

# The Virgin Islands telescope: history and status

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## 1. History

The University of the Virgin (UVI) islands owns an observing facility on Crown Mountain in St. Thomas, USVI. It was built in the 1960's as a private residence surrounding a 0.4m telescope on an independent pier. The house and telescope was donated to UVI by the Etelman family. On sabbatical leave from CofC, Drost visited the facility while it was being repaired following hurricane Marilyn in 1995. He proposed that CofC astronomers and students make use of the telescope, which survived the hurricane. After retiring from CofC, Drost relocated to UVI. Nations (then at CofC) and Aurin, an exchange student from CofC, refurbished the telescope. In the fall of 1997, Neff and Aurin used it for CCD photometry in support of an international observing campaign. Neff and Drost formulated a long-term vision for the facility as a Caribbean center for astronomical research and environmental studies.

The principal astronomical benefits of the site are its location (near the equator, between the continental and Europe), its extremely stable atmospheric conditions and dark skies, existing infrastructure (power, water, roads, parking, telephone, etc), and its status as a UVI-owned facility. A facility renovation plan was proposed to UVI, and the telescope purchase was included in a larger NSF proposal to enhance the science and mathematics programs at UVI. The South Carolina Space Grant Consortium, of which UVI and CofC are members, took an active interest in developing the facility, and a grant from the US Dept. of Defense provided for the purchase of instrumentation and computers. Several CofC students (Allen, Hurley, Walsh) have carried out studies of the astronomical and meteorological conditions at the site, and other CofC students (Boyajian, Davis) have been developing software tools for robotic observations. Valuable technical support at UVI has been provided by Crowther, Lucas, and Smith. Thomas has succeeded Drost as observatory

director at UVI. South Carolina State University has joined UVI and CofC in an agreement to jointly purchase the telescope and operate the observatory robotically.

## 2. Status

We equipped the observatory with a turn-key robotic system purchased from Torus, Inc. This company no longer exists, but many of its products are offered by its successor, known as Optical Mechanics, Inc. The system includes a 0.5m f/10 cassegrain telescope, the unix-based Talon operating system, integrated GPS and weather stations, a 12-position filter wheel. A Marconi 42-40 back-illuminated CCD with 2048×2048 13.5 $\mu$ m pixels in a Finger Lakes Instruments camera was purchased separately. The telescope can be operated manually, remotely, or robotically. Because of the likelihood of hurricanes, we enclosed the telescope in dome purchased from Ash Domes, Inc. UVI has been actively renovating the facility, which currently includes a control room under the telescope, a classroom, dormitory facilities for visiting astronomers, high-speed internet access, and an office. Future plans call for a complete apartment, a museum/visitor center, and conference facilities.

The telescope was installed in November 2003, and initial testing was completed in January 2004. The dome was automated in July 2004, so we are able to conduct commissioning observations remotely. All systems are in excellent working condition, and we hope to have fully robotic capability by the end of 2004. Our first-light images can be found on our website at <http://astro.uvi.edu/>. Initial science operations include a key project to monitor optical counterparts of gamma-ray bursts (see Giblin et al., these proceedings). The telescope will also be made widely available for coordinated observing campaigns, faculty and student research, and the educational/outreach missions of our institutions.