



KAT to aid SA's astronomy aspirations

The Karoo Array Telescope (KAT) would focus on leading-edge astronomic discoveries and help boost South Africa's Nobel prize hopes in physics, Science and Technology Minister Mosibudi Mangena said on Thursday.

"The KAT will focus on such leading-edge discoveries and push our understanding of the space frontier even further.

"I am confident that the KAT will play a significant role in future Nobel prize awards," he said at the telescope's groundbreaking ceremony at the Hartebeesthoek Radio Astronomy Observatory.

The KAT, to consist of 20 dishes, each 15m in diameter, was expected to take two years to build. It would be operated remotely from Cape Town.

'Look back across 14 billion years to the immediate aftermath of the big bang'

It was the first array telescope designed to perform large area surveys of the sky. KAT was also the first "new build" of dish that would make use of the technology essential for the world's largest radio telescope, the Square Kilometre Array (SKA) telescope.

Mangena described KAT as a "one percent demonstrator" of the SKA, which South Africa was bidding against Australia

to host.

"We are planning to use KAT, and subsequently the SKA, to look back across 14 billion years to the immediate aftermath of the big bang."

The SKA would consist of 4 500 satellite dishes dotting the landscape, linked by optical fibre cables which would feed the data into a site in the Karoo and to a high performance computer in Cape Town for processing of images such as pulsars and galaxies.

Designed to be 50 times more sensitive than today's most powerful radio telescopes, it would be scattered over a vast area, mostly in the Northern Cape, but with outlying stations up to the country's borders, and in neighbouring countries such as Namibia and Mozambique, extending as far afield as Ghana and Kenya.

SKA would look at radio waves emanating from the universe, unlike the southern hemisphere's largest single optical telescope, SALT in Sutherland, which looked at light waves.

Mangena said the Northern Cape government had supported the project with an Astronomy Bill. This would designate areas of the Karoo "astronomy reserves" to keep them free from radio frequency interference.

He said the proposed SKA site was well-protected by hills, and at an altitude of 1100 metres had less water vapour to contend with.

Mangena's department had started a SKA KAT bursary programme which had already attracted 20 MSc and PhD students.

The decision about who would host the SKA would be made "towards the end of the decade," it was announced in September. It would be built by a consortium

consisting of governments and institutions in Europe, Asia, North and South America, Australia and South Africa. - Sapa

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