

Astronomy Talk 9th August 2016

The Southern African Large Telescope

Paul Spurr from the Weymouth Astronomy Club came to talk to us about his visit to SALT. He first took us on his travels to the South Africa Astronomical Observatory (aka SAAO) near Cape Town which was built in 1896; in particular its purpose was for communicating longitude to shipping.

Then on to Sutherland in the Great Karoo and SALT. The telescope has an 11metre diameter, consisting of 91 hexagonal 1 metre elements which are interchangeable as it has a spherical shape. The secondary mirror corrects for the focus problems this can cause, but it's much easier to make than a parabolic mirror, as well as offering the interchangeability advantage.

The telescope is at a fixed angle of 37 degrees from the vertical, but it can be rotated on its vertical axis. The secondary mirror is moveable, like the Arecibo receiver, giving a 6 degree wide capability. Over a year 70% of the sky is visible with this arrangement.

It cost \$36 million, whereas a fully steerable telescope would have cost 5 times as much. 20% cost for 70% coverage seems to be a good deal!

Finally Paul showed us some southern hemisphere objects in space that we can't see from here, e.g. the Magellanic Clouds, Omega Centauri etc.