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END_STATION: EY DATE: 3/7/17

Appendix A: Calibration Log

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.

1. DAC Calibration: Apply calibrated voltage from Martel for ~~10~~ 15s each.
   a. 1V= 1637 cts, GPS time at start: 1172942670
   b. 2V= 3275 cts, GPS time at start: 1172942695

   0V = 0 cts
   GPS = 1172942640
2. DVM Calibration: Apply calibrated voltage from Martel for ~~10~~ 15s each.
   a. 1V=.....V, GPS time at start:.....
   b. 2V=.....V, GPS time at start:.....
3. Offset value: 3.75 V
4. OFS Gain: 37 dB
5. Laser power control slider value: 5.00 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 inner 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	1172943100	TxPD	+3.0290 V
Duration	360	WSPD	-0.493 V
End Time #1	1172943460	OFSPD	-3.7325 V

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 #1	1172943530	TxPD	3.0280 V
Duration	360	WSPD	-0.4980 V
End Time #1	1172943890	OFSPD	-3.7325 V

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 #1	1172943920	TxPD	0.0115 V
Duration	60	WSPD	-0.0004 V
End Time #1	1172943980	OFSPD	-0.0110 V

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 #1	1172944180	TxPD	3.0285 V
Duration	360	WSPD	-0.4910 V
End Time #1	1172944540	OFSPD	-3.7320 V

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 #1	1172944570	TxPD	3.0285 V
Duration	360	WSPD	-0.4890 V
End Time #1	1172944930	OFSPD	-3.7320 V

6. Close the shutter and take background measurement for 60 seconds and record the 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 #1	1172944950	TxPD	0.0110 V
Duration	60	WSPD	-0.0003 V
End Time #1	1172945010	OFSPD	-0.0110 V

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 #1	1172945160	TxPD	3.0290 V
Duration	360	RxPD	2.1755 V
End Time #1	1172945520	OFSPD	-3.7325 V

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 #1	1172945550	TxPD	3.0290 V
Duration	360	RxPD	2.1935 V
End Time #1	1172945910	OFSPD	-3.7320 V

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 #1	1172945950	TxPD	0.0115
Duration	60	RxPD	-0.0003
End Time #1	1172946010	OFSPD	-0.0110