

Steady demand

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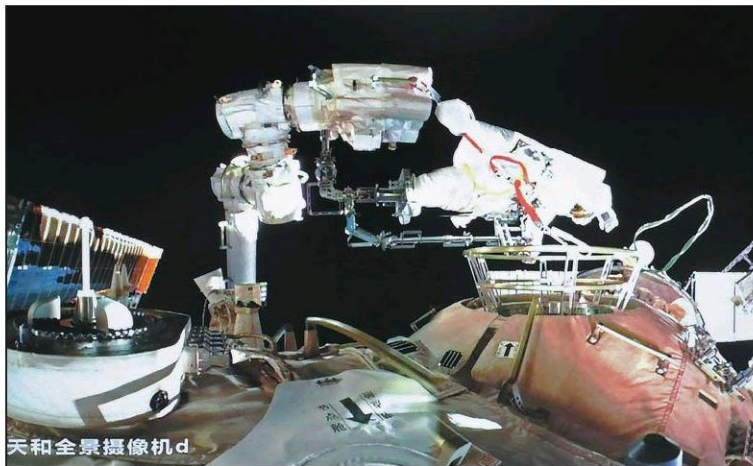
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天和全景摄像机 d

China's Shenzhou XIII astronaut Senior Colonel Ye Guangfu begins activities outside the space station core module Tianhe on Sunday. Ye and Major General Zhai Zhigang adjusted the position of a panoramic camera and tested their spacesuits and the robotic arm.

XU BU / FOR CHINA DAILY

Shenzhou astronauts conduct 2nd spacewalk

By ZHAO LEI

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China's Shenzhou XIII mission crew conducted their second extravehicular activity on Sunday.

During the spacewalk, which started at 6:44 pm on Sunday, mission commander Major General Zhai Zhigang and Senior Colonel Ye Guangfu adjusted the position of a panoramic camera and tested their spacesuits and the robotic arm.

Senior Colonel Wang Yaping stayed inside the Tiangong space station to support the operation.

According to the China Manned Space Agency, the spacewalk helped to improve the astronauts' skill at cooperating with each other and ground control, and built experience that will benefit future spacewalks.

It was the first spacewalk for Ye, who joined China's second group of astronauts in May 2010.

Pang Zhihao, a spaceflight researcher in Beijing who worked

at the China Academy of Space Technology for decades, said making spacewalks has become a regular part of China's manned space missions.

"Our astronauts have learned a lot about extravehicular maneuvers through previous spacewalks. Next, they will have many challenging, demanding tasks in future spacewalks, such as installing equipment and fixing malfunctions," he said.

The Shenzhou XIII mission was launched on Oct 16 by a Long March 2F carrier rocket that blasted off from the Jiuquan Satellite Launch Center in northwestern China's Gobi Desert, with the crew soon entering the Tiangong space station. They are scheduled to spend six months working in the station, making it China's longest space mission.

As of Sunday, the astronauts have been in space for 72 days. They completed their first spacewalk on Nov 8, with Wang, 41, becoming



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Pang Zhihao, spaceflight researcher who worked at the China Academy of Space Technology for decades

China's first female spacewalker.

During the first spacewalk, Zhai and Wang mounted components on the robotic arm and used it to practice extravehicular maneuvers. They verified the arm's capabilities and its compatibility with the needs of astronauts, examined the safety and performance of

support devices and also tested the functions of their extravehicular suits.

Shenzhou XIII is the fourth spacecraft to visit the Tiangong station and the second crewed ship to transport astronauts to the orbiting outpost.

Tiangong, or Heavenly Palace, one of China's most challenging and sophisticated space endeavors, will eventually consist of three main components — the Tianhe core module attached to two large space labs.

It will have a combined weight of nearly 70 metric tons. The entire station is scheduled to work for about 15 years in a low-Earth orbit about 400 kilometers above the planet.

The first astronauts inside Tiangong — Major General Nie Haisheng, Major General Liu Boming and Senior Colonel Tang Hongbo — finished their 92-day mission in mid-September. They performed two spacewalks.



Visitors take pictures of a lunar sample on display in Shaoshan, Hunan province, on Saturday. The samples are being stored at a facility built and operated by Hunan University.

YANG HUIFENG / CHINA NEWS SERVICE

Backup storage facility for moon materials opens in Mao's hometown

By ZHAO LEI
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A backup storage facility for lunar samples retrieved during China's Chang'e 5 robotic mission was put into service on Saturday in the hometown of late Chairman Mao Zedong.

Samples were handed over to Hunan University at a ceremony on Saturday in Shaoshan, Hunan province, where Mao, one of the founding fathers of the Communist Party of China and the People's Republic of China, grew up.

They will be kept at a backup storage facility on Tiane Mountain built and operated by the university, according to the China National Space Administration.

Construction of the facility was approved in 2014 and completed in July. In November, it passed a qualification inspection and was certified to operate, the space administration said in a statement.

Zhang Kejian, head of the administration, said at the ceremony that keeping the backup samples in Mao's hometown will serve as a remembrance of the late chairman and his hopes for China's space industry, and it will also help represent the nation's achievements in space programs and popularize space learning.

Experts taking part in the selection of the facility's location

said that Tiane Mountain was chosen because it has a very stable geological structure and has never had rockfalls or landslides.

The Chang'e 5 robotic mission was launched on Nov 24 last year at the Wenchang Space Launch Center in South China's Hainan province and successfully landed on the moon eight days later.

The mission was the most significant event in China's space industry in 2020 and one of the world's most notable space-related events that year, as the probe became the world's third spacecraft to touch down on the lunar surface in the 21st century after its two Chinese predecessors — Chang'e 3 and 4.

The landmark mission brought 1,731 grams of lunar rocks and soil back to Earth on Dec 17 last year, the first to do so since lunar materials were last hauled to Earth from its nearest celestial neighbor in 1976 by the former Soviet Union.

The 23-day mission was one of the nation's most sophisticated and challenging space endeavors, and it made China just the third country in history to get materials from the moon, after the US and the Soviet Union.

Chang'e 5's orbiter is now flying around Lagrange Point 1, which is located between the Earth and the sun and is an ideal position for monitoring solar activities, for extended scientific operations.