Software Development and Hardware Commissioning for Applications in the High Contrast Imaging Testbed Facility

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The High Contrast Imaging Testbed facility (HCIT) currently houses four coronagraph testbeds, each designed and built to research and advance specific technologies that will further our ability to view and study exoplanets. These new technologies will be used in the development of future coronagraph instruments, such as the one that will be placed in the Wide Field Infrared Survey Telescope (WFIRST).

The objective of my project was to update testbed and vacuum chamber hardware controlling routines, as well as assist in the installation and calibration of the Decadal Survey Testbed (DST) and its instruments. This objective was worked towards in the form of several small projects, including developing software for a vacuum pump gate valve controller and calibrating optical mounts for use in the DST. Moving forward, we will continue to design and update software routines as needed to aid our research into new coronagraph technologies.