Radical Antarctic telescope "would outdo Hubble"

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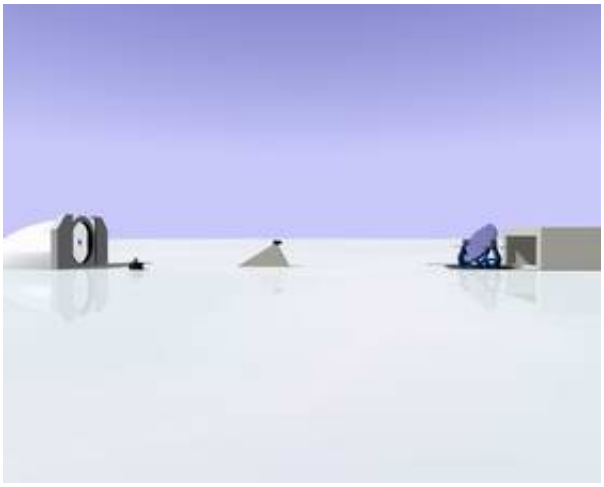

A novel Antarctic telescope with 16-m diameter mirrors would far outperform the Hubble Space Telescope, and could be built at a tiny fraction of its cost, says a scientist from the Anglo-Australian Observatory in Sydney, Australia.

Tests by a team from the University of New South Wales, reported in the journal 'Nature' this week [16 September], show that the 'Dome C' site in the Australian Antarctic Territory is by far the best place ever tested on Earth for doing infrared and optical astronomy.

"A telescope there would perform as well as a much larger one anywhere

else on Earth. It's nearly as good as being in space", said Dr. Will Saunders of the Anglo-Australian Observatory.

At the SPIE Astronomical Telescopes and Instrumentation conference in Glasgow in June, Dr. Saunders presented a concept for an unusual telescope that's well matched to the special conditions at Dome C, both in its optical design and in the way it's built.

It looks nothing like other telescopes. Much of it could be built of 'icecrete'–snow compressed to form blocks as hard as concrete–while its mirrors could be made of the glass used for office windows.

Under the superb atmospheric conditions at Dome C this simple telescope could make razor-sharp images of large areas of sky.

Dr. Saunders estimates that his design would cost about a fifth as much as one of the extremely large telescopes now being planned. These have mirrors 30-100 m in diameter and price tags of US$700 million and up. The Hubble Space Telescope cost a few times more: about US$2.2 billion at launch.

"With this simple telescope you could do the exquisite imaging that the extremely large telescopes plan to do, at a fraction of their cost" Dr. Saunders said. "But, unlike them, this telescope would also be a great survey instrument, able to map the whole sky with Hubble-like clarity."

Source: Anglo-Australian Observatory