PIRATE
Physics Innovations Robotic Astronomical Telescope Explorer

Ulrich Kolb (1), Robert Lucas (1) and Vadim Burwitz (2,3)

(1) pCETL/Physics & Astronomy, OU, (2) Observatori Astronòmic de Mallorca (OAM), (3) Max-Planck-Institut für extraterrestrische Physik, Garching

PIRATE is a remote-controlled 14 inch telescope on a Paramount robotic mount in an automated 3.5m dome, located at the Observatori Astronòmic de Mallorca.

Students connect to PIRATE via a web interface and submit commands to: remotely open or close the dome, point the telescope, and acquire images of the night sky. Observers download images to their own PC for analysis with commercial CCD image manipulation software. Expert users have full access to the PIRATE control PC for system maintenance, development and more advanced applications. Small student groups have shared simultaneous access to PIRATE via the automated observatory control software ACP from Digital Dreams Inc. Larger groups of students will be able to monitor PIRATE’s real-time use with an animated 3D model of the telescope under a simulated sky. The animation runs locally on the students’ PC but obtains live information on the status of PIRATE from a web server. When used alongside Elluminate, interactive, live observations with a mass audience are feasible.

PIRATE is being used as a research tool by a PhD student (S Holmes) on transit-ing exoplanets, by Leicester University undergraduate students for 3rd year projects, by OU summer students, and as a demonstration tool at public lectures.

http://pirate.open.ac.uk/