

Space telescope to observe 'big eaters' in universe

China's new space telescope to be launched soon will probe many mysteries of the universe, including the belching "big eaters" – active galactic nuclei at the most remote edges of the universe.

Scientists have discovered that almost every galaxy has a supermassive black hole with a mass several million to several billion times that of the Sun at its center. With their mighty gravitational attraction, the supermassive black holes engulf the surrounding gas and dust.

When a black hole swallows too much, the excess matter is converted into two jet-flows perpendicular to the accretion disk of the black hole, which is like a glutton with a bloated belly belching.

The jet-flows and accretion disk of the supermassive black hole generate X-ray radiation strong enough to travel billions of light years. These galaxies have very bright nuclei – so bright the central region can be more luminous than the remaining galaxy. Scientists call them active galactic nuclei.

The Hard X-ray Modulation Telescope (HXMT), developed by Chinese scientists, will observe some active galactic nuclei. "Since the active galactic nuclei are very far from the Earth, our telescope can only detect the brightest ones," says Zhang Shuangnan, lead scientist of HXMT and director of the Key Laboratory of Particle Astrophysics at the Chinese Academy of Sciences (CAS).

The big eaters are full of mysteries. Scientists have found the double jet phenomenon is very common in galaxies with active galactic nuclei, but they don't understand why supermassive black holes cannot engulf all the matter falling into them.

Supermassive black holes are very different from black holes of stellar mass, which are formed when very massive stars collapse at the end of their life cycles. Scientists are still not clear how supermassive black holes are formed and grow, which is a key to understanding the evolution of galaxies.

HXMT's observation is expected to help scientists see the core region close to the event horizon of supermassive black holes at the center of active galaxies and gather information about the extremely strong gravitational fields, Zhang says.

Cybersecurity law starts for better personal info protection



Cybersecurity Law aims to “protect people’s interests.” [File photo]

China’s Cybersecurity Law will take effect on June 1, banning online service providers from collecting and selling users’ personal information.

The internet service providers cannot collect user information that is irrelevant to the services, and they should handle such information in line with laws and agreements, according to the new law that was adopted by China’s top legislature in November last year.

Users now have rights to ask service providers to delete their information if such information is abused.

Cybersecurity management staff must also protect information obtained, and are banned from leaking or selling the information, including privacy and commercial secrets.

Those who violate the provisions and infringe on personal information will face hefty fines.

The law also made it clear that no one can use the internet to conduct fraud or sell prohibited goods.

Several other regulations will come into force on June 1.

A regulation on online news requires individuals and groups to get government

permission before releasing news on instant messaging apps or social websites.

Civilian drones weighing more than 250 grams must be registered under real names to improve civil aviation safety.

An amended regulation on farming pesticide bans the use of highly toxic pesticides on edible agricultural products and strictly limits the use of pesticide.

[Yangtze to see first rainstorms this summer](#)

Areas along the Yangtze, China's longest river, will soon be hit by the first round of heavy rainfall this flood season, authorities said.

According to a report published by the Yangtze flood control and drought relief headquarters Saturday night, the southern bank of the main stream of the river will receive moderate to heavy downpours and rainstorms, from May 30 to June 1.

The rain will mainly affect areas around the Wujiang River – the longest tributary on the southern bank of the upper reaches of Yangtze, and the Poyang and the Dongting – two large lakes on the southern bank of the middle reaches of Yangtze.

On May 30, Wujiang will see moderate to heavy rain. On May 31, Wujiang and the two lakes will see moderate to heavy rainfall or rainstorms. On June 1, the lakes will see heavy rainfall or severe rainstorms.

The headquarters asked the areas to strengthen flood control efforts, prevent disasters such as mountain torrents and landslides, and relocate affected people in a timely manner.

[Hong Kong to develop 'in line with law'](#)

Hong Kong should uphold its executive-led political system with the chief executive at its core, as set out in the Basic Law, the nation's top legislator said on Saturday.

Zhang Dejiang, chairman of the Standing Committee of the National People's Congress, said that the development and improvement of the Hong Kong special administrative region's political system must also be compatible with this basic principle.

Zhang also stressed that the Hong Kong team of public officers formed in accordance with the Basic Law must be composed of patriots who respect the Chinese nation, wholeheartedly support the motherland's resumption of exercise of its sovereignty over Hong Kong and will not do things that undermine Hong Kong's prosperity and stability.

Zhang made the remarks at a high-ranking symposium in Beijing commemorating the 20th anniversary of the implementation of the Basic Law of the Hong Kong Special Administrative Region.

He said Hong Kong must adhere to the comprehensive and precise implementation of the Basic Law—the city's constitutional document that has proved a success since 1997 and has provided a fundamental guarantee for the “one country, two systems” principle to maintain Hong Kong's long-term prosperity and stability.

Enacted in accordance with China's Constitution, the Basic Law specifies the guidelines of “one country, two systems” and “Hong Kong people administering Hong Kong with a high degree of autonomy”.

The power exercised by the special administrative region is “delegated by” but “not separated from” the central government, and under no circumstances should anyone be allowed to challenge the power of the central government in the name of a high degree of autonomy, Zhang added.

He called on Hong Kong to rigorously perform its constitutional duty of safeguarding national security through legislation prescribed in the Basic Law, and stop any behaviors or activities that undermine national unity.

The central government has committed itself to upholding the “one country, two systems” policy and the Basic Law, actively supported development in all fields in Hong Kong and faithfully protected the lawful rights and interests of Hong Kong people, Zhang said.

Hong Kong's Chief Executive Leung Chun-ying, who also attended the symposium, said the “one country, two systems” policy and the Basic Law are “the best constitutional arrangements” for both Hong Kong and the country.

With the combined advantages of “one country, two systems”, Hong Kong can participate in the country's major development strategies while serving as a “super-connector” between the mainland and the rest of the world, Leung said.

Chairwoman of the Democratic Alliance for the Betterment and Progress of Hong Kong Starry Lee Wai-king urged those from the opposition camp to see the interaction between Hong Kong and the mainland from the positive light of serving the city's, as well as the country's, long-term development interests.

Vice-president of the Chinese Association of Hong Kong and Macao Studies Lau Siu-kai believed that people's opinions may vary because of different political affiliations, but loving the country and the city should be the basic consensus among Hong Kong people.

Heat wave continues in north, central China

China's national observatory issued a yellow alert on Sunday for high temperatures, the least serious in a three-tier warning system, with some northern provinces expected to see temperatures of up to 39 degrees Celsius.

The heat wave, which has swept across northern provinces and led temperatures in some areas to historic highs in May, will continue to bake north and central China on Sunday, the National Meteorological Center said.

The observatory expected some regions in Beijing, Tianjin, Hebei, Shanxi, Henan, Shandong, Hubei, Anhui, Jiangsu and Xinjiang to see temperatures above 35 degrees Celsius.

Temperatures in downtown Beijing, and parts of Hebei, Henan, Shandong and Hubei provinces could rise to 39 degrees Celsius, it said.

It noted the heat wave will gradually ease starting May 30 as a cold front approaches the regions.