



The Greenland Telescope – Status

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1. Extended Abstract

The Greenland Telescope project is about deploying a 12-meter antenna to a high site in Greenland. We have two primary scientific goals: To image the shadow of supermassive black hole in M87, and to conduct astronomy observation in tera-hertz frequencies. Since the ALMA North America Prototype Antenna was awarded to the Smithsonian Astrophysical Observatory (SAO) in 2011, SAO and the Academia Sinica Institute of Astronomy & Astrophysics (ASIAA) are working jointly to retrofit the antenna for the cold environment and to stage sites in Greenland for operations. The previous status reports can be found in the reference herein.

In 2016, we have successfully completed the first installment of the Thule deployment. We have set up the staging areas for the telescope site in which the telescope's primary structure, consisted of the support cone, the yolk-arms and traverse, and the receiver cabin, is assembled and erected. In the meantime, we have assembled the primary dish's Backup Structure (BUS) and the quad-leg in one of the cold hangars in the Thule Air Base (TAB). The success is the outcome of the hard work from the project members, who had diligently planned and coordinated the deployment schedule, travelled to Thule to work in the strange and harsh environment, and endured the arctic coldness to complete the tasks. With these activities, we have placed our first set of footprints on this far-away land that the Project bears the name. This is the most important milestone for the Project since 2011.

I will show the status of the antenna retrofit and the work carried out at Thule Air Base. These activities are expected to last until the winter of 2017 when commissioning takes place. In parallel, design, fabrication and testing of the remaining components are taking place in Taiwan.

References

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