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[\[International Cooperation\]\[Space Sci-tech\] Control Center for Space Research to Open in Taiwan](#)

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CNA - Focus Taiwan (2012/07/01) A ground control center for an advanced particle physics detector that was sent into space last year to gather data about the origin of the universe will be inaugurated in Taiwan on July 3, a military researcher said Sunday (July 1).

"It will be the world's second and Asia's first ground control facility for the space device, known in academic circles as Alpha Magnetic Spectrometer-02 (AMS-02)," said Hao JINCHI, a project director at the military-run Chungshan Institute of Science and Technology (CSIST).

The state-of-the-art detector, which was designed and built by elite scientists from 16 countries including Taiwan, was taken to the International Space Station in May 2011 by the U.S. space shuttle Endeavour on its final flight.

It is designed mainly to detect charged particles in cosmic rays to find anti-matter, dark matter and missing matter in the hope of answering questions about the "big bang" and the formation of the universe, according to JINCHI.

"To date, the detector has transmitted 18 billion pieces of data back to the project's headquarters at the European Organization for Nuclear Research in Geneva," JINCHI said, adding that the data could shed light on the origin of the universe.

Currently, experts at the Geneva station are working in shifts around the clock, with the U.S. NASA Space Center in Houston providing backup support.

To reduce the Geneva staff's workload and allow even more comprehensive monitoring, the project's top leader Samuel C.C. TING proposed the establishment of a similar ground station in Asia, to be dubbed "Payload Operations Control Center."

TING is a Chinese-American Nobel laureate in physics and a member of Taiwan's top research institute Academia Sinica.

Other countries expressed strong interest in hosting the new facility because it would allow the host country to play a more important role in the joint project and facilitate bilateral or multilateral technological exchanges, JINCHI said.

However, Taiwan was selected because it has been participating in the project for more than 10 years and has won much acclaim for its contributions in developing the device's electronics system that plays a crucial role in the project, he added.

"The establishment of the center is a new milestone in our participation in international space research programs," JINCHI said.

The new payload control center will be located in the CSIST's Lungyuan Research Park in Lungtan, Taoyuan County, in northern Taiwan.

Initially, the center will not be able to communicate directly with the International Space Station, Jinchi said.

"But we expect to gain direct access to the space station soon, with NASA's authorization," he added.

NASA personnel have said the facility is comparable to the one in Geneva, according to Fen YEH, a manager at the Lungyuan park's innovation incubating center, who is responsible for establishing the AMS-02 ground control station in the park.

The center has passed various tests by NASA inspectors, including Internet connectivity and information security

checks, he said.

The payload control center, about the size of an average classroom, will be staffed by 12 scientists who will monitor the AMS-02's "health" in real time via computers, YEH said.

Initially, they will work shifts from 6 a.m. to 2 p.m. while the Geneva staff will take the remaining shifts.

In the long term, YEH said, the Taiwan center will expand its capacity to accommodate three work shifts in case of any emergencies at the Geneva center.

The AMS-02 project, launched by the U.S. Department of Energy in 1999 in collaboration with 15 other countries, is scheduled to run for 15 years.

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