# *Appendix A: Calibration Data Log (LHOY- 20151222)*

For different measurements listed below record six minutes of data for each setting and record the GPS time. For background measurements take 60 seconds of data. To avoid the transient and power instability issue, watch the OFSPD and TxPD monitor to see if they are reasonable before recording the GPS time for each measurement.

Also record the following information if applicable:

| OFS Gain | Laser Power | Offset Value |
|---|---|---|
| 37 dB | 5 V | ~ 4 V |

## A.1. Measurement Settings, Procedure and Record Sheet:

1. Block the outer beam using the beam dump and place the Working Standard (WS#) on the path of the outer beam going to the test mass at TX module and record data below:

| **TxPD and WS#PD reading when the WS# is at inner beam at the TX module** | | | |
|---|---|---|---|
| Data Acquisition (in GPS Time) | | Readings as obtained from MEDM screen: | |
| Start Time #1 | 1134842970 | TxPD | 3.216 |
| Duration | 360 | WSPD | -0.581 |
| End Time | 1134843330 | OFSPD | -3.982 |

2. Move the beam block to the inner beam and place the WS# on the outer beam at TX module and record data below:

| **TxPD and WS#PD reading when the WS# is at outer beam at the TX module** | | | |
|---|---|---|---|
| Data Acquisition (in GPS Time) | | Readings as obtained from MEDM screen: | |
| Start Time #2 | 1134843490 | TxPD | 3.216 |
| Duration | 360 | WSPD | -0.592 |
| End Time | 1134843850 | OFSPD | -3.982 |

3. Close the shutter and take a background measurement for 60 seconds and record the data

| **Background for TX and WS when WS is at TX** | | | |
|---|---|---|---|
| Data Acquisition (in GPS Time) | | Readings as obtained from MEDM screen: | |
| Start Time #3 | 1134843900 | TxPD | 0.011 |
| Duration | 60 | WSPD | -0.0001 |
| End Time | 1134843960 | OFSPD | -0.011 |

4. Move the WS to Receiver (RX) Module and place it at the position of RxPD. Open the shutter and take a measurement and record that data below:

| **TxPD and WS#PD reading when the WS# is at outer beam at the RX module** | | | |
|---|---|---|---|
| Data Acquisition (in GPS Time) | | Readings as obtained from MEDM screen: | |
| Start Time #4 | 1134844440 | TxPD | 3.216 |
| Duration | 360 | WSPD | -0.583 |
| End Time | 1134844800 | OFSPD | -3.982 |

5. Move the beam block at TX to the outer beam leaving the working standard in the same position and record data below:

| **TxPD and WS#PD reading when the WS# is at inner beam at the RX module** | | | |
|---|---|---|---|
| Data Acquisition (in GPS Time) | | Readings as obtained from MEDM screen: | |
| Start Time #5 | 1134844920 | TxPD | 3.216 |
| Duration | 360 | WSPD | -0.573 |
| End Time | 1134845280 | OFSPD | -3.982 |

6. Close the shutter and take background measurement for 60 seconds and record the data below:

| **Background for TX and WS when WS is at TX** | | | |
|---|---|---|---|
| Data Acquisition (in GPS Time) | | Readings as obtained from MEDM screen: | |
| Start Time #6 | 1134845340 | TxPD | 0.011 |
| Duration | 60 | WSPD | -0.001 |
| End Time | 1134845400 | OFSPD | -0.012 |

7. Remove the WS from RxPD position and replace it with RxPD. Close the RxPD enclosure and open the shutter to make measurement. Record the data below:

| TxPD and RxPD reading of the inner beam | | | |
|---|---|---|---|
| Data Acquisition (in GPS Time) | | Readings as obtained from MEDM screen: | |
| Start Time #7 | 1134845840 | TxPD | 3.215 |
| Duration | 360 | RxPD | 2.296 |
| End Time | 1134846200 | OFSPD | -3.982 |

8. Move the beam block to the inner beam and take measurement. Record the data below:

| TxPD and RxPD reading of the outer beam | | | |
|---|---|---|---|
| Data Acquisition (in GPS Time) | | Readings as obtained from MEDM screen: | |
| Start Time #8 | 1134846300 | TxPD | 3.215 |
| Duration | 360 | RxPD | 2.336 |
| End Time | 1134846660 | OFSPD | -3.982 |

9. Close the shutter and move the beam block away from the beam path and take a background measurement for 60 seconds and record the data below:

| Background for TxPD and RxPD | | | |
|---|---|---|---|
| Data Acquisition (in GPS Time) | | Readings as obtained from MEDM screen: | |
| Start Time #9 | 1134846680 | TxPD | 0.012 |
| Duration | 60 | RxPD | -0.001 |
| End Time | 1134846740 | OFSPD | -0.012 |