Saved APOD

Planets Over Egyptian Pyramid

Date: 2022-05-04 Copyright: Osama Fatehi

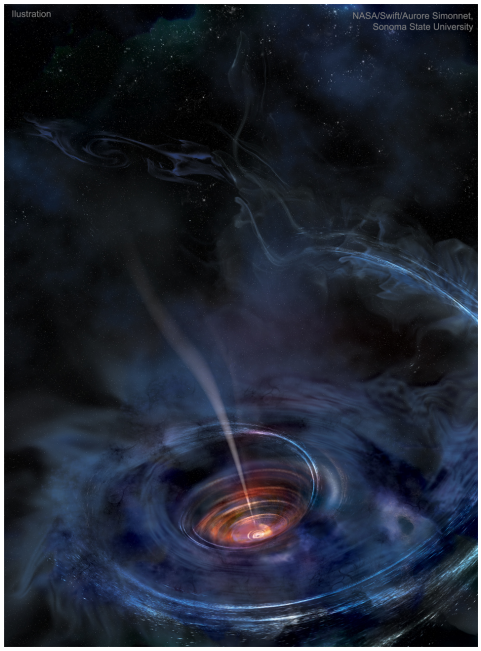
The early morning planet parade continues. Visible the world over, the planets Jupiter, Venus, Mars and Saturn have been lining up in the pre-dawn sky since mid-April. In the featured image taken last month, these planets were captured over the Step Pyramid of Djoser, a UNESCO World Heritage Site. Located in the Saqqara necropolis of Egypt, the pyramid was constructed in the 27th century BC and is one of the oldest pyramids known. The two-image composite includes a foreground image taken during evening blue hour, and a background image captured from the same location the following morning. The morning planet line-up is slowly changing. At the end of last month, planets Jupiter and Venus switched places, while at the end of this month, Jupiter and Mars will switch after passing within one-degree of each other. Of course, this picturesque planetary angular alignment is a coincidence, as all of these worlds continue to orbit the Sun as they have for billions of years, well before even the ancient Pyramid of Djoser was built. Notable Submissions to APOD: Morning Planet Parade 2022

Comet, Planet, Moon

Date: 2024-04-29 Copyright: Juan Carlos Casado

Three bright objects satisfied seasoned stargazers of the western sky just after sunset earlier this month. The most familiar was the Moon, seen on the upper left in a crescent phase. The rest of the Moon was faintly visible by sunlight first reflected by the Earth. The bright planet Jupiter, the largest planet in the Solar System, is seen to the upper left. Most unusual was Comet 12P/Pons-Brooks, below the Moon and showing a stubby dust tail on the right but an impressive ion tail extending upwards. The featured image, a composite of several images taken consecutively at the same location and with the same camera, was taken near the village of Llers, in Spain's Girona province. Comet Pons-Brooks passed its closest to the Sun last week and is now dimming as it moves into southern skies and returns to the outer Solar System. Almost Hyperspace: Random APOD Generator

Black Hole Accreting with Jet



Date: 2024-05-07 Copyright: null

What happens when a black hole devours a star? Many details remain unknown, but observations are providing new clues. In 2014, a powerful explosion was recorded by the ground-based robotic telescopes of the All Sky Automated Survey for SuperNovae (Project ASAS-SN), with followed-up observations by instruments including NASA's Earth-orbiting Swift satellite. Computer modeling of these emissions fit a star being ripped apart by a distant supermassive black hole. The results of such a collision are portrayed in the featured artistic illustration. The black hole itself is a depicted as a tiny black dot in the center. As matter falls toward the hole, it collides with other matter and heats up. Surrounding the black hole is an accretion disk of hot matter that used to be the star, with a jet emanating from the black hole's spin axis. Fall towards eternity: It's Black Hole Week at NASA!

Manicouagan Impact Crater from Space

Date: 2024-05-25 Copyright: null

Orbiting 400 kilometers above Quebec, Canada, planet Earth, the International Space Station Expedition 59 crew captured this snapshot of the broad St. Lawrence River and curiously circular Lake Manicouagan on April 11. Right of center, the ring-shaped lake is a modern reservoir within the eroded remnant of an ancient 100 kilometer diameter impact crater. The ancient crater is very conspicuous from orbit, a visible reminder that Earth is vulnerable to rocks from space. Over 200 million years old, the Manicouagan crater was likely caused by the impact of a rocky body about 5 kilometers in diameter. Currently, there is no known asteroid with a significant probability of impacting Earth in the next century. Each month, NASA’s Planetary Defense Coordination Office releases an update featuring the most recent figures on near-Earth object close approaches, and other facts about comets and asteroids that could pose a potential impact hazard with Earth.

AR 3664 on a Setting Sun

Date: 2024-05-13 Copyright: Marco Meniero

It was larger than the Earth. It was so big you could actually see it on the Sun's surface without magnification. It contained powerful and tangled magnetic fields as well as numerous dark sunspots. Labelled AR 3664, it developed into one of the most energetic areas seen on the Sun in recent years, unleashing a series of explosions that led to a surge of energetic particles striking the Earth, which created beautiful auroras. And might continue. Although active regions on the Sun like AR 3664 can be quite dangerous, this region's Coronal Mass Ejections have not done, as yet, much damage to Earth-orbiting satellites or Earth-surface electrical grids. Pictured, the enormous active region was captured on the setting Sun a few days ago from Civitavecchia, Rome, Italy. The composite image includes a very short exposure taken of just the Sun's surface, but mimics what was actually visible. Finally, AR 3664 is now rotating away from the Earth, although the region may survive long enough to come around again. Gallery: Earth Aurora from Solar Active Region 3664