GPS Satellites May Be Able To Detect Earthquakes Before They Happen

Predicting earthquakes is impossible.

When it comes to knowing when an earthquake is coming, a crucial piece missing from the puzzle is what seismologists call a precursor: A telltale fingerprint of an earthquake that arrives before the big event. To date, no one has found a reliable precursor; many scientists don't believe they'll ever find one.

But two researchers may have made a breakthrough in the search for a precursor. If they are right, earthquakes may make their presence known through GPS measurements, several hours before their respective main events.
"Conceptually, that tells you that it is possible to do it. That's a huge step," believes Quentin Bletery, a seismologist at the Institut de Recherche pour le Développement and the Université Côte d'Azur in France.

Bletery and colleague Jean-Mathieu Nocquet turned to a dataset kept by the University of Nevada at Reno. Every five minutes, thousands of stations around the world record their GPS positions. These observations allow scientists to detect even very slight motions. If the ground moved, Bletery and Nocquet could see it in GPS data.

Read more in *article*…

https://www.space.com/earthquake-prediction-gps-satellite-data

2023-07-18

Thales Announces Quantum-ready Cybersecurity Measures for Galileo

Thales, the French multinational company, has affirmed its central role in providing cybersecurity solutions for Galileo, the global navigation satellite system (GNSS) that provides geolocation services. Thales, leading a consortium which includes Italian firm Leonardo, is tasked with expanding the G2G IOV SECMON project's security monitoring scope, incorporating new assets into the G2G system. The company will also implement

automated incident response, network traffic monitoring and create the capability to store large quantities of incident response data.

Thales's solution is set to be based on a scalable, flexible architecture, derived from its Cybels security supervision products, and equipped with big data capabilities. The objective is to protect the system against increasingly sophisticated threats, including the potential vulnerabilities introduced by quantum computing.

Quantum computers, with their vast computational power, pose a significant threat as they are capable of cracking currently used cryptographic algorithms, putting long-term data security at risk. In response to this challenge, Thales is applying its globally acknowledged cryptography expertise to develop cutting-edge security measures, under the auspices of the "G2G System Engineering and Technical Assistance for security and PRS" contract.

Read more in *article*…

https://www.spacedaily.com/reports/Thales_announces_Quantum_Ready_Cybersecurity_measures_for_Galileo_999.html

2023-07-25

EUSPA Testing HAS for Drone Navigation

The European Agency for the Space Program (EUSPA) is moving forward with its rollout of the free Galileo high accuracy service (HAS). Speaking at the recent HAS Days event in Spain, EUSPA’s Carmen Aguilera said, “Galileo HAS is user driven, as is the case for all European space programs. Our goal is to make sure that the services we are delivering are tailored to meet the needs of the users and the industries that will employ them in their businesses.”

EUSPA has recently launched a series of testing campaigns at the European GNSS Service Center (GSC) in Torrejon, aimed at assessing HAS performance in different

application settings. “The accuracy of the performance of the service can differ, depending on the use case,” Aguilera said. “What is the speed, the dynamics? What are the obstacles and where is the user working? So we have been integrating and testing Galileo high accuracy in different dynamic user scenarios.”

One of the first testing campaigns has involved HAS being used in drone navigation, in cooperation with navigation technologies company Rokubun and Galileo operational service provider Spaceopal.

Read more in *Inside GNSS* article. https://insidegnss.com/euspa-testing-has-for-drone-navigation/

2023-07-16

Hundreds of UAVs Lost During Melbourne Show

More than 350 UAVs were lost during a practice light display show in Melbourne, Australia, on July 14, ahead of a scheduled performance for the opening of the women’s World Cup.

The UAVs appeared to stop mid-show and plummet into the Yarra River. Divers have since fished out hundreds of the UAVs.

According to the Resilient Navigation and Timing Foundation, the likely cause of the mass-crash was caused by interference with GPS signals. This incident shows that having multiple and robust navigation sources is important for safe UAV operation.

Read more in *GPS World* article. https://www.gpsworld.com/hundreds-of-uavs-lost-during-melbourne-show/?utm_source=Navigate%21+Weekly+GNSS+News&utm_medium=Newsletter&utm_campaign=NCMCD230719003&oly_enc_id=1784A2382467C6V

2023-07-24

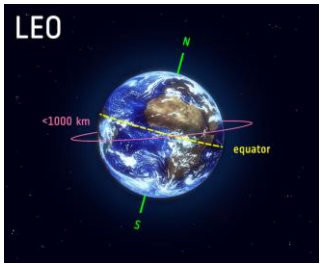
ESA LEO PNT Program Getting Underway

The European Space Agency (ESA) low Earth orbit (LEO)-PNT satellite program, approved at last year's (2022) ESA ministerial conference, will soon begin testing a mini-constellation of at least ten satellites, placed in orbit some hundreds of kilometres above the Earth's surface. Conventional GNSS systems, like those used by Europe's Galileo program, utilise medium Earth orbit (MEO) satellites, about 23,000 kilometres from Earth.

