Russia launches giant telescope in deep space return

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A Zenit 3F rocket carrying the Spektr-R radio astronomy observatory blasts off from the Russian leased Kazakhstan's Baikonur cosmodrome. Spektr-R will scour the fringes of the universe for black holes, mysterious quasar radio sources and also the fast rotating stellar remnants known as pulsars, Russian space agency Roskosmos said in a statement.

Russia on Monday launched into space its Spektr-R radio telescope planned to be the most powerful ever, the first deep space observatory sent up by Moscow in a quarter of a century.

Spektr-R will scour the fringes of the universe for black holes, mysterious quasar radio sources and also the fast rotating stellar remnants known as pulsars, Russian space agency Roskosmos said in a statement.

The instrument, dubbed the "Russian Hubble" after the iconic US space

telescope but many thousands of times more powerful, will give astronomers new opportunities for looking billions of light years back in time to the young universe and unlocking the mysteries of black holes.

"It will allow us to look into the furthest reaches of the universe with a very sharp resolution and receive data about extra-galactic phenomena," said the project's constructor Viktor Khartov of the Lavochkin institute outside Moscow.

"The whole world is waiting for this," he added, quoted by Russian news agencies.

The observatory, a project first conceived three decades ago under the Soviet Union, successfully blasted off from Russia's Baikonur cosmodrome in Kazakhstan at 0231 GMT on a Zenit rocket, Roskosmos said.

It will have a highly elliptical orbit of around 340,000 kilometres, and an official working life of five years, although its creators hope it may last even longer.

The far-Earth orbit will bring it within 50,000 kilometres of the moon, allowing it to use the lunar gravity to change the orbit angle and see more of the sky.

Boasting a 10-metre diameter antenna that will unfurl from carbon-fibre petals, Spektr-R's creators say that it will be able to produce images with a resolution 100,000 times that of the famed US Hubble Space telescope.

The first images from the telescope are expected to be released by the end of the year.

According to the project's website, the aim of the observatory is to examine objects like supermassive black holes and young stars "with an unprecedented high angular resolution in the centimetre and decimetre wavelength bands."

Working with ground based telescopes, Spektr-R will be able to create a virtual base for receiving data 340,000-kilometres long by using a technique known as inferomety which combines signals from different sources.

The telescope, which official Russian news agencies said is the first such launched by Moscow for 25 years, comes as Russia is seriously returning to deep space exploration after years of absence.

It is due in November to finally launch its eagerly-awaited Fobos-Grunt probe, which will seek to return a soil sample from the Martian moon Fobos to Earth and also observe the Red Planet.

"The main point is that Russia is returning to scientific programmes in space after a long break," Roskosmos chief Vladimir Popovkin said after the launch, quoted by the ITAR-TASS news agency.

Celebrating the 50th anniversary year of Yuri Gagarin's first manned space flight, Russia is hoping to show it remains a global power in space science despite a string of setbacks over the last years.

With the end of the US space shuttle programme, it has now become the sole nation capable of transporting humans to the International Space Station (ISS).