

Responsivity ratio						
Date	2023/04/18					
Configuration:	Front Back	Back Front				
	Device Name	Measurement Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Device 1: Back	PS6	4277	-1.195V	1841	3.0319V	22.8
				Outside Temp: →		22.8
Device 2: front	PS3	2111	-1.939V	8023	3.0288	22.9
Notes: 21 Dropouts						
Signal chain measurement						
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)				
-4.000V	-4.0002	-4.0001				
-2.000V	-2.0002	-2.0001				
0.000V	-0.0004	-0.0003				

Responsivity ratio						
Date	2023/04/18					
Configuration:	Front Back	Back Front				
	Device Name	Measurement Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Device 1:	PS4	2111	-1.3669V	1891	3.0260V	23.2
				Outside Temp:	outside: 23.4	
Device 2:	PS5	4277	-1.5073	8023	3.0261V	23.2
Notes: Crash In Between Bgt measurement! I noticed that satellite boxes do NOT need to be powered on to send voltages -4V to Keithley from martel when checking the signal chain. maybe that matters						
Signal chain measurement						
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)				
-4.000V	-4.0001V	-4.0001V				
-2.000V	-2.0002V	-2.0001V				
0.000V	-0.0003V	-0.0002				

Responsivity ratio						
Date	2023/04/19					
Configuration:	Front Back	Back Front				
	Device Name	Measurement Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Device 1: front	WSV	2111	-1.3414V	1891	3.0257V	TS-17
				Outside Temp:		23.3
Device 2: Back	PS5	4277	-1.4933V	8023	3.0244V	23.1
Notes:						
Signal chain measurement						
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)				
-4.000V	-4.0001V	-4.0002V				
-2.000V	-2.0001V	-2.0001V				
0.000V	-0.0002V	-0.0003V				

Responsivity ratio						
Date	2023/04/20					
Configuration:	Front Back	Back Front				
	Device Name	Measurement Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Device 1: WSV Back	WSV	2111	-1.3291V	1891	3.0276	22.5
				Outside Temp:		22.9
Device 2: front	PS5	4277	-1.5085	8023	3.0263	22.7
Notes:						
Signal chain measurement						
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)				
-4.000V	-4.0001V	-4.0001V				
-2.000V	-2.0001V	-2.0001V				
0.000V	-0.0002V	-0.0002V				

Responsivity ratio							
Date		29/04/2023					
Configuration:		BF	Front Back	Back Front			
		Device Name	Measurement Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Device 1:		PS10	800211	-1.2940	1891	3.0188	23.2
Device 2:		PS5	1424277	-1.5053	OutsideTemp:	23.0248	23.6
					8023	↓	23.3
Signal chain measurement							
Martel Input		Device 1 Keithley (V)	Device 2 Keithley (V)	Notes:			
-4.000V		-4.0001	-4.0002	Using PS4 Keithley since PS10 doesn't have one			
-2.000V		-2.0001	-2.0001	Rick / Dripta			
0.000V		-30 μV	-35 μV				

Responsivity ratio							
Date		29/04/2023					
Configuration:		FB	Front Back	Back Front			
		Device Name	Measurement Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Device 1:		PS11	2111	3.0236			23.4
Device 2:		PS5	4277	3.0260	OutsideTemp:	23.7C	→ 23.6
Signal chain measurement							
Martel Input		Device 1 Keithley (V)	Device 2 Keithley (V)	Notes:			
-4.000V		-4.0001	-4.0002	Second measurement today.			
-2.000V		-2.0001	-2.0001	Rick / Dripta			
0.000V		-26 μV	-23 μV				

Responsivity ratio							
Date		01/05/23					
Configuration:		Front Back	Back Front				
		Device Name	Measurement Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Device 1:		PS11	2111	-1.2994	1891	3.0173	22.5
Device 2:		PS5	4277	-1.5020	OutsideTemp:	→	22.9
					8023	3.0204	22.6
Signal chain measurement							
Martel Input		Device 1 Keithley (V)	Device 2 Keithley (V)	Notes:			
-4.000V		-4.0001	-4.0001	Repeating Saturday's meas. w/ long (~25') DB9 cable.			
-2.000V		-2.0001	-2.0001				
0.000V		20 μV	~78 μV				

Responsivity ratio							
Date		5/1/23					
Configuration:		Front Back	Back Front				
		Device Name	Measurement Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Device 1:		PS11	2111	-1.2959	1891	3.0178	23.0
Device 2:		PS5	4277	-1.5027	OutsideTemp:	→	23.3
					8023	3.0231	23.2
Signal chain measurement							
Martel Input		Device 1 Keithley (V)	Device 2 Keithley (V)	Notes:			
-4.000V		-4.0001 V	-4.00015 V	Why was Dev 2 Keithley reporting voltages to 6 sig. figures? usually only 5			
-2.000V		-2.0001 V	-2.00012 V	PS5 BG = -2.8 mV			
0.000V		-25 mV	-25 μV	PS11 BG = +1.05 mV			

Suspect! used 10' DB9 cable in config accidentally. Should be 25' video meas.

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Responsivity ratio							
Date 2023/05/05							
Configuration: Fb		Front Back	Back Front				
		Device Name	Measurement Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Device 1:	PS5	PS5	4277	1.037V	1891	3.0253V	23.2
Device 2:	PS1	PS1	4247	1.435V	8023	3.0278V	23.1
Signal chain measurement							
Martel Input		Device 1 Keithley (V)	Device 2 Keithley (V)	Notes:			
-4.000V		-4.0002V	-4.000V	Tested signal chain + setup measurement for warming up.			
-2.000V		-2.0002V	-2.000V				
0.000V		-0.00004V	-0.00003V				

-1.2740V  
-1.5033V

Responsivity ratio							
Date 2023/05/05							
Configuration: BF		Front Back BF	Back Front				
		Device Name	Measurement Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Device 1:	PS5	PS5	4277	-1.5026V	1891	3.0278V	23.4
Device 2:	PS1	PS1	4247	-1.2767V	8023	3.0305V	23.4
Signal chain measurement							
Martel Input		Device 1 Keithley (V)	Device 2 Keithley (V)	Notes:			
-4.000V		-4.0002V	-3.9999V	Bad Background measurement must take another.			
-2.000V		-2.0001V	-2.0000V				
0.000V		-0.00003V	-0.00002V				

Responsivity ratio							
Date 7/7/2023							
Configuration:		Front Back <input checked="" type="checkbox"/>	Back Front				
		Device Name/Humans	Measurement Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Device 1:	PS5	PS5/4277	4277				
Device 2:	TSB	TSB/8750	8750				
Signal chain measurement							
Martel Input		Device 1 Keithley (V)	Device 2 Keithley (V)	Notes:			
-4.000V							
-2.000V							
0.000V							

Responsivity ratio							
Date							
Configuration:		Front Back	Back Front				
		Device Name	Measurement Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Device 1:							
Device 2:							
Signal chain measurement							
Martel Input		Device 1 Keithley (V)	Device 2 Keithley (V)	Notes:			
-4.000V							
-2.000V							
0.000V							

Start meas at 10:08<sup>PM</sup> local time

Responsivity ratio		Configuration: BF		OutsideTemp: -23.4C		
Date	5/8/2023	Front Back	Back Front ✓	Device Name	Measurement Instrument	
Device 1:	PS5	1424277	-1.4987	Temp Instrument	1421891	
Device 2:	PS2	1148750	-1.2552	Temp Instrument	8018023	
Background:	PS5	+1.10mV		Voltage	3.0229	
	PS2	-1.05mV		Voltage	3.0277	
Signal chain measurement				Notes: Parts of USA cable and parts (DBP to SW for temperature) missing from Pelican case. 1st meas. after cal. of PS2 at NIST		
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)				
-4.0000V	-4.0002	-4.0002				
-2.0000V	-2.0001	-2.0001				
0.0000V	-22µV	-21µV				

TS2  
TS16

Start ~~meas~~ 11:15PM

Responsivity ratio		Configuration: FB		OutsideTemp: -23.3		
Date	5/8/2023	Front Back ✓	Back Front	Device Name	Measurement Instrument	
Device 1:	PS5	1424277	-1.5036	Temp Instrument	1421891	
Device 2:	PS2	1148750	-1.2512	Temp Instrument	8018023	
Background:	PS5	1421891		Voltage	3.0226	
	PS2	8018023		Voltage	3.0245	
Signal chain measurement				Notes: Second measurement since calibration of PS2 at NIST		
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)				
-4.0000V	-4.0002	-4.0002				
-2.0000V	-2.0001	-2.0001				
0.0000V	-25µV	-24µV				

TS2  
TS16

Start at 1:35PM local time

Responsivity ratio		Configuration: FB		OutsideTemp: 23.4C		
Date	5/9/23	Front Back ✓	Back Front	Device Name	Measurement Instrument	
Device 1:	PS5	1424277	-1.5024	Temp Instrument	1421891	
Device 2:	WSS	1148559	-2.4058	Temp Instrument	8018023	
Background:	PS5	+1.065mV		Voltage	3.0196	
	WSS	-0.650mV		Voltage	23.3	
Signal chain measurement				Notes: WSS just back from NIST. WSS does NOT have a spacer. It DOES have all 4 screws constraining the spectralon shell.		
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)				
-4.0000V	-4.0002V	-4.0001V				
-2.0000V	-2.0001V	-2.0001V				
0.0000V	-20µV	-28µV				