ESA believes traditional Global Navigation Satellite Systems (GNSS) are quickly approaching the limits of their potential in terms of technical performance. In a recent communication, the agency said that while GNSS will remain a fundamental backbone for positioning, navigation and timing (PNT) services, new alternatives are now required.

ESA has launched a new invitation to tender, calling on European companies to join the LEO PNT project. The call covers all aspects of orbit demonstration, including space and ground segments, system engineering aspects, operations, launch, test user segment, experimentation, and service demonstration in representative user environments.

Read more in *Inside GNSS* article. https://insidegnss.com/esa-leo-pnt-program-getting-underway/
2023-06-29



What Is The ‘Nine-Dash Line’ And What Does It Have To Do With The Barbie Movie

The new Barbie film starring Margot Robbie and Ryan Gosling is set for imminent release. But according to Vietnam’s state-run Tuoi Tre newspaper the film’s release has been barred. The head of the Department of Cinema, a government body in charge of licensing and censoring foreign films, said

We do not grant license for the American movie ‘Barbie’ to release in Vietnam because it contains the offending image of the nine-dash line
Vietnam’s response to the Barbie movie’s depiction of the South China Sea shows how sensitive these matters are in South East Asia, and especially in Vietnam.

The South China Sea has a long history of being contested.

Read more in *article*…

https://theconversation.com/what-is-the-nine-dash-line-and-what-does-it-have-to-do-with-the-barbie-movie-209043?utm_medium=email&utm_campaign=Latest%20from%20The%20Conversation%20for%20July%205%202023%20-%202672526982&utm_content=Latest%20from%20The%20Conversation%20for%20July%205%202023%20-%202672526982+CID_ff5e99add9695dd0e7ac4f815cd72449&utm_source=campaign_monitor&utm_term=What%20is%20the%20nine-dash%20line%20and%20what%20does%20it%20have%20to%20do%20with%20the%20Barbie%20movie

2023-07-04

Advanced Navigation Awarded $5.2m Moon to Mars Grant

Its LUNA sensor takes the guesswork out of navigation by using velocity and altitude information instead of visual references that can fail due to a lack of light or dust.

The investment was awarded by the Australian Space Agency as part of the Moon to Mars Initiative: Demonstrator program.

Space Connect previously reported how the NSW-based business hopes to be the "first Australian company to operate on the moon" when its Boreas X90 and LiDAV systems are used by US transportation company Intuitive Machines.

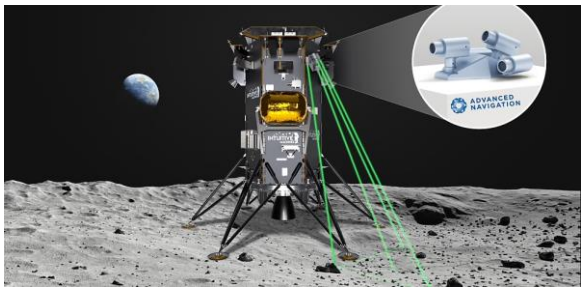
Intuitive Machines is planning three moon missions with NASA that will deliver at least two lunar communication relay satellites by 2025.

Advanced Navigation co-founder Xavier Orr said on Wednesday said the technology will enable reliable navigation on the lunar surface and serve as a catalyst for autonomous space exploration and transportation.

Read more in *article*…

https://www.spaceconnectonline.com.au/industry/5928-advanced-navigation-awarded-5-3million-moon-to-mars-grant?utm_source=SpaceConnect&utm_campaign=29_06_23&utm_medium=email&utm_content=2&utm_emailID=7b4c7db616168fe865f3a2f96500fa1904548b5145c6ae1709d81f43459c19a2

2023-06-28



Global Seafloor Success: 25% Has Now Been Mapped

The recent addition of 5.4 million square kilometres of new data — almost three-quarters the size of Australia — means that 24.9% of the Earth's seabed has now been mapped.

The latest figure was announced by HSH Prince Albert II of Monaco during the recent International Hydrographic Organization (IHO) Assembly in Monaco.

The global effort behind mapping the world's entire ocean floor before the end of the decade is being led by Seabed 2030, a collaboration between The Nippon

Foundation and the General Bathymetric Chart of the Oceans (GEBCO), itself a joint programme of the IHO and the Intergovernmental Oceanographic Commission of UNESCO.

The British Oceanographic Data Centre (BODC), part of the UK's National Oceanography Centre (NOC), acts as the Global Center for Seabed 2030.

Read more in *Spatial Source* article. https://www.spatialsource.com.au/global-seafloor-success-25-has-now-been-mapped/?utm_campaign=SS%20-%20Overall%20Publication%20-%20Master&utm_medium=email&_hsmi=264231299&_hsenc=p2ANqtz-_VdlIQg3TM4nQjRYJ-QNS8xdqnvRzgzdHyVx8nj4LGs8Wy2Yyb7TKrKxOIGRlXrYiMTw10D9RuKMGsAZlOCAR7BRQTtg&utm_content=264231299&utm_source=hs_email

2023-06-23