

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
Open Space: Participatory Space Education and Outreach (8)

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EDUCATION AND OUTREACH USING THE FALCON TELESCOPE NETWORK

Abstract

The Falcon Telescope Network (FTN) is a global network of small aperture telescopes developed by the Center for Space Situational Awareness Research in the Department of Physics at the United States Air Force Academy (USAFA). Consisting of commercially available equipment, the FTN is a collaborative effort between USAFA and other educational institutions ranging from two- and four-year colleges to major research universities. USAFA provides the equipment (e.g. telescope, mount, camera, filter wheel, dome, weather station, computers and storage devices) while the educational partners provide the building and infrastructure to support an observatory. The user base includes USAFA along with K-12 and higher education faculty and students. The diversity of the users implies a wide variety of observing interests, and thus the FTN collects images on diverse objects, including satellites, galactic and extragalactic objects, and objects popular for education and public outreach. The raw imagery, all in the public domain, will be accessible to FTN partners and will be archived at USAFA. Currently, there are five Falcon telescopes installed, two in Colorado and one each in Pennsylvania, Chile, and Australia. These five telescopes are in various stages of operational capability but all are remotely operable via a remote desktop application. The FTN team has conducted STEM First Light Projects for three of the U.S. observatories and the one site in Australia, soliciting proposals from middle and high school students and teachers that suggest and then become what is observed as official STEM first-light objects. Students and teachers learn how to write and submit a proposal as well as how telescopes operate and take data, while university-level students at the U.S. Air Force Academy and The Pennsylvania State University learn how to evaluate proposals and provide feedback to the middle and high school students and teachers. In this paper, we present the current status of the FTN, details of and lessons learned from the STEM First Light Project, and feedback from middle and high school students and teachers.