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THE HARRIOT

SEDS-VIT

Think Infinite...

EDITORS: ANAGHA V, SHAURYA

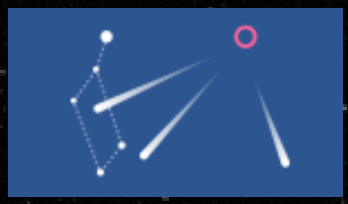
Chasing Celestial Fireworks

BY DIVYANSHI

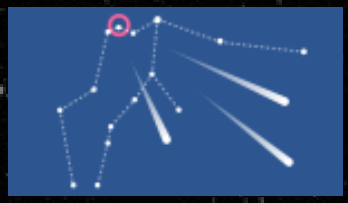
Meteoroids are tiny rocky or metallic bodies left over from asteroids or comets in the cosmos. They go across space, varying in size from big rocks to small ones. A meteoroid turns into a meteor when it enters the Earth's atmosphere and burns due to friction, producing a bright streak. A piece is referred to as a meteorite if it makes it to the surface of the Earth.

Meteorites, fascinating and diverse, are categorized into three main groups. Most stony meteorites are made of silicate minerals; they come in a variety of colors and frequently have chondrules, the existence of which indicates that stony meteorites have not changed much since they formed, giving an impression of the environment that existed in the early solar nebula. Rarer but more impressive are iron meteorites, which are primarily made of alloys of iron and nickel and have a polished "Widmanstätten pattern" and metallic sheen. A unique combination of silicate rocks and metallic alloys, the stony-iron meteorites captivate onlookers with their vivid contrast. Every kind of meteorite has a distinct story to tell in the cosmic narrative that helps to explain the origin and development of our solar system.

Numerous state-of-the-art technologies are utilized in meteor tracking. Fisheye lenses on all-sky cameras record meteor trails, and ground-based radar systems reveal information on the size and route of meteoroids. Radio observations identify ionization trails and data on meteor showers from space is provided by satellite-based systems. Citizen Science Networks use amateur astronomer observations to track meteors and involve the public in the process. Utilizing laser beams, LIDAR devices examine meteor tracks, while Meteor Spectrographs record the light spectrum released after atmospheric entry. Using specialized microphones or arrays, infrasound detection identifies low-frequency sound waves emitted by the massive fireballs.
And finally, to fully observe these meteor showers, escape city lights for optimal darkness. Find a comfortable spot, armed with patience and, if desired, a pair of binoculars, and enjoy the ethereal beauty as meteors streak across the night sky.



Known for its fast and bright meteors, the Lyrids peak around April 22.



Eta Aquarids occur when Earth intersects the debris trail of Halley's Comet. Peaking around early May, it's known for its swift meteors, with up to 30 per hour.

Geminids usually peak in mid-December, known for bright and slow-moving meteors.

Twin tales of the Night Sky

BY NUPUR

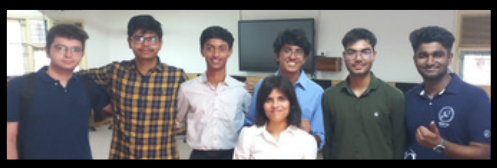
Get ready to dust your binoculars and star charts, space enthusiasts! The night sky is about to be graced by not one but two fascinating comets: Holmes and Wirtanen. While they may not be as flashy as Halley's Comet, these celestial travelers offer unique insights into the formation and evolution of our solar system. Space narrates endless tales for humans. Two fascinating comet tales, Holmes and Wirtanen, offer contrasting narratives.

Holmes grand display: in 2002, a naked eye spectacle surprised everyone as it outshined even Jupiter. Its sudden brilliance is still a mystery, but it's believed to be related to a sudden outburst of gas and dust from its icy nucleus.

Wirtane's dusty secrets: unlike its icy brethren, Wirtanen is a dirty snowball of dust and rock. Its proximity to Earth makes it a treasure trove for studying comets. It is a real speed demon zipping around the sun.

More than just a celestial show, these comets are time capsules carrying clues about the solar system's formation and the potential for life elsewhere.

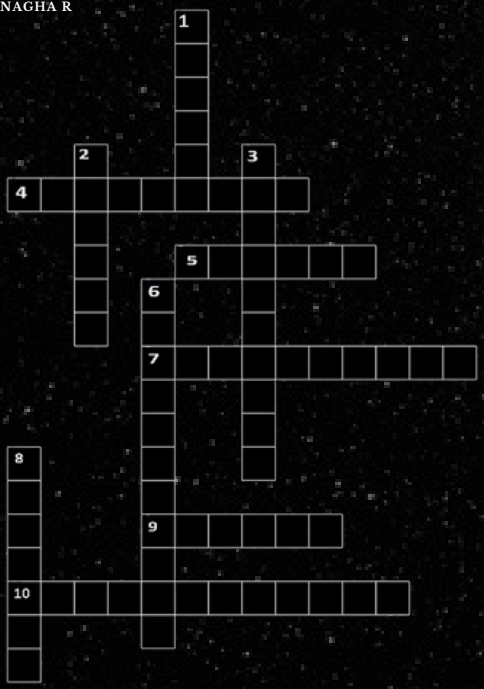
Analysing their composition gives paramount information about the building blocks of the solar system, while observing their activities sheds light on how icy body works.



The year's very first Outreach session on Rocketry, at Shrishti Vidyashram, by SEDS-VIT core, covering all fundamentals about Rocket Science, from design to propulsion. (23/02)

Crossword 002

BY ANAGHA R



ACROSS

4. Ancient space rock that holds secrets, playing hide-and-seek in the cosmic treasure hunt.
5. A stargazer from across the pond snagged the title of "First Comet Spotter," making history in 1705.
7. Mystical scientist turning stardust into glitter, crafting cosmic potions in the laboratory of the night.
9. Celestial sorcerer waves a telescope like a magic wand.
10. Intergalactic rock detective, unearthing the cosmic bedtime stories.

DOWN

1. Frosty dancer from the solar suburbs pirouettes in the cosmic ballet.
2. A showoff, streaking across the night sky and leaving a blazing trail, yelling, "Look at me!".
3. Cosmic mathlete who is turning star constellations into fun equations, playing Sudoku with the universe.
6. French astronomer with a front-row seat for the cosmic show, spotting a comet and saying, "That's mine!".
8. A chilly party in the cosmic neighborhood with water, methane, and cool compounds.

Wordgram 002

BY MANYA, MINTU

HINTS (Use first letter of the answers to fill up the respective blanks)

1. A mechanical helper on the Space Shuttle orbiters more versatile than WALL-E.
2. A theoretical spherical shell of icy planetesimals that surround the Solar System.
3. A moon of Didymos.

MASTER HINT

In the heart of Arizona's land, a fiery visitor left its mark with a cosmic hand.

Solution to Wordgram 001

Solution to Crossword 001