Australia unveils telescope to warn of solar flares

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A handout photo shows the Australian SKA Pathfinder telescope in the western desert in October 2012. Australia has unveiled a new radio telescope in the same area that will give the world a vastly improved view of the sun and much faster warnings on massive solar storms.

Australia has unveiled a new radio telescope in the remote outback that will give the world a vastly improved view of the sun and much faster warnings on massive solar storms.

The Murchison Widefield Array (MWA) radio telescope will detect flares on the sun's surface that could damage communication satellites, electricity power grids and GPS navigation systems, director Steven Tingay said Saturday.

Tingay said large solar flares produced an eruption of particles that could wreck havoc on satellites, and also created strong magnetic fields.

"The telescope will be able to detect when those flares take place," he told AFP.

Tingay said the goal was to predict the trajectory of potentially damaging debris and use this information to allow the reorientation of satellites or the shut down of communications systems that could be in its path.

He said while previously scientists could have about three or four hours' warning of potentially damaging solar disturbances, the new telescope could give them up to 20 hours.

"It's a very new type of telescope," he said, adding that its remote, sparsely populated location almost 800 kilometres (500 miles) north of the western city of Perth meant it was ideal for low-frequency radio reception.

Experts have warned that the sun is due to re-enter peak activity in 2013, with a marked increase in the number and severity of solar storms expected.

"The MWA will keep watch on the sun during the upcoming period of maximum solar activity," Tingay, who is professor of Radio Astronomy at Curtin University, said in a statement.

"It has the potential to deliver very real and immediate benefits to the

entire global population."

Tingay said the Aus$51 million (US$53 million) MWA telescope, involved the work of 13 institutions in Australia, the United States, India and New Zealand, led by Western Australia's Curtin University.

The MWA will also offer scientists a better understanding of how the early universe formed by picking up radio waves that have travelled for a long as 13 billion years—or soon after the Big Bang—to reach Earth.

"Understanding how the dramatic transformation took place soon after the Big Bang, over 13 billion years ago, is the final frontier for astrophysicists like me," Tingay said.

The MWA, launched on Friday, is expected to be fully operational in February.

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