TS16  
TS15

Start at 02:55PM

Responsivity ratio		Configuration: FB		OutsideTemp: 23.6		
Date	5/9/23	Front Back	Back Front ✓	Device Name	Measurement Instrument	
Device 1:	PS5	1424277	-1.5004	Temp Instrument	1421891	
Device 2:	WSS	1148559	-2.4145	Temp Instrument	8018023	
Background:	PS5	+1.0mV		Voltage	3.0264	
	WSS	-0.633mV		Voltage	3.0232	
Signal chain measurement				Notes: Second WSS measurement since calibration by NIST.		
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)				
-4.0000V	-4.0002	-4.0000				
-2.0000V	-2.0001	-2.0001				
0.0000V	-25µV	-21µV				

TS-16  
TS-15

Responsivity ratio							
Date	2023/05/12				OutsideTemp:		22.7
Configuration:	FB	Front Back <input checked="" type="checkbox"/>	Back Front				
	Device Name	Measurement Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm	
Device 1:	PS5	4277	-1.5049	1891	3.0167	22.6	
Device 2:	PS8/TSB?	2111	-2.7078	8023	3.0241	22.8	
Background:	PS5	+1.157mV	+0.15646mV				
	PS8	-0.0667					
Signal chain measurement							
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)	Notes: Set up at PS5-PS8 Should have been PS8-PS5 DigiTherm stolen from WSS TS-15				
-4.0000V	-4.0002 V	-4.0000 V					
-2.0000V	-2.0002 V	-2.0001 V					
0.0000V	-0.00002 V	-0.00003 V					

Responsivity ratio							
Date	2023/05/12				OutsideTemp:		23.3
Configuration:	Front Back	Back Front <input checked="" type="checkbox"/>					
	Device Name	Measurement Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm	
Device 1:	PS5	4277	-1.4993V	1891	3.0209	23.2	
Device 2:	PS8	2111	-2.7151V	8023	3.0283	23.2	
Background:	PS5	+1.108V					
	PS8	-4.642					
Signal chain measurement							
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)	Notes: DigiTherm Stolen from WSS TS-15				
-4.0000V	-4.0002	-4.0000					
-2.0000V	-2.0002	-2.0001					
0.0000V	-0.00003	-0.00003					

Responsivity ratio							
Date					OutsideTemp:		23.4
Configuration:	Front Back <input checked="" type="checkbox"/>	Back Front					
	Device Name	Measurement Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm	
Device 1:	PS4	2111	-1.3768	1891	3.0255	23.4	
Device 2:	PS5	4277	-1.5018	8023	3.0246	23.4	
Background:	PS4	0.00305V					
	PS5	0.0012V					
Signal chain measurement							
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)	Notes: Post Ey ES measurement. Labview error Dev1 $\rightarrow$ Mixer				
-4.0000V	-4.0000 V	-4.0002 V					
-2.0000V	-2.0001 V	-2.0002 V					
0.0000V	-0.00003 V	-0.00003 V					

Responsivity ratio							
Date					OutsideTemp:		23.4
Configuration:	BF	Front Back	Back Front <input checked="" type="checkbox"/>				
	Device Name	Measurement Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm	
Device 1:	PS4	2111	-1.3732	1891	3.0282	23.4	
Device 2:	PS5	4277	-1.5038	8023	3.0278	23.4	
Background:	PS4	0.00113					
	PS5	0.00294 V					
		0.00104 V					
Signal chain measurement							
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)	Notes: Back Front! Labview error Dev1 $\rightarrow$ Mixer				
-4.0000V							
-2.0000V							
0.0000V							

Labview meas. Instruments  
Dev1: 2111

Dev2: 4277

Responsivity ratio		Configuration:		OutsideTemp:	
Date	2023 05/17	Front Back	Back Front	23.1	
Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Digi-Therm
Device 1: PS4	2111	<del>2111</del>	-1.3718V	1891	22.9
Device 2: PS5	4277	<del>4277</del>	-1.5036V	8023	23.0
LABVIEW:	-1.3709V	-1.4992V			
Background:	0.00312V	0.00108V			
Notes: Included LV meas. Instrument Box to ensure that Labview setting IS Properly set.					
Signal chain measurement		Martel Input			
		Device 1 Keithley (V)	Device 2 Keithley (V)		
-4.0000V		-4.0001V	-4.0002V		
-2.0000V		-2.0001V	-2.0002V		
0.0000V		-0.00003V	-0.00003V		

Responsivity ratio		Configuration:		OutsideTemp:	
Date	2023/05/17	Front Back	Back Front	23.3	
Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Digi-Therm
Device 1: PS4	2111	2111	-1.3750V	1891	23.3
Device 2: PS5	4277	4277	-1.5013V	8023	23.4
LABVIEW:	-1.3765V	-1.5022V			
Background:	0.00312V	0.00108V			
Notes: Temps are slightly warmer than lab & measurement					
Signal chain measurement		Martel Input			
		Device 1 Keithley (V)	Device 2 Keithley (V)		
-4.0000V		-4.0001V	-4.0002V		
-2.0000V		-2.0001V	-2.0002V		
0.0000V		-0.00003V	-0.00003V		

Responsivity ratio		Configuration:		OutsideTemp:	
Date	05/23/2023	Front Back	Back Front	23.3	
Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Digi-Therm
Device 1: PS4	2111	2111	-1.3770V	8023/1891	23.1
Device 2: PS5	4277	4277	-1.4994V	8023	23.1
LABVIEW:	-1.3702V	-1.5036V			
Background:	0.00325V	0.00111V			
Notes: Taken Right after lunch SPheras warmed shutter closed for 2 hours.					
Signal chain measurement		Martel Input			
		Device 1 Keithley (V)	Device 2 Keithley (V)		
-4.0000V		-4.0000V	-4.0002V		
-2.0000V		-2.0001V	-2.0002V		
0.0000V		-0.00002V	-0.00003V		

Responsivity ratio		Configuration:		OutsideTemp:	
Date	2023/05/23	Front Back	Back Front	23.3	
Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Digi-Therm
Device 1: PS4	2111	2111	-1.3700V	3.0228 ← 1891	23.3
Device 2: PS5	4277	4277	-1.5040V	3.0234 ← 8023	23.4
LABVIEW:	0.00326V	0.00114V			
Background:	2111/-1.370	4277/-1.5039			
Notes: Martel 2846176 (usually used) stopped working, so we are using a spare one 3702110					
Signal chain measurement		Martel Input			
		Device 1 Keithley (V)	Device 2 Keithley (V)		
-4.0000V		-4.0002V	-4.0002V		
-2.0000V		-2.0000V	-2.0002V		
0.0000V		-0.00012V	-0.00003V		

-4.0003V  
-2.0001V  
-0.00012V

Responsivity ratio							
Date 2023/05/24							
Configuration:		Front Back <input checked="" type="checkbox"/>		Back Front		OutsideTemp: 22.3	
Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm	
Device 1: PS5	4277	4277	-1.4992	1891	300.9	22.1	
Device 2: WSS	8559	8559	-2.40628	8023	301.25	22.2	
LABVIEW							
Background:		PS5: 1.172mV		WSS: 0.64mV		Notes: PS5/WSS resp. ratio measurement by Dripla.	
Signal chain measurement							
Martel Input		Device 1 Keithley (V)		Device 2 Keithley (V)			
-4.000V			-4.0003V				
-2.000V			-2.0001V				
0.000V			-0.00013V				

Responsivity ratio							
Date 2023/05/24							
Configuration:		Front Back		Back Front <input checked="" type="checkbox"/>		OutsideTemp: 23.1	
Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm	
Device 1: PS5	4277	4277	-1.4994	1891	301.58	22.9	
Device 2: WSS	8559	8559	-2.4041	8023	302.04	22.9	
LABVIEW PS5: 1.174mV WSS: 0.64mV							
Background:							
Signal chain measurement							
Martel Input		Device 1 Keithley (V)		Device 2 Keithley (V)		Notes: 2nd PS5/WSS resp. ratio measurement by Dripla	
-4.000V			-4.0002				
-2.000V			-2.0000				
0.000V			-0.00012				

Responsivity ratio							
Date 13th June 2023							
Configuration:		Front Back <input checked="" type="checkbox"/> PS4/PS5		Back Front		OutsideTemp: 23.6	
Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm	
Device 1: PS4	2111	2111	-1.3746	1891	3.0267	23.5	
Device 2: PS5	4277	4277	-1.5015	8023	3.0263	23.5	
LABVIEW Voltage -1.3746 V -1.5006 V							
Background:		PS4 0.00287V		PS5 0.00102V		Notes: PS4/PS5 FrontBack	
Signal chain measurement							
Martel Input		Device 1 Keithley (V)		Device 2 Keithley (V)		Temp Dev 1 = 1891 <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	
-4.000V			-4.0002 V			Temp Dev 2 = 8023	
-2.000V			-2.000 V				
0.000V			-0.00012V				

Responsivity ratio							
Date 2023/06/13							
Configuration:		Front Back		Back Front <input checked="" type="checkbox"/>		OutsideTemp: 23.8	
Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm	
Device 1: PS4	2111	2111	-1.3712	1891	3.0266V	23.8	
Device 2: PS5	4277	4277	-1.5046V	8023	3.0287V	23.8	
LABVIEW -1.3762V PS4 -1.50406V PS5							
Background:							
Signal chain measurement							
Martel Input		Device 1 Keithley (V)		Device 2 Keithley (V)		Notes: PS4/PS5 Back Front.	
-4.000V			-4.0002V				
-2.000V			-2.000 V				
0.000V			-0.00012V				

T.S. 9:14 → 11:20 with Background.

