Reflectivity Test Station Help

Calibration

Running Calibration Measurement

A calibration run must be taken at the start of each measurement session. The calibration run ensures that the test station is not effected by variations in the test lamp's power. After a calibration run, the output file generated should be selected as the template for all following reflectivity measurements. The procedure for set-up and running a calibration mode is below.

Calibration Hardware Set-up Procedure

1.) If installed, remove any test mirror.
    a. Test mirror is not needed for calibration run.
2.) Move Photodiode B and its mount to calibration rail in test station.
    a. Calibration rail is second rail on table with nothing else installed on it.
3.) Remove Photodiode B from its mount.
4.) Attach colimators to both ends of tube on mount.
5.) Place alignment laser on monochromator and turn on.
6.) Align Photodiode B so light from laser passes through both collimators.
7.) Turn off alignment laser, remove it from monochromator, and replace monochromator lid.
8.) Re-install Photodiode B on its mount.
    a. Be careful not to move mount, as moving it will cause it to become misaligned and all above steps will need to be repeated.

Calibration Procedure for Test Station Program

1.) Confirm hardware for calibration run is set up correctly, as described above.
2.) If not already open, open “Reflectivity-Test-Station.exe”.
3.) For "Filename of Output Template", select appropriate template file.
4.) Ensure "Run Type" control is set to "CALIBRATION".
5.) Click arrow button at top left of window or press “CTRL+R” on keyboard.
6.) Follow on-screen prompts to select output file and run program.

Reflectivity Measurement

Running Reflectivity Measurement

For reflectivity measurements, calibration data is needed to be able to calculate reflectivity. Before running test for reflectivity measurement, "Filename of Output Template" should be set to the file generated from a calibration run. The procedure for set-up and running a reflectivity measurement is below.

Reflectivity Measurement Hardware Set-up Procedure

1.) Move Photodiode B and its mount to measurement rail in test station.
    a. Measurement rail is rail on table with beamsplitter and Photodiode A installed on it.
2.) Remove Photodiode B from its mount.
3.) Attach collimators to both ends of tube on mount.
4.) Place alignment laser on monochromator and turn on.
5.) Align mirror to be tested so alignment laser reflects off of mirror and to Photodiode B mount.
6.) Align Photodiode B so reflected beam from laser passes through both colimators.
    a. If during alignment, beam is not parallel to table, mirror must be adjusted until beam is parallel to table.
7.) Turn off alignment laser, remove it from monochromator, and replace monochromator lid.
8.) Re-install Photodiode B on its mount.
    a. Be careful not to move mount, as moving it will cause it to become misaligned and all above steps will need to be repeated.

Reflectivity Measurement Procedure for Test Station Program

1.) Confirm hardware for reflectivity measurements is set up correctly, as described above.
2.) If not already open, open “Reflectivity-Test-Station.exe”.
3.) For "Filename of Output Template", select file from calibration run.
4.) Ensure "Run Type" control is set to "MEASUREMENT".
5.) Click arrow button at top left of window or press “CTRL+R” on keyboard.
6.) Follow on-screen prompts to select output file and run program.