

MEDIA RELEASE

NEWS FROM THE UNIVERSITY OF TASMANIA

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ATTENTION: Chiefs of Staff, News Directors



Second side of telescope triangle completed

A new 12-metre antenna was lifted into place this morning to create a new radio telescope at Katherine, Northern Territory, adding an important component to an Australia-wide network of telescopes.

A similar structure was erected in Mount Pleasant, Tasmania, in April this year.

The Katherine antenna is the second part of what will eventually be a triangle-shaped network when the final telescope is installed at Yarragadee in Western Australia.

The telescopes are part of the AuScope Very Long Baseline Interferometry (VLBI) Project, which comprises the construction and operation of the three new radio telescopes by the UTAS School of Maths and Physics.

VLBI is an astronomical technique that uses widely spaced radio telescopes to create the effect of a single telescope as big as distance between the individual telescopes.

When completed, the AuScope VLBI array will synthesise a telescope the size of Australia. The VLBI array will regularly observing quasars, very bright distant objects powered by super-massive black-holes, which are effectively fixed-points on the sky.

From these observations it is possible to measure the positions of the telescopes to very high accuracy: about one part in one billion.

The great strength of the AuScope project is that it brings together different positioning and measuring techniques like VLBI and GPS to make a powerful fully-integrated earth monitoring network that spans the continent

The completed network will span the whole continent, enabling:

- millimetre-accurate positions for real-time vehicle and aircraft positioning and navigation
- techniques to better identify and study regions of seismic risk, especially those associated with populated areas and mining
- precise measurement of variations in sea level

UTAS will operate the new VLBI facility for AuScope with the telescopes controlled remotely from the Hobart campus. Data will be processed at a supercomputer facility at Curtin University of Technology in Western Australia.

AuScope VLBI Project Manager, Dr Jim Lovell, from the UTAS School of Maths and Physics, said it was very exciting to see the second of the three telescopes take shape.

“When complete, this telescope will contribute to the vital north-south measurements that are essential for measuring how our continent is moving,” he said.

The new observatory is at the Katherine Rural Campus of Charles Darwin University (CDU).

“We’re especially grateful to the staff at CDU for their cooperation and assistance during site preparation and construction,” Dr Lovell said.

Mr Robert Sarib, Manager of Survey Services for the Northern Territory Office of the Surveyor General said “the great strength of the AuScope project is that it brings together different position-finding techniques like VLBI and GPS to make a powerful fully-integrated network spanning the continent.”

AuScope is funded by the Australian Government under the National Collaborative Research Infrastructure Strategy (NCRIS). It involves a collaboration between universities, territory, state and federal governments and Geoscience Australia.

The telescopes for the network are manufactured by Cobham Satcom Land Systems products.

For information on the AuScope Project: www.auscope.org.au.

Regular updates on the AuScope VLBI project are published at www.facebook.com/AuScopeVLBI

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