Responsivity ratio							
Date	7/7/2023	PS5/TSB FB					
Signal chain measurement				Notes: Signal Chain to Background Test Run Before LabView IS used, actual Background measurement will be taken after.			
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V	-4.0002V	-4.0002V					
-2.0000V	-2.0000V	-2.0000V					
0.0000V	-0.00013V	-0.00013V					
Background Voltages:	0.0013V	-0.00079V					
Configuration:	Front Back [✓]	Back Front [ ]					
LABVIEW Voltages	4277	8750		*L / Temp 23.6			
Device Name	HW Meas. Instrument	LV Meas. Instrument		Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1: PS5	4277	-1.4999		-1.5042V	1891	3.0150V	22.5
Dev2: TSB/PS2	8750	-1.2502		-1.2517V	8023	3.0216V	22.5

10:15 → 11:35

Responsivity ratio #2							
Date	7/7/2023	PS5/PS2 BF					
Signal chain measurement				Notes: Back front PS5/PS2(TSB) Same setup as above. Set the Martel to signal chain test up while switching positions of the spheres.			
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V	-4.0002V	-4.0001V					
-2.0000V	-2.0000V	-2.0000V					
0.0000V	-0.00012V	-0.00012V					
Background Voltages:	0.00126V	-0.00097V					
Configuration:	Front Back [ ]	Back Front [✓]					
LABVIEW Voltages	-1.50095	-1.2500					
Device Name	HW Meas. Instrument	LV Meas. Instrument		Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1: PS5	4277	4277		-0.15003V	1891	3.0191	22.7
Dev2: PS2	8750	8750		-1.2556	8023	3.0250	22.7

Responsivity ratio							
Date	7/7/2023						
Signal chain measurement				Notes: PS2(TSB)/PS3 FB - Tony Note: no PS3 configuration document Digital thermometer for PS3 labeled Part 'K' instead of Part 'D' - Driple			
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V	-4.0002V	-4.0002V					
-2.0000V	-2.0000V	-2.0000V					
0.0000V	-0.00013V	-0.00013V					
Background Voltages:	-0.911mV	-1.371mV					
Configuration:	Front Back [✓]	Back Front [ ]					
LABVIEW Voltages							
Device Name	HW Meas. Instrument	LV Meas. Instrument		Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1: PS2(TSB)	8750	-1.2552V		8750	1891	3.0199	23.8
Dev2: PS3	2111	-1.6455V		2111	8023	3.0235	23.3

Responsivity ratio							
Date	7/7/2023						
Signal chain measurement				Notes:			
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V							
-2.0000V							
0.0000V							
Background Voltages:							
Configuration:	Front Back [ ]	Back Front [✓]					
LABVIEW Voltages							
Device Name	HW Meas. Instrument	LV Meas. Instrument		Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1: PS2	8750	8750		-1.28	1891	3.0320	23.4
Dev2: PS3	2111	2111		-1.64	8023	3.0349	23.5



Responsivity ratio							
Date 07/10/2023							
Signal chain measurement							
Martel Input		Device 1 Keithley (V)		Device 2 Keithley (V)		Notes:	
-4.0000V		-4.0000		-4.0002		TSA(PS1)/TSB(PS2) resp. ratio measurement.	
-2.0000V		-1.9999		-2.0000			
0.0000V		-0.00013		-0.00013			
Background Voltages:							
Configuration:		Front Back <input checked="" type="checkbox"/>		Back Front [ ]			
LABVIEW Voltages							
Device Name		HW Meas. Instrument		LV Meas. Instrument		Voltage	
Dev1: TSA(PS1)		4247		4247		Temp Instrument	
Dev2: TSB(PS2)		8750		8750		Voltage	
						Digi-Therm	
						8023	
						1891	
						23.2	
						23.2	

Responsivity ratio							
Date 07/10/2023							
Signal chain measurement							
Martel Input		Device 1 Keithley (V)		Device 2 Keithley (V)		Notes:	
-4.0000V		-4.0002		-4.0000		TSB/TSA resp. ratio measurement before sending TSB to Virgo. The temp. decreased to 22.9°C on the Digi-Therm after the measurement.	
-2.0000V		-2.0000		-1.9999			
0.0000V		-0.00013		-0.00013			
Background Voltages:							
Configuration:		Front Back <input checked="" type="checkbox"/>		Back Front <input checked="" type="checkbox"/>			
LABVIEW Voltages							
Device Name		HW Meas. Instrument		LV Meas. Instrument		Voltage	
Dev1: TSB(PS2)		8750		8750		Temp Instrument	
Dev2: TSA(PS1)		4247		4247		Voltage	
						Digi-Therm	
						1891	
						302.58	
						23.2	
						302.21	
						23.2	

Responsivity ratio							
Date 07/12/2023							
Signal chain measurement							
Martel Input		Device 1 Keithley (V)		Device 2 Keithley (V)		Notes:	
-4.0000V		-4.0002		-4.0000		Outdoor temp. 22.8°C. TSB/TSA (FB) measurement.	
-2.0000V		-2.0000		-1.9999			
0.0000V		-0.000013		-0.000013			
Background Voltages:							
Configuration:		Front Back <input checked="" type="checkbox"/>		Back Front [ ]			
LABVIEW Voltages							
Device Name		HW Meas. Instrument		LV Meas. Instrument		Voltage	
Dev1: TSB(PS2)		8750		8750		Temp Instrument	
Dev2: TSA(PS1)		4247		4247		Voltage	
						Digi-Therm	
						1891	
						302.78	
						22.7	
						302.42	
						22.8	

Responsivity ratio							
Date 7/17/2023							
Signal chain measurement							
Martel Input		Device 1 Keithley (V)		Device 2 Keithley (V)		Notes:	
-4.0000V						Test 1/TSA Dev 1: Martel, 1V Dev 1 Temp: Martel 1V Dev 2: TSA 4 Keithleys grounded on ground rail. Cap on TSA	
-2.0000V							
0.0000V							
Background Voltages:							
Configuration:		Front Back <input checked="" type="checkbox"/>		Back Front [ ]			
LABVIEW Voltages							
Device Name		HW Meas. Instrument		LV Meas. Instrument		Voltage	
Dev1:		8758		8757		Temp Instrument	
Dev2:		4247		4247		Voltage	
						Digi-Therm	
						23.2	
						1.00043	
						1891	
						1.00019	
						2.131 mV	
						8023	
						3.0070	
						23.2	

Responsivity ratio								
Date 07/21/2023								
Signal chain measurement								
Martel Input		Device 1 Keithley (V) PS5	Device 2 Keithley (V) PS8	Notes: PS5/PS8 FB				Therm 3.0227 3.0214 3.0243 3.0254 3.0214
-4.0000V		-4.0003 V	-4.0001 V	Robot #5 Dev2				
-2.0000V		-2.0001 V	-2.0001 V					
0.0000V		-0.00012 V	-0.00012 V					
Background Voltages:								
Configuration:		Front Back M FB	Back Front [ ]					
LABVIEW Voltages		-1.5	-2.709					
Device Name		HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm	
Dev1: PS5	4277	4277	4277	-1.5045	1891	3.0239	23.2	
Dev2: PS8	2111	2111	2111	-2.709	8023	3.0334	23.2	

Responsivity ratio							
Date 07/21/2023							
Signal chain measurement							
Martel Input		Device 1 Keithley (V)	Device 2 Keithley (V)	Notes: Back Front.			
-4.0000V							
-2.0000V							
0.0000V							
Background Voltages:							
Configuration:		Front Back [ ]	Back Front M Back				
LABVIEW Voltages		-1.376 V	-1.5026 V				
Device Name		HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1: PS5	4277	4277	4277	-1.5015V	1891	3.0275	23.2
Dev2: PS8	2111	2111	2111	-2.7210V	8023	3.0346	23.2

Responsivity ratio							
Date 7/25/2023 FB PS5/PS5							
Signal chain measurement							
Martel Input		Device 1 Keithley (V)	Device 2 Keithley (V)	Notes: Front - Back			
-4.0000V		-4.0001 V	-4.0003 V				
-2.0000V		-2.0000 V	-2.0001 V				
0.0000V		-0.00012 V	-0.00013 V				
Background Voltages:							
Configuration:		Front Back M	Back Front [ ]				
LABVIEW Voltages		-1.376V	-1.5026V				
Device Name		HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm 23.1
Dev1: PS4	2111	2111	2111	-1.3770V	1891	3.0275V	22.9
Dev2: PS5	4277	4277	4277	-1.5020V	8023	3.0333V	22.2

