



MANOHAR PARRIKAR INSTITUTE FOR  
DEFENCE STUDIES AND ANALYSES

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# CHINA

## SCIENCE AND TECHNOLOGY REVIEW

January 2024

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## Scientific Collaboration Projects

[The Einstein Probe \(EP\), an astronomical satellite](#), jointly developed by Chinese Academy of Sciences (CAS), European Space Agency (ESA), Max Planck Institute for Extraterrestrial Physics (MPE) and Centre National D'Etudes Spatiales (CNES) was successfully launched on 9 January from Xichang Satellite Launch Center in Southwest China's Sichuan province. Equipped with a wide-field X-ray telescope, the EP will explore mysterious explosive phenomena and study the little-known side of the universe.

The principal investigator of EP, Yuan Weimin, stated, "International cooperation has provided more opportunities for all parties involved to explore space and at the same time, it is a process of mutual learning, and mutual benefits can be achieved." Also, Kirpal Nandra, director of MPE made a remark that through this collaboration, several breakthroughs will be made.

In collaboration with the Institute of Plasma Physics (ASIPP), Hefei Institute of Physical Science (HFIPS) of Chinese Academy of Sciences and International Thermonuclear Experimental Reactor (ITER) France, [the Experimental Advanced Superconducting tokamak \(EAST\), also known as the Chinese 'Artificial Sun'](#) started operation in mid-January. The "Artificial sun" is a mega nuclear fusion device which generates energy through a fusion process.

Based on an approach called "magnetic confinement fusion", both ITER and EAST use magnetic fields to confine fusion fuel in the form of plasma.

Given the shared technology path and experimental conditions with ITER, EAST was selected to collaborate and optimize ITER's new plans. On the successful operation of the "artificial sun", Gong Xianzu, the head

of Division of EAST Physics and Experimental Operations emphasised the significance of having deeper collaboration, short of which the mega project would not be successful. Over the years, several scientists from ASIPP have established stable communication and cooperation with more than 120 research institutions in more than 50 countries, including Europe, the United States, Russia and Japan. Also, Alberto Loarte, head of the ITER Science Division, also expressed the need to understand the implications and operational optimization of the plan, emphasizing the importance of joint experiments with EAST and ASIPP.

## Scientific Research Breakthroughs and Discoveries

On 6 January, China launched the [third-generation autonomous superconducting quantum computer](#) known as 'Origin Wukong', where the overall operating efficiency of the quantum computer has been increased by dozens of times. According to Guo Guoping, the lead research team of third-generation superconducting quantum computer, though China has made certain progress in the field, yet there is still quite a gap compared with other world leading quantum computing powers. According to the latest Global Quantum Computing Technology Patent Filings Ranking List, Origin Quantum is ranked first in China and sixth in the world by the number of invention patents it has applied for in quantum computing.

Further boosting atmospheric physics research and high-altitude detection methods, [on 24 January the third flight of the Kinetica 1 rocket model was launched successfully](#) from the Jiuquan Satellite Launch Center in northwestern China, after which the rocket placed five satellites into their preset orbit. This was a joint project between the Institute of Atmospheric Physics, Chinese Academy of

Science and Beijing Xingjian Tianhang Space Technology Company.

The Kinetica 1 type conducted its debut flight at the Jiuquan center in July 2022, becoming the country largest and most powerful solid-propellant rocket by that time. Its second launch took place in June 2023 and transported 26 satellites into space, setting a national record for the most spacecraft launched by a single rocket so far. By now, the Kinetica 1 has deployed 37 satellites in space, boasting a 100-percent success rate.

So far, only Stanford University has carried out a test on launching rockets based on a high-altitude balloon, but the balloon had a very low payload, and the rocket carried was very small.

### China's Science Diplomacy

To strengthen cooperation and communication in the domain of infectious disease control and prevention, the [Center for Global Public Health of the Chinese Center for Disease Control and Prevention \(China CDC\) and Sierra Leone Ministry of Health](#) organised a meeting in Freetown, Sierra Leone from 10-12 January. Experts from Africa CDC, US CDC, WHO and FAO also participated in the meeting. At the meeting both teams agreed to provide data and technical support for infectious disease risk warnings in Sierra Leone. During the meeting, experts from China CDS and Africa CDS inspected the 'Sierra Leone-China Friendship Biosafety Laboratory', which is the only public health laboratory among the 53 laboratories supported by the Chinese Ministry of Science and Technology under the Belt and Road Initiative (BRI).

In a meeting on [16 January, China CDC and European Centre for Disease Prevention and Control \(ECDC\)](#) deliberated on the development and training of public health workforce between the two institutions. In the meeting, ECDC experts specifically

introduced the development and implementation of the European Programme for Intervention Epidemiology Training (EPIET) and the Public Health Microbiology Training Program (EUPHEM), where the ECDC is currently facing a challenge in getting other disciplines and partners into workforce development and training programs under the "One Health" perspective. Experts from China CDC introduced current workforce development and training programs in China CDC, including postgraduate medical education programs, standardized training for public health physicians, and the Chinese Field Epidemiology Training Program (CFETP). Both parties expressed intentions to further exchange information on public health workforce development and training in the future, learning from each other and jointly promoting the construction of public health workforce.

On 29 January, [the Chinese Embassy in the United States' lodged a](#) formal protest against the United States for allegedly blocking Chinese students at the border. The embassy also issued a caution over travelling through a key American airport. The formal complaint by the Chinese embassy was made following a report where several students from China with purportedly valid travel permits were reported to have undergone unwarranted interrogations and harassment upon their arrival at Washington Dulles International airport. Upon their arrival at the US airport, the US authorities allegedly confiscated electronic devices, including phones and laptops, and some were even deported back to China.

The [Chinese Foreign Ministry spokesperson, Wang Wenbin](#), urged the US to act on the statement made by President Biden and the common understanding reached during San Francisco Summit in November 2023.