchers found a new way of using lasers to find space junk in a way similar to how bats use echolocation to track their prey. NASA and the Department of Defense help monitor this debris. Larger objects can be spotted and tracked individually. But the smaller the object, the more difficult it is to see and track. A new study describes a method that improves how accurately a telescope can point at debris, allowing researchers to pinpoint the locations of smaller debris more precisely.

Astronomy.com

### Betelgeuse is 'fainting' But (probably) Not About to Explode

In recent weeks, though, the chatter about Betelgeuse has been centered on something else entirely. Astronomers are excited about the fact that – since about October – this bright star has become noticeably dimmer. In the terminology of astronomers, the star is fainting.

What's happening? Could it be a sign that Betelgeuse is about to explode as a supernova? Astronomers say probably not.



EarthSky.org





# Happy New Year

#### Dear followers,

With the year coming to an end and the New Year right around the corner, we as Astro Newsletter want to say thank you for following us, and we are wishing you a "spaceful" new year. Happy New Year!









### **Astronomy Picture of the Day**

The Northern Winter Hexagon Image Credit & Copyright: Petr Horálek

December's New Moon brought a solar eclipse to some for the holiday season. It also gave beautiful dark night skies to skygazers around the globe, like this moonless northern winter night. In the scene, bright stars of the Winter Hexagon along the Milky Way are rising. Cosy mountain cabins in the snowy foreground are near the village of Oravska Lesna, Slovakia. The shining celestial beacons marking the well-known asterism are Aldebaran, Capella, Pollux (and Castor), Procyon, Rigel, and Sirius. This winter nightscape also reveals faint nebulae in Orion, and the lovely Pleiades star cluster.





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