Responsivity ratio							
Date 7/25/2023 Back-Front PS4/PS5							
Signal chain measurement							
Martel Input		Device 1 Keithley (V)	Device 2 Keithley (V)	Notes: Back-Front			
-4.0000V		-4.0001 V	-4.0003 V	Spheres already warm from prior measurements			
-2.0000V		-2.0000 V	-2.0001 V				
0.0000V		-0.00012 V	-0.00012 V				
Background Voltages:							
Configuration:		Front Back [ ]	Back Front M				
LABVIEW Voltages							
Device Name		HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm 23.2
Dev1: PS4	2111			-1.3700	1891	3.0284	23.3
Dev2: PS5	4277			-1.5054	8023	3.0281	23.2

Responsivity ratio							
Date	09/01/2023	PS5/PS1 FB		Notes: PS5/PS1(TSA)			
Signal chain measurement				Do: 17			
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)		T <sub>1</sub> = 3.0097			
-4.0000V	-4.0000V	-4.0000V		T <sub>2</sub> = 3.0144			
-2.0000V	-2.0001V	-1.9999V		T <sub>1</sub> = 3.0214			
0.0000V	-0.00012V	-0.00011V		T <sub>2</sub> = 3.0246			
Background Voltages:	1.316 mV	0.809 mV					
Configuration:	Front Back [✓]	Back Front [ ]					
LABVIEW Voltages	-1.50395V	-1.2776V					
Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm	22.9
Dev1: PS5	4277	4277	-1.5041V	1891	3.0218V	22.9	
Dev2: PS1 TSA	4247	4247	-1.2727V	8023	3.0299V	22.8	

Responsivity ratio							
Date	08/01/2022	PS5/PS1(TSA) Backfront		Notes: PS1 on 1st track			
Signal chain measurement				Nothing was unplugged.			
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)		Back ground list			
-4.0000V	-4.0003V	-4.0000V					
-2.0000V	-2.0001V	-2.0000V					
0.0000V	-0.00022V	-0.00013V					
Background Voltages:	0.828 mV	1.427 mV					
Configuration:	Front Back [ ]	Back Front [✓] slider					
LABVIEW Voltages							
Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm	23.
Dev1: PS5	4277	4277	-1.5001V	1891	3.0266	23.1	
Dev2: PS1	4247	4247	-1.2798V	8023	3.0294	23.1	

Responsivity ratio							
Date	08/01/2023	PS5/PS1(TSA) Front Back		Notes: Front Back			
Signal chain measurement							
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V	-4.0003V	-4.0000V					
-2.0000V	-2.0001V	-2.9999V					
0.0000V	-0.00013V	-0.00012V					
Background Voltages:	0.902 mV	1.531 mV					
Configuration:	Front Back [✓]	Back Front [ ]					
LABVIEW Voltages	-1.50295V	-1.27899V					
Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm	23.4
Dev1: PS5	4277	4277	-1.5048V	1891	3.0266	23.5	
Dev2: PS1(TSA)	4247	4247	-1.2766V	8023	3.0294	23.5	

Responsivity ratio							
Date	08/02/2023	PS5/PS1(TSA) BF		Notes: Back Front PS5/PS1(TSA)			
Signal chain measurement							
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V							
-2.0000V							
0.0000V							
Background Voltages:	0.815 mV	1.535 mV					
Configuration:	Front Back [ ]	Back Front [✓]					
LABVIEW Voltages	-1.5004V	-1.2722V					
Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm	22.9
Dev1: PS5	4277	4277	-1.5014V	1891	3.0214V	22.9	
Dev2: PS1(TSA)	4247	4247	-1.2780V	8023	3.0252V	22.8	

8/8/2023  
 Shutter closed!!!

12

Responsivity ratio							
Date	8/22/2023 BF						
Signal chain measurement							
Martel Input	Device 1 Keithley (V)		Device 2 Keithley (V)		Notes: Touched up Alignment moved the spheres to make sure the beams are centered on both spheres and this optic was touched.		
-4.0000V	-4.0000V		-4.0003V				
-2.0000V	-1.9999V		-2.0001V				
0.0000V	-0.0001V		-0.0002V				
Background Voltages:	2.706mV		0.798mV				
Configuration:	Front Back [ ]		Back Front [X]				
LABVIEW Voltages							
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm 22.4
Dev1:	PS4	2111	-1.3774V	-1.3731V	1891	3.0261V	22.4
Dev2:	PS5	4277	-1.5046	-1.50560	8023	3.0289V	22.5

Responsivity ratio							
Date	8/22/2023						
Signal chain measurement							
Martel Input	Device 1 Keithley (V)		Device 2 Keithley (V)		Notes: Front Back		
-4.0000V							
-2.0000V							
0.0000V							
Background Voltages:	2.007mV		0.781mV				
Configuration:	Front Back [X]		Back Front [ ]				
LABVIEW Voltages							
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1:	PS4	2111	2111	-1.360V	1891	3.0188	22.4
Dev2:	PS1	4277	4277	-1.5002V	8023	3.0187	22.4

Responsivity ratio							
Date	8/29/2023 BF						
Signal chain measurement							
Martel Input	Device 1 Keithley (V)		Device 2 Keithley (V)		Notes: Back Front		
-4.0000V	-4.0002V		-3.99992V		Post Analysis: No Background		
-2.0000V	-2.0000V		-1.99987V				
0.0000V	-0.00012V		-0.00016V				
Background Voltages:							
Configuration:	Front Back [ ]		Back Front [X]				
LABVIEW Voltages							
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1:	PS5	<del>4277</del> 4277	-1.5001	-1.5008	3.0159	3.0159	22.3
Dev2:	PS1	4277	-1.279	-1.2777	8023	3.0186	22.4
						3.0179	

Responsivity ratio							
Date	8/29/2023						
Signal chain measurement							
Martel Input	Device 1 Keithley (V)		Device 2 Keithley (V)		Notes: <del>Back Front</del> Front Back		
-4.0000V	-4.0002V		-3.99992V		* Lots of Drop outs!!! while driving		
-2.0000V	-2.0000V		-1.99987V		Post Analyst: <del>PS1</del>		
0.0000V	-0.00012V		-0.00016V				
Background Voltages:	0.899mV		1.3610mV				
Configuration:	Front Back [X]		Back Front [ ]				
LABVIEW Voltages							
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1:	PS5	4277		-1.5063	1891	3.0205	22.5
Dev2:	PS1	4277		-1.2729	8023	3.0177	22.5

Responsivity ratio							
Date	# 5/30/2023	BF					
Signal chain measurement				Notes:			
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V	-4.0003V	-4.000V					
-2.0000V	-2.0000V	-1.999V					
0.0000V	-0.00012V	-0.00012V					
Background Voltages:	0.925mV	1.65mV					
Configuration:	Front Back [ ]	Back Front [X]					
LABVIEW Voltages	-1.5006V	-1.2737V					
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1:	PS5	4277	4277	-1.5012	1891	3.0151	22.1
Dev2:	PS1	4277	4277	-1.2774	8023	3.0148	22.9

Responsivity ratio WSH/CS							
Date	9/26/2023	FB PS4/PS5					
Signal chain measurement				Notes: 3.0109V Sat for 2 hours warming up. with Aperture caps on laser shuttered. Background Done first.			
Martel Input	Before	Device 1 Keithley (V)	Device 2 Keithley (V)				
-4.0000V	-4.000V	-4.0003V	-4.0003V				
-2.0000V	-1.9999V	-2.0000V	-2.0001V				
0.0000V	-0.00012V	-0.00012V	-0.00012V				
Background Voltages:	2.68mV	0.905mV					
Configuration:	Front Back [X]	Back Front [ ]					
LABVIEW Voltages	-1.3716	-1.506					
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1:	PS4	2111	2111	-1.3776V	1891	3.0164V	22.0
Dev2:	PS5	4277	4277	-1.5025V	8023	3.0161V	22.0

Responsivity ratio							
Date	9/26/2023	BF PS4/PS5					
Signal chain measurement				Notes:			
Martel Input	after	Device 1 Keithley (V)	Device 2 Keithley (V)				
-4.0000V							
-2.0000V							
0.0000V							
Background Voltages:	-1.3771V	-1.502V					
Configuration:	Front Back [ ]	Back Front [X]					
LABVIEW Voltages							
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1:	PS4	2111	2111	-1.3771V	1891	3.0177	22.1
Dev2:	PS5	4277	4277	-1.5020V	8023	3.0176	22.2

Responsivity ratio							
Date	10/23/2023	FB					
Signal chain measurement				Notes: PS8/PS3: PS3 IS USING KVM 4277* as there isn't a Config Doc for this sphere yet.			
Martel Input	Device 1 Keithley (V) PS8	Device 2 Keithley (V) PS3					
-4.0000V	-4.0001V	-4.0004V					
-2.0000V	-1.9999V	-2.0004V					
0.0000V	-0.00011mV	-0.105mV					
Background Voltages:	-4.865mV	-1.732mV					
Configuration:	Front Back [X]	Back Front [ ]					
LABVIEW Voltages	-2.7945V	-1.6474V					
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1:	PS4	2111	2111	-2.7195V	1891	3.0136	21.8
Dev2:	PS5	4277	4277	-1.6469V	8023	3.0149	21.8

