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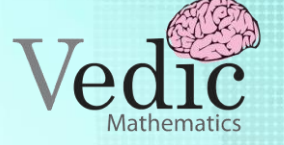
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Space & Astronomy:

Missions and Spacecraft

A Russian Progress 92 spacecraft successfully docked with the International Space Station (ISS). The unpiloted vessel delivered around three tons of food, fuel, and essential supplies to the Expedition 73 crew, ensuring the station's continued operation.

Martian Discoveries

NASA's Curiosity rover made a surprising find on Mars, revealing pure elemental sulfur within a rock in the Gediz Vallis Channel. This discovery is a first for the Red Planet and could reshape scientific theories about its geochemistry and habitability. Additionally, a new study suggested that thick, mineral-rich clay layers on Mars are prime candidates for preserving ancient biosignatures, making them a crucial focus for upcoming missions.

Deep Space Navigation & Observation

NASA's New Horizons spacecraft, now more than 9 billion kilometers from Earth, achieved a significant milestone in deep-space navigation. It successfully used stellar parallax by imaging nearby stars like Proxima Centauri to determine its position with a remarkable uncertainty of just 40 million kilometers.

The ALMA telescope, in collaboration with the James Webb and Hubble telescopes, conducted the CRISTAL survey. This survey mapped the building blocks of early galaxies, revealing star-forming clusters and cold gas reservoirs that existed just a billion years after the Big Bang.

Astronomical Phenomena

The planet Neptune appeared to stand still against the background stars of Pisces on July 5, as it was in the early-morning sky and just 1° north of Saturn.

Astronomers also identified a new interstellar object, named 3I/ATLAS, which was discovered by the ATLAS asteroid warning system in early July. This is only the third known interstellar object to visit our solar system.

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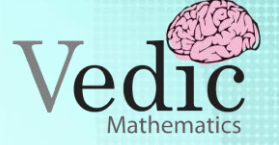
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- c) Orion 21
d) SpaceX Dragon

Answer: b) Progress 92

The article specifies that the Russian Progress 92 spacecraft, an uncrewed vessel, successfully docked with the ISS to deliver supplies to the crew.

3. What new interstellar object was identified by the ATLAS asteroid warning system in early July?

- a) Oumuamua
b) 2I/Borisov
c) 3I/ATLAS
d) Voyager 1

Answer: c) 3I/ATLAS

Astronomers identified a new interstellar object, named 3I/ATLAS, which was the third such object to be confirmed as visiting our solar system.

MCQS

1. What was the significant discovery made by NASA's Curiosity rover on Mars?

- a) Liquid water flowing in a crater.
b) Evidence of ancient bacterial life.
c) Pure elemental sulfur in a rock.
d) A new type of Martian meteorite.

Answer: c) Pure elemental sulfur in a rock.

The news report states that the Curiosity rover found pure elemental sulfur in a rock within the Gediz Vallis Channel, a first for the Red Planet. This discovery is important for understanding Mars's geochemistry.

2. Which Russian spacecraft successfully docked with the International Space Station (ISS) on July 5, 2025?

- a) Soyuz 71
b) Progress 92

4. How did NASA's New Horizons spacecraft determine its position in deep space?

- a) By communicating with Earth-based GPS satellites.
b) By using signals from the Voyager spacecraft.
c) By using stellar parallax to image nearby stars.
d) By measuring its distance from the sun.

Answer: c) By using stellar parallax to image nearby stars.

The news highlights that the New Horizons spacecraft used stellar parallax, imaging stars like Proxima Centauri, to achieve a new milestone in deep-space navigation and determine its position.

5. The ALMA telescope, along with the James Webb and Hubble telescopes, conducted the CRISTAL survey to map what?





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- a) The surface of Neptune and Saturn.
- b) The building blocks of early galaxies.
- c) New exoplanets in a nearby star system.
- d) Asteroid trajectories in the inner solar system.

Answer: b) The building blocks of early galaxies.
The CRISTAL survey was a collaborative effort to map the building blocks of early galaxies, including star-forming clusters and cold gas reservoirs that existed just a billion years after the Big Bang.

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