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A Laser Testing Facility for the Characterization of Silicon Strip Detectors SARAH PHILLIPS, University of New Hampshire, UNH NUCLEAR PHYSICS GROUP TEAM[1], CLAS12 COLLABORATION[2] — Silicon strip detectors are used for high-precision tracking systems in particle physics experiments. During the 12 GeV upgrade to the accelerator at Jefferson Lab, a new spectrometer, CLAS12, will be built in Hall B. The University of New Hampshire is part of the collaboration designing and building CLAS12. Among the detector systems being developed for CLAS12 is a silicon vertex tracker that will be placed close to the target, providing excellent position resolution for vertex determination. It is vital to have the ability to perform quality assurance tests and to evaluate the performance of the individual silicon strip detectors before installation in CLAS12. UNH is designing and building a laser testing facility to perform this task. The design consists of an infrared laser system and a precision computer-controlled positioning system that scans the laser light on the detector. The detector signals are read out by a data acquisition system for analysis. The facility includes a cleanroom area and a dry storage containment system. The facility allows the characterization of the large number of detectors before the final assembly of the silicon vertex tracker.

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