Responsivity ratio							
Date	Oct 23 2023						
Signal chain measurement				Notes:			
Martel Input	Device 1 Keithley (V)		Device 2 Keithley (V)				
-4.0000V	-4.0001 V		-4.0004 V				
-2.0000V	-1.9998 V		-2.0002 V				
0.0000V	0.0013 V		-0.107 mV				
Background Voltages:	-4.865 mV		-1.732 mV				
Configuration:	Front Back [ ]		Back Front [✓]				
LABVIEW Voltages							
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1:	PS8	2111	2111	-2.7173	1891	302.47	21.8
Dev2:	PS3	4277	4277	-1.6816	8023	302.22	21.8

21.2

Responsivity ratio							
Date	Oct 30th 2023						
Signal chain measurement				Notes: PS4/PS5 Before Halloween X End measurement.			
Martel Input	Device 1 Keithley (V)		Device 2 Keithley (V)				
-4.0000V	-4.0000 V		-4.0001 V				
-2.0000V	-1.9999 V		-2.0000 V				
0.0000V	-000.120 mV		-000.117 mV				
Background Voltages:	+ 2.991 mV		+ 1.238 mV				
Configuration:	Front Back [✓]		Back Front [ ]				
LABVIEW Voltages							
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1:	PS4	2111	2111	-1.3809	1891	2.9958	20.0
Dev2:	PS5	4277	4277	-1.4989	8023	2.9965	20.0

Responsivity ratio							
Date	Oct 30th 2023						
Signal chain measurement				Notes: Background first measurement started, crashed during inserting usb drive changed gas, rebooted			
Martel Input	Device 1 Keithley (V)		Device 2 Keithley (V)				
-4.0000V	-4.000 V		-4.0001 V				
-2.0000V	-1.9999 V		-2.000 V				
0.0000V	-0.133 mV		-00.124 mV				
Background Voltages:	+3.078 mV		+ 1.120 mV				
Configuration:	Front Back [ ]		Back Front [✓]				
LABVIEW Voltages							
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1:	PS4	2111	2111	-1.3816	1891	3.0006	20.4
Dev2:	PS0	4277	4277	-1.5888	8023	3.0007	20.4

Responsivity ratio PS5/PS1							
Date	2023/11/6						
Signal chain measurement				Notes: PS5/PS1			
Martel Input	Device 1 Keithley (V)		Device 2 Keithley (V)				
-4.0000V	-4.0001 V		-3.9998 V				
-2.0000V	-2.0000 V		-1.9998 V				
0.0000V	-0.00012 V		-0.00012 V				
Background Voltages:	+ 1.432 mV		+ 0.00162 V				
Configuration:	Front Back [✓]		Back Front [ ]				
LABVIEW Voltages							
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1:	PS5	4277 4277	4277	-1.5071 V	1891	3.0046	26.7
Dev2:	PS1	2111 4247	4247	-1.2720	8023	3.0049	20.9

20.9



Responsivity ratio							
Date	2023/11/02		PS5/PS1				
Signal chain measurement	PS5		PS1		Notes: Back front		
Martel Input	Device 1 Keithley (V)		Device 2 Keithley (V)				
-4.0000V							
-2.0000V							
0.0000V							
Background Voltages:							
Configuration:	Front Back [ ]		Back Front [X]				
LABVIEW Voltages	-1.5056		-1.2785				
Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm	
Dev1:	4277	4277	-1.5059	1891	3.0090	21.1	21.1
Dev2:	4247	4247	-1.2796	8023	3.0119	21.2	

Responsivity ratio FB							
Date	Nov 7 2023		PS4-PS5				
Signal chain measurement					Notes: Front PS4 Back PS5		
Martel Input	Device 1 Keithley (V)		Device 2 Keithley (V)				
-4.0000V	-4.0000V		-4.0002V				
-2.0000V	-1.9999V		-2.0000V				
0.0000V	-0.00012V		-0.00012V				
Background Voltages:	2.82 mV		0.927 mV				
Configuration:	Front Back [X]		Back Front [ ]				
LABVIEW Voltages	-1.4901		-1.6307				
Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm	
Dev1: PS4	2111	2111	-1.496V	1891	3.0100V	22.0	21.6
Dev2: PS5	4277	4277	-1.6326	8023	3.0129V	21.9	

Responsivity ratio							
Date	Nov 7th 23						
Signal chain measurement					Notes: Back Front NOV		
Martel Input	Device 1 Keithley (V)		Device 2 Keithley (V)				
-4.0000V	-4.0000V		-4.0002V				
-2.0000V	-1.9999V		-2.0000V				
0.0000V	-0.00012V		-0.00012V				
Background Voltages:							
Configuration:	Front Back [ ]		Back Front [X]				
LABVIEW Voltages	-1.4988 V		-1.63755				
Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm	
Dev1: PS4	2111	2111	-1.4916	1891	3.0164	22.1	
Dev2: PS5	4277	4277	-1.6391	8023	3.0164	22.2	

Responsivity ratio							
Date	Dec 5th/2023		BF				
Signal chain measurement	PS4		PS5		Notes: Back front Dec 5th Signal Chain Measurement Ran after measurement		
Martel Input	Device 1 Keithley (V)		Device 2 Keithley (V)				
-4.0000V	-4.0000V		-4.0001 V				
-2.0000V	-1.9999 V		-2.0000 V				
0.0000V	-0.00012V		-0.00012V				
Background Voltages:	3.228 mV		1.086 mV				
Configuration:	Front Back [ ]		Back Front [X]				
LABVIEW Voltages	-1.4899		-1.63665				
Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm	
Dev1: PS4	2111	2111	-1.4900	1891	3.0006	20.5	20.9
Dev2: PS5	4277	4277	-1.6364	8023	3.0011	20.6	

Responsivity ratio							
Date	Dec 5th 2023		Front Back				
Signal chain measurement	PS 4		PS 5		Notes: Front Back 2nd Measurement		
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V	-4.0000V	-4.0001V					
-2.0000V	-1.9999V	-2.0000V					
0.0000V	-0.00012V	-0.00012V					
Background Voltages:	0.0017V		0.00106V				
Configuration:	Front Back [Y]		Back Front [ ]				
LABVIEW Voltages	-1.494		-1.6323				
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm 20.7°C
Dev1:	PS 4	2111	2111	-1.4924	1891	3.0035	20.9°C
Dev2:	PS 5	4277	4277	-1.6319	8023	3.0037	20.9°C

Responsivity ratio							
Date	Jan 9th 2024		FB PS4/PS5				
Signal chain measurement	PS 4		PS 5		Notes: ensured that the Beams are centered in the apertures using the target aperture cap Background after		
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V	-4.0000V	-4.0001V					
-2.0000V	-1.9999V	-2.0000V					
0.0000V	-0.0001	-0.00012V					
Background Voltages:	+3.284 mV		+1.264 mV				
Configuration:	Front Back [M]		Back Front [ ]				
LABVIEW Voltages	-1.481		-1.6286				
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm 20.1
Dev1:	PS 4	2111	2111	-1.4976V	1891	3.0062V	20.1
Dev2:	PS 5	4277	4277	-1.6308	1823	3.0058V	20.1

Responsivity ratio							
Date	Jan 9th 2024		BF				
Signal chain measurement	PS 4		PS 5		Notes: Back front Rad ⤴ Background Before		
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V	-4.0000V	-4.0001V					
-2.0000V	-1.9999V	-2.0000V					
0.0000V	-0.00012V	-0.00012V					
Background Voltages:	+3.239 mV		+1.207 mV				
Configuration:	Front Back [ ]		Back Front [M]				
LABVIEW Voltages	-1.4882		-1.6392				
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm 20.1
Dev1:	PS 4	2111	2111	-1.4889V	3.0001V	1891	20.2
Dev2:	PS 5	4277	4277	-1.6389	2.9999V	8023	20.2

Responsivity ratio							
Date	Jan 10th		Front Back				
Signal chain measurement	PS 4		PS 5		Notes: <del>Back front</del> My front Back measurement had a bad set of Backgrounds that only had 1 NON O valve at the beginning of the file So I Restarted Background		
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V	-4.0000V	-4.0001V					
-2.0000V	-1.9999V	-2.0000V					
0.0000V	-0.00012V	-0.00012V					
Background Voltages:	3.147 mV		1.129 mV				
Configuration:	Front Back [M]		Back Front [ ]				
LABVIEW Voltages	0.00134		0.00134				
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm 20.5
Dev1:	PS 4	2111	2111	3.139 mV	1891	3.0042	20.5
Dev2:	PS 5	4277	4277	1.132 mV	8023	3.0038	20.5

Back ground first



Responsivity ratio							
Date	02/02/2024						
Signal chain measurement	PS3 Front		PS5 Back		Notes: PS3/PS5 measurement for LLO PSS → PSS conversion		
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V	-4.0000V	-4.0002V					
-2.0000V	-2.0000V	-2.0000V					
0.0000V	-0.130mV	-0.135mV					
Background Voltages:	<del>0.000</del> -2.224mV		0.834mV				
Configuration:	FB		Front Back [V]		Back Front [ ]		
LABVIEW Voltages							
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm 22.0
Dev1:	PS3	2111	2111	-1.7494V	1891	3.0320V	23.0
Dev2:	PS5	4277	4277	-1.5891V	8023	3.0220V	22.8

