

MultiPyVu: Controlling QD Cryostats Using Python

The Python programming language has become an increasingly popular choice as the main control software for custom measurements in research laboratories. To accommodate users wishing to leverage Python to control third-party instrumentation for measurements inside QD cryostats (including the PPMS, DynaCool, VersaLab, OptiCool, and MPMS-3), Quantum Design has developed MultiPyVu.

Capabilities

MultiPyVu is a socket-based server/client utility enabling both readback and control of the temperature, magnetic field, and chamber operations of the sample environment. A wait function allows the user to pause operations until desired stability criteria are met, and an additional class streamlines the writing of MultiVu-readable data files. Note that communication with measurement option hardware is not available- only the sample environment parameters of the base cryostat can be controlled.

The server and client can be configured to both run on the same 'local' PC as MultiVu, or the client can run on separate 'remote' PC, as is often convenient in many facilities where the cryostat is a shared resource.

How To Begin

MultiPyVu is maintained on the PyPI software repository, with the latest version of all files and documentation available at the [main project page](#). There, users will find detailed instructions for setting up a MultiPyVu install, including required support packages.

Most users will be able to quickly get MultiPyVu running using the provided example scripts as templates. Their functions are described in detail on the main project page, and those example scripts can be [downloaded from Pharos](#).

A complete list of the available functions and their syntax is also provided on the main project page for more advanced applications of the utility.

Contact

For questions or comments regarding MultiPyVu, please contact apps@qdusa.com. User feedback is appreciated to help improve subsequent releases of the software.