Responsivity ratio							
Date	02/02/2024						
Signal chain measurement	PS3 PS5 BF		PS5		Notes: Signal Chain Measurements Done Between <del>PS3 PS5</del> FB & BF		
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V	-4.0001V	-4.0002V					
-2.0000V	-2.0000V	-2.0000V					
0.0000V	-0.130mV	-0.135V					
Background Voltages:	-2.2074		0.793mV				
Configuration:	Front Back [ ]		Back Front [V]				
LABVIEW Voltages	-1.7498V		-1.5947				
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm 22.8
Dev1:	PS3	2111	2111	-1.7498V	1891	3.0316V	23.2
Dev2:	PS5	4277	4277	-1.5948V	8023	3.0246V	23.1

Back Front

Responsivity ratio							
Date	Feb 7th 2024						
Signal chain measurement	PS11/PS5		PS5		Notes: PS11-PS5 First Measurement. No Temp Thermo Pro sensor was shipped. Signal chain afterwards.		
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V	-4.0001V	-4.0003V					
-2.0000V	-2.0000V	-2.0001V					
0.0000V	-0.00013V	-0.00013V					
Background Voltages:	-2.969mV		0.580mV				
Configuration:	Front Back [V]		Back Front [ ]				
LABVIEW Voltages	-1.37623V		-1.5873V				
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm 22.3
Dev1:	PS11	2111	2111	-1.3774V	1891	3.0175V	NA
Dev2:	PS5	4277	4277	-1.5870V	8023	3.0190V	22.4

Responsivity ratio							
Date	Feb 7th 2024						
Signal chain measurement	PS11/PS5		Back Front		Notes: Back Front Resp Rat. of PS11-PS5		
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V	-4.0001V	-4.0003V					
-2.0000V	-2.0000V	-2.0001V					
0.0000V	-0.00013V	-0.00013V					
Background Voltages:	-3.0024V		0.820mV				
Configuration:	Front Back [ ]		Back Front [V]				
LABVIEW Voltages	-1.36803 V		-1.5847 V				
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm 22.4
Dev1:	PS11	2111	2111	-1.3675V	1891	3.0209V	NA
Dev2:	PS5	4277	4277	-1.5957V	8023	3.0230V	22.5

Back Front

Note Before starting: Kvm 8023  
 Had almost all the Indicators like up, looked weird.

Responsivity ratio <i>BF</i>							
Date <i>02/23/2024</i>							
Signal chain measurement				Notes: <i>5 Phases have been warmed for weeks, since last measurement. Signal made after. Background first. Keithley 4277 was frozen, had to be rebooted.</i>			
Martel Input	Device 1 Keithley (V) <i>PSII</i>	Device 2 Keithley (V) <i>PS5</i>					
-4.0000V	<i>-4.0001 V</i>	<i>-4.0002 V</i>					
-2.0000V	<i>-2.0000 V</i>	<i>-2.0000 V</i>					
0.0000V	<i>-0.00014V</i>	<i>-0.00014V</i>					
Background Voltages:							
Configuration:	Front Back [ ]	Back Front [ <i>✓</i> ]					
LABVIEW Voltages							
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1:	<i>PSII</i>	<i>2111</i>	<i>2111</i>	<i>-1.3690V</i>	<i>1891</i>	<i>0.0209V</i>	<i>22.0</i>
Dev2:	<i>PS5</i>	<i>4277</i>	<i>4277</i>	<i>-1.5953V</i>	<i>8023</i>	<i>3.0229V</i>	<i>22.9</i>

Responsivity ratio <i>FB</i>							
Date <i>02/23/2024</i>							
Signal chain measurement				Notes: <i>Labview license issues. Not run yet.</i>			
Martel Input	Device 1 Keithley (V) <i>PSII</i>	Device 2 Keithley (V) <i>PS5</i>					
-4.0000V							
-2.0000V							
0.0000V							
Background Voltages:	<i>-2.925mV</i>	<i>0.883 mV</i>					
Configuration:	Front Back [ <i>✓</i> ]	Back Front [ ]					
LABVIEW Voltages							
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1:	<i>PSII</i>	<i>2111</i>	<i>2111</i>	<i>-1.3779V</i>	<i>1891</i>	<i>3.0169V</i>	<i>22.2</i>
Dev2:	<i>PS5</i>	<i>4277</i>	<i>4277</i>	<i>-1.5865V</i>	<i>8023</i>	<i>3.0199V</i>	<i>22.3</i>

Responsivity ratio <i>FB</i>							
Date <i>Feb/29/2024</i>							
Signal chain measurement				Notes: <i>first measurement after license update. Background first</i>			
Martel Input	Device 1 Keithley (V) <i>PS4</i>	Device 2 Keithley (V) <i>PS5</i>					
-4.0000V							
-2.0000V							
0.0000V							
Background Voltages:	<i>2.727mV</i>	<i>0.869mV</i>					
Configuration:	Front Back [ <i>✓</i> ]	Back Front [ ]					
LABVIEW Voltages							
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1:	<i>PS4</i>	<i>2111</i>	<i>2111</i>	<i>-1.4606V</i>	<i>1891</i>	<i>3.0207</i>	<i>22.6</i>
Dev2:	<i>PS5</i>	<i>4277</i>	<i>4277</i>	<i>-1.5773V</i>	<i>8023</i>	<i>3.0203</i>	<i>22.5</i>

Responsivity ratio							
Date <i>Feb/29/2024</i>							
Signal chain measurement				Notes: <i>Back front measurement</i>			
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V	<i>-4.0001 V</i>	<i>-4.0002 V</i>					
-2.0000V	<i>-2.0000 V</i>	<i>-2.0000 V</i>					
0.0000V	<i>-0.132mV</i>	<i>-0.138mV</i>					
Background Voltages:	<i>-2.712mV</i>	<i>-0.97mV</i>					
Configuration:	Front Back [ ]	Back Front [ <i>✓</i> ]					
LABVIEW Voltages							
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1:	<i>PS4</i>	<i>2111</i>	<i>2111</i>	<i>-1.4497V</i>	<i>1891</i>	<i>3.0223</i>	<i>22.8</i>
Dev2:	<i>PS5</i>	<i>4277</i>	<i>4277</i>	<i>-1.5985V</i>	<i>8023</i>	<i>3.0211</i>	<i>22.7</i>

Responsivity ratio							
Date	Mar 1 2024						
Signal chain measurement			Notes: PS11/PS5 BF Sig Chain After Background First.				
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V	-4.0001V	-4.0002V					
-2.0000V	-2.0000V	-2.0000V					
0.0000V	-0.132mV	-0.12mV					
Background Voltages:	-2.937mV	0.886mV					
Configuration:	Front Back [ ]	Back Front [✓]					
LABVIEW Voltages	-1.379V	-1.59795					
Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm	22.3
Dev1: PS11	2111	2111	-1.3673V	1891	3.0164V	22.3	
Dev2: PS5	4277	4277	-1.5990V	8023	3.0184	22.3	

Responsivity ratio							
Date	Mar 1st/2024 FB afterwards						
Signal chain measurement			Notes: Front Back RESP Rat PS11-PS5 Background Done Before.				
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V							
-2.0000V							
0.0000V							
Background Voltages:	-2.948mV	+0.861mV					
Configuration:	Front Back [✓]	Back Front [ ]					
LABVIEW Voltages	-1.366	-1.5833					
Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm	22.3
Dev1: PS11	2111	2111	-1.3797	1891	3.0182	22.3	
Dev2: PS5	4277	4277	-1.5851	8023	3.0195	22.9	

Responsivity ratio							
Date	Mar 18 PS11-PS5 FB						
Signal chain measurement			Notes: Spheres Plugged In over The weekend and In Thermal EQ with Lab. Sig Chain meas after. Background first. Bad Background KVM Read 0. Background after.				
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V		-4.0002V					
-2.0000V		-2.0000V					
0.0000V		-0.148mV					
Background Voltages:	-2.962mV	0.938mV					
Configuration:	Front Back [✓]	Back Front [ ]					
LABVIEW Voltages	-1.3774V	-1.5877					
Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm	22.0
Dev1: PS11	2111	2111	-1.3775	1891	3.0144V	22.1	
Dev2: PS5	4277	4277	-1.5883	8023	3.0157V	22.1	

Responsivity ratio							
Date	Mar 18/2024 PS11-PS5 BF						
Signal chain measurement			Notes: First Bg was Bad. Use Second.				
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V	-4.0001V	-4.0001V					
-2.0000V	-2.0000V	-2.0000V					
0.0000V	-0.150mV	-0.149mV					
Background Voltages:							
Configuration:	Front Back [ ]	Back Front [✓]					
LABVIEW Voltages	-1.3698V	-1.59628V					
Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm	21.9
Dev1: PS11	2111	2111	-1.3698V	1891	3.0156	22.0	
Dev2: PS5	4277	4277	-1.5965V	8023	3.0174	21.9	

Responsivity ratio							
Date	03/19/2024		PS4/PS5		Notes: PS4/PS5 resp. ratio meas. after EY measurement. Sig chain first <input checked="" type="checkbox"/> By USB error starting over: 13:32		
Signal chain measurement							
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V	-4.00001	-4.0001					
-2.0000V	-2.0000	-2.0000					
0.0000V	-0.00014	-0.00015					
Background Voltages:	2.732mV		0.926mV				
Configuration:	Front Back <input checked="" type="checkbox"/>	Back Front [ ]					
LABVIEW Voltages	-1.4526V		-1.5894				
Device Name	HW Meas. Instrument	LV Meas. Instrument		Voltage	Temp Instrument	Voltage	Digi-Therm 21.9
Dev1: PS4	2111	2111		-1.4607V	1891	3.0156	21.9
Dev2: PS5	4277	4277		-1.5893V	8023	3.0157	22.1

Responsivity ratio							
Date	03/19/2024		PS4/PS5		Notes: BF ↗		
Signal chain measurement							
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V							
-2.0000V							
0.0000V							
Background Voltages:							
Configuration:	Front Back [ ]	Back Front [ <input checked="" type="checkbox"/> ]					
LABVIEW Voltages	2.777mV		0.957mV				
Device Name	HW Meas. Instrument	LV Meas. Instrument		Voltage	Temp Instrument	Voltage	Digi-Therm 21.4
Dev1: PS4	2111	2111		-1.4535V	1891	3.0135	21.5
Dev2: PS5	4277	4277		-1.5959V	8023	3.0135	21.5

Responsivity ratio							
Date	04/01/2024		PS5/PS2		Notes: PS5/PS2 Flipped temp. id. on LV, ran background "twice" before meas. First meas of PS2 after global calibration scheme		
Signal chain measurement	PS5		PS2				
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V	-04.0002	-04.0002					
-2.0000V	-02.0000	-02.0000					
0.0000V	-0.00014	-0.00014					
Background Voltages:	+0.0007V		-0.00136V				
Configuration:	Front Back <input checked="" type="checkbox"/>	Back Front [ ]					
LABVIEW Voltages	-1.5982		-1.3365				
Device Name	HW Meas. Instrument	LV Meas. Instrument		Voltage	Temp Instrument	Voltage	Digi-Therm 23.4
Dev1: PS5	1424277	1424277		-0.15982V	8023	3.0301	23.8
Dev2: PS2	1148750	1148750		-0.13216V	1891	3.0363	23.6

Responsivity ratio							
Date	04/02/2024		PS5/PS2		Notes: PS5/PS2 Measured with BB off (oops!) seeing overall temp. increase of 0.5° since present in Lab. * interchange in background when measuring. Did not note the position of PS (Trn/Rfl)		
Signal chain measurement	PS5		PS2				
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V	-4.0002	-04.0002					
-2.0000V	-2.0000	-2.0000					
0.0000V	-0.00014	-0.00014					
Background Voltages:	+0.643mV		-0.1412mV				
Configuration:	Front Back [ ]	Back Front <input checked="" type="checkbox"/>					
LABVIEW Voltages	-1.5984V		-1.3338V				
Device Name	HW Meas. Instrument	LV Meas. Instrument		Voltage	Temp Instrument	Voltage	Digi-Therm 23.6
Dev1: PS5	4277	4277		-1.5982V	8023	3.0327V	23.8
Dev2: PS2	8750	8750		-1.3344	1891	3.0388V	23.8

19 hrs

Bad Measurement Name  
 ↓  
 Incorrectly Named PS4-PS5

Responsivity ratio								
Date	04/19/2024		Front Back PS5/PS2					
Signal chain measurement								
Martel Input	Device 1 Keithley (V)		Device 2 Keithley (V)					
-4.0000V								
-2.0000V								
0.0000V								
Background Voltages:	+0.713 mV		-1.373 mV					
Configuration:	Front Back [M]		Back Front [I]					
LABVIEW Voltages	-1.5004 V		-1.3353 V					
Notes: After plugging in USB Hub from pcal ctrl to PCAL windows cpo, @ the NI DAQ stopped outputting 5v from ch90. We changed the signal channel to ch90.								
Background taken first								
Device Name								
Dev1: PS5	HW Meas. Instrument	4277	LV Meas. Instrument	4277	Voltage	Temp Instrument	Voltage	Digi-Therm
Dev2: PS2	8750	8750	8750	-1.5839 V	1891	3.0353	23.4	
				-1.3361 V	8023	3.0289	23.4	

Responsivity ratio								
Date	04/19/2024							
Signal chain measurement								
Martel Input	Device 1 Keithley (V)		Device 2 Keithley (V)					
-4.0000V								
-2.0000V								
0.0000V								
Background Voltages:	0.695 mV		-1.373 mV					
Configuration:	Front Back [ ]		Back Front [M]					
LABVIEW Voltages	-1.59915 V		-1.3354					
Notes: BACK ground taken first + signal Chain taken afterwards								
only change is the location of the spheres.								
Device Name								
Dev1: PS5 Back	HW Meas. Instrument	4277	LV Meas. Instrument	4277	Voltage	Temp Instrument	Voltage	Digi-Therm
Dev2: PS2 front	8750	8750	8750	-1.5821 V	1891	3.0365 V	23.5	
				-1.3374 V	8023	3.0303 V	23.5	

Responsivity ratio								
Date	04/19/2024							
Signal chain measurement								
Martel Input	Device 1 Keithley (V)		Device 2 Keithley (V)					
-4.0000V	4.0001 V		-4.0001 V					
-2.0000V	-2.0000 V		-2.0000 V					
0.0000V	-0.0001 V		-0.0001 V					
Background Voltages:								
Configuration:	Front Back [M]		Back Front [ ]					
LABVIEW Voltages	-1.5005 V		-1.3348 V					
Notes: <del>Back</del> Front Back Measurements								
Temp Inst Backwards								
Device Name								
Dev1: PS5	HW Meas. Instrument	4277	LV Meas. Instrument	4277	Voltage	Temp Instrument	Voltage	Digi-Therm
Dev2: PS2	8750	8750	8750	-1.5996	1891	3.0357 V	23.5	
				-1.3357	8023	3.0299	23.6	

Responsivity ratio								
Date	04/22/2024		Back Front PS5/PS2					
Signal chain measurement								
Martel Input	Device 1 Keithley (V)		Device 2 Keithley (V)					
-4.0000V								
-2.0000V								
0.0000V								
Background Voltages:	0.767 mV		-1.308 mV					
Configuration:	Front Back [ ]		Back Front [M]					
LABVIEW Voltages	-1.5735		-1.3365 V					
Notes: Back front:								
Device Name								
Dev1: PS5	HW Meas. Instrument	4277	LV Meas. Instrument	4277	Voltage	Temp Instrument	Voltage	Digi-Therm
Dev2: PS2	8750	8750	8750	-1.5812 V	8023	3.0266	23.4	
				-1.3383 V	1891	3.0227	23.5	

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40C

Responsivity ratio							
Date	04/22/2024						
Signal chain measurement			Notes: Bg after wards Laser left on spheres for too long After measurement				
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V	-4.0000 V	-4.0001 V					
-2.0000V	-2.0000 V	-2.0000 V					
0.0000V	-0.00015 V	-0.00014 V					
Background Voltages:	+0.735 mV	-1.321 mV					
Configuration:	Front Back [✓]	Back Front [ ]					
LABVIEW Voltages	-1.5828 V	-1.3230 V					
Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm	23.3 °C
Dev1: PS5	4277	4277	-1.6014V	8023	3.0249V	23.4	
Dev2: PS2	8750	8750	-1.3206V	1891	3.0286V	23.4	

Responsivity ratio							
Date	04/23/24		Notes: PCAL CPU was hard shutdown. PS2 de-energized at 1055 PS4 energized at 1105 Redo background because background toggle was off				
Signal chain measurement							
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V							
-2.0000V							
0.0000V							
Background Voltages:	+2.594 mV	+0.77 mV					
Configuration:	Front Back [ ]	Back Front [✓]					
LABVIEW Voltages	-1.467	-1.584					
Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm	
Dev1: PS4	8002111	2111	-2.465	1421891	3.0273	23.4	
Dev2: PS5	1424277	4277	-1.582	8018023	3.0265	23.5	

Responsivity ratio							
Date	04/23/24 @ 1350		Notes: Background value before making meas. while background voltage will be done after. PS4 de-energized after meas. to make signal chain. energized at 1442 similar process for PS5, energ. @ 1444				
Signal chain measurement							
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V	-3.9999	-4.0001					
-2.0000V	-1.9999	-2.0000					
0.0000V	-0.14 mV	-0.15 mV					
Background Voltages:	+2.58 mV	+0.74 mV					
Configuration:	Front Back [✓]	Back Front [ ]					
LABVIEW Voltages	-1.4656 V	-1.5836 V					
Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm	
Dev1: PS4	2111	m 2111	-1.466V	1891	3.0289V	23.4	
Dev2: PS5	4277	84277	-1.582V	8018023	3.0290V	23.45	

Responsivity ratio							
Date	04/25/24		Notes: 1105 PS2 energized 1330 PS5 Bg volt is lower by 0.1 mV 1423 Post-meas.: Temp. decreased by 1°C in the span of 4 meas.				
Signal chain measurement							
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V							
-2.0000V							
0.0000V							
Background Voltages:	+0.685 mV	-1.387 mV					
Configuration:	Front Back [ ]	Back Front [✓]					
LABVIEW Voltages	-1.5853	-1.38425					
Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm	
Dev1: PS5	1424277	8 4277	-1.5896V	8018023	3.0333V	24.1 °C	
Dev2: PS2	1148750	8750	-1.3741V	1421891	3.0392V	24.1 °C	

Responsivity ratio			
Date	04/25/24 @ 1430		
Signal chain measurement			Notes:
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)	Background meas. done at the end of the meas. EF 1221 Background meas done way later than usual.
-4.0000V	-4.00007	-4.0001	
-2.0000V	-2.0000	-2.0000	
0.0000V	-0.15mV	-0.15mV	
Background Voltages:	+0.588mV	-1.479mV	
Configuration:	Front Back <input checked="" type="checkbox"/>	Back Front [ ]	
LABVIEW Voltages			
	-1.48335	-1.3216	
	Device Name	HW Meas. Instrument	LV Meas. Instrument
Dev1:	PS5	24277	24277
Dev2:	PS2	8790	48770
		Voltage	Temp Instrument
		-1.5994V	8023
		Voltage	Digi-Therm
		3.0344V	23.8
		-1.3223V	1891
		Voltage	Digi-Therm
		3.0398V	23.9

Responsivity ratio			
Date			
Signal chain measurement			Notes:
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)	1148798 Sys. ver.: 01.05-01-01
-4.0000V	-4.0003 ± 1	-4.0007 ± 1	
-2.0000V	-2.0001 ± 1	-2.0001 ± 1	
0.0000V	-0.15mV	-0.15mV	
Background Voltages:			
Configuration:	Front Back [ ]	Back Front [ ]	
LABVIEW Voltages			
	Device Name	HW Meas. Instrument	LV Meas. Instrument
Dev1:			
Dev2:			
		Voltage	Temp Instrument
		Voltage	Digi-Therm

Responsivity ratio			
Date	05/25/20 @ 1530		
Signal chain measurement			Notes:
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)	
-4.0000V			
-2.0000V			
0.0000V			
Background Voltages:			
Configuration:	Front Back [ ]	Back Front [ ]	
LABVIEW Voltages			
	Device Name	HW Meas. Instrument	LV Meas. Instrument
Dev1:	PS4		
Dev2:	PS5		
		Voltage	Temp Instrument
		Voltage	Digi-Therm

Responsivity ratio			
Date	05/25/20 @ 1530		
Signal chain measurement			Notes:
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)	Meas. to test new setup & python measurement script.
-4.0000V			
-2.0000V			
0.0000V			
Background Voltages:	+2.54mV	+0.62mV	
Configuration:	Front Back <input checked="" type="checkbox"/>	Back Front [ ]	
LABVIEW Voltages			
	Device Name	HW Meas. Instrument	LV Meas. Instrument
Dev1:	PS4	2111	
Dev2:	PS5	4277	
		Voltage	Temp Instrument
			1891
		Voltage	Digi-Therm
		3.0148	
			9023
		Voltage	Digi-Therm
		3.0153	

Responsivity ratio									
Date									
Signal chain measurement				Notes:					
Martel Input		Device 1 Keithley (V)		Device 2 Keithley (V)					
-4.0000V									
-2.0000V									
0.0000V									
Background Voltages:		+2.56mV		+0.57mV					
Configuration:		Front Back [ ]		Back Front [✓]					
LABVIEW Voltages									
Device Name		HW Meas. Instrument		LV Meas. Instrument		Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1: P84		2111					1891	3.0171	
Dev2: P55		4277					8023	3.0172	

Responsivity ratio P88/P55									
Date 2/05/23									
Signal chain measurement				Notes: 100/1000 first measurement with new lab setup. Back front					
Martel Input		Device 1 Keithley (V)		Device 2 Keithley (V)					
-4.0000V		-4.0001		-4.0002 ✓					
-2.0000V		-1.9999V		-2.0000V ✓					
0.0000V		-0.125mV		-0.129mV ✓					
Background Voltages:		-5.478mV		0.608mV					
Configuration:		Front Back [ ]		Back Front [✓]					
LABVIEW Voltages									
Device Name		HW Meas. Instrument		LV Meas. Instrument		Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1: P88		2111		2111		-2.862V	1891	3.024V	21.8
Dev2: P55		4277		4277		-1.5972	8023	3.017V	21.9

Responsivity ratio P88/P55									
Date									
Signal chain measurement				Notes: 100/100 Front Back					
Martel Input		Device 1 Keithley (V)		Device 2 Keithley (V)					
-4.0000V		-4.0001V		-4.0002V ✓					
-2.0000V		-1.9999V		-2.0000V ✓					
0.0000V		-0.125mV		-0.127mV ✓					
Background Voltages:		-5.209mV		0.777mV					
Configuration:		Front Back [✓]		Back Front [ ]					
LABVIEW Voltages									
Device Name		HW Meas. Instrument		LV Meas. Instrument		Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1: P88		2111		2111		-2.8651V	1891	3.0262V	22.1
Dev2: P55		4277		4277		-1.909V	8023	3.0189V	21.9

Responsivity ratio P55/P88									
Date									
Signal chain measurement				Notes: 100/100 ← Wrong ReRunning Both FB+BF					
Martel Input		Device 1 Keithley (V)		Device 2 Keithley (V)					
-4.0000V		-4.0002V ✓		-4.0001V					
-2.0000V		-2.0000V ✓		-1.9999V					
0.0000V		-0.128mV		-0.125mV					
Background Voltages:		+0.599mV		-5.595mV					
Configuration:		Front Back [ ]		Back Front [✓]					
LABVIEW Voltages									
Device Name		HW Meas. Instrument		LV Meas. Instrument		Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1: P55		4277		4277		-1.595V	8023	3.0189V	21.8
Dev2: P88		2111		2111		-2.8808V	1891	3.0261V	22.0



Responsivity ratio <i>PS4/PS5</i>							
Date <i>2024/05/28</i>				Notes: <i>Post EY Measurement</i>			
Signal chain measurement				<i>F.B. PS4-PS5</i>			
Martel Input	Device 1 Keithley (V) <i>PS4</i>	Device 2 Keithley (V) <i>PS5</i>					
-4.0000V	<i>-4.0001V</i>	<i>-4.0002V</i>					
-2.0000V	<i>-2.0000V</i>	<i>-2.0000V</i>					
0.0000V	<i>-0.126mV</i>	<i>0.701mV</i>					
Background Voltages:	<i>2.577mV</i>	<i>0.701mV</i>					
Configuration:	Front Back [ <i>4</i> ]	Back Front [ ]					
LABVIEW Voltages	<i>-14612</i>	<i>-1.5984</i>					
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1:	<i>PS4 front</i>	<i>2111</i>	<i>2111</i>	<i>-1.4606V</i>	<i>1891</i>	<i>3.0125</i>	<i>21.6</i>
Dev2:	<i>PS5 back</i>	<i>4277</i>	<i>4277</i>	<i>-1.5897V</i>	<i>8023</i>	<i>3.0125</i>	<i>21.7</i>

Responsivity ratio <i>PS4 PS5</i>							
Date <i>2024/05/28</i>				Notes: <i>Back front PS4-PS5</i>			
Signal chain measurement				<i>By after measurement</i>			
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V	<i>-4.0001V</i>	<i>-4.0002V</i>					
-2.0000V	<i>-2.0000V</i>	<i>-2.0000V</i>					
0.0000V	<i>-0.126 mV</i>	<i>0.123 mV</i>					
Background Voltages:							
Configuration:	Front Back [ ]	Back Front [ <i>4</i> ]					
LABVIEW Voltages	<i>-1.4507V</i>	<i>-1.5876</i>					
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1:	<i>PS4 back</i>	<i>2111</i>	<i>2111</i>	<i>-1.4577V</i>	<i>1891</i>	<i>3.0125</i>	<i>22.8</i>
Dev2:	<i>PS5 front</i>	<i>4277</i>	<i>4277</i>	<i>-1.5953V</i>	<i>8021</i>	<i>3.0125</i>	<i>22.4</i>

Responsivity ratio							
Date				Notes:			
Signal chain measurement							
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V							
-2.0000V							
0.0000V							
Background Voltages:							
Configuration:	Front Back [ ]	Back Front [ ]					
LABVIEW Voltages							
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1:							
Dev2:							

Responsivity ratio							
Date				Notes:			
Signal chain measurement							
Martel Input	Device 1 Keithley (V)	Device 2 Keithley (V)					
-4.0000V							
-2.0000V							
0.0000V							
Background Voltages:							
Configuration:	Front Back [ ]	Back Front [ ]					
LABVIEW Voltages							
	Device Name	HW Meas. Instrument	LV Meas. Instrument	Voltage	Temp Instrument	Voltage	Digi-Therm
Dev1:							
Dev2:							