E1000607 aLIGO Optical Lever Coordinates, H2 Version 1

10/15/2010

GROUND
HEIGHT
GLOBAL -1854.2

			BEAM POSITION, mm																	
			ZEMAX			GLOBAL			LOCAL											
IFO	Mirror	CHAMBER	X	Y	Z	X	Y	Z	X	Y	Z	Comment					PATH LENGTH		TRANSMIT HEIGHT	RECEIVE HEIGHT
	OPTLEV																			
H2	BS	BSC4	0.0	8147.0	10270.0	10270.0	8147.0	0.0	1050.0	-1073.0	0.0	Source	191:00:00	OPTLEV	BS	IN			1854.2	
			0.0	8200.2	10217.9	10217.9	8200.2	0.0	997.9	-1019.8	0.0	BSC4	VP5				74.5			
			0.0	8342.0	10079.0	10079.0	8342.0	0.0	859.0	-878.0	0.0	BS	optlev	periscope	M1		198.5			
			0.0	8235.9	9975.2	9975.2	8235.9	0.0	755.2	-984.1	0.0	BS	optlev	periscope	M2		148.5			
			0.0	9092.9	9135.9	9135.9	9092.9	0.0	-84.1	-127.1	0.0	BS					1199.5			
			0.1	8235.9	10004.3	10004.3	8235.9	-0.1	784.3	-984.1	-0.1	BS	optlev	periscope	M2		1220.1			
			0.1	8342.0	10111.7	10111.7	8342.0	-0.1	891.7	-878.0	-0.1	BS	optlev	periscope	M1		151.0			
			0.1	8218.8	10236.5	10236.5	8218.8	-0.1	1016.5	-1001.2	-0.1	BSC4	VP5				175.3			
			0.1	8078.6	10378.6	10378.6	8078.6	-0.1	1158.6	-1141.4	-0.1	QPD	BS	OPTLEV			199.6			1854.1
																	3366.9			
	OPTLEV																			
	PR3	WAMCB3	1025.5	9383.2	15210.0	15210.0	9383.2	-1025.5	5990.0	163.2	-1025.5	Source	318:00:00	OPTLEV	PR3	IN			828.7	
			1024.7	9383.1	15222.3	15222.3	9383.1	-1024.7	6002.3	163.1	-1024.7	OPTLEV	PR3	IN	WAMCB3	VP6	12.3			
			94.9	9313.3	28556.5	28556.5	9313.3	-94.9	19336.5	93.3	-94.9	PR3_RADIUS					13366.8			
			-804.2	9475.7	15222.3	15222.3	9475.7	804.2	6002.3	255.7	804.2	OPTLEV	PR3	OUT	WAMCB3	VP12	13365.5			
			-804.3	9475.7	15220.0	15220.0	9475.7	804.3	6000.0	255.7	804.3	OPTLEV	PR3	OUT			2.3			2658.5
																	26746.8			
	OPTLEV																			
	HAM8	WAMCB3	913.9	8687.1	15170.0	15170.0	8687.1	-913.9	5950.0	-532.9	-913.9	Source	319:00:00	OPTLEV	HAM8	IN			940.3	
			911.2	8687.6	15222.3	15222.3	8687.6	-911.2	6002.3	-532.4	-911.2	OPTLEV	HAM8	IN/OUT	WAMCB3	VP5	52.3			
			226.6	8818.9	28420.3	28420.3	8818.9	-226.6	19200.3	-401.1	-226.6	DLC	HAM8	OPTLEV			13216.4			
			911.1	8812.0	15222.3	15222.3	8812.0	-911.1	6002.3	-408.0	-911.1	OPTLEV	HAM8	IN/OUT	WAMCB3	VP5	13215.8			
			914.4	8811.9	15160.0	15160.0	8811.9	-914.4	5940.0	-408.1	-914.4	OPTLEV	HAM8	OUT	(VP5)		62.3			939.8
																	26546.9			
	OPTLEV																			
	HAM9	WAMCA3	913.9	9626.9	27075.0	27075.0	9626.9	-913.9	17855.0	406.9	-913.9	Source	321:00:00	OPTLEV	HAM9	IN			940.3	
			911.3	9626.7	27025.3	27025.3	9626.7	-911.3	17805.3	406.7	-911.3	OPTLEV	HAM9	IN/OUT	WAMCA3	VP5	49.7			
			224.7	9569.5	13920.2	13920.2	9569.5	-224.7	4700.2	349.5	-224.7	DLC	HAM9	OPTLEV			13123.2			
			911.3	9741.0	27025.3	27025.3	9741.0	-911.3	17805.3	521.0	-911.3	OPTLEV	HAM9	IN/OUT	WAMCA3	VP5	13124.2			
			913.9	9741.7	27075.0	27075.0	9741.7	-913.9	17855.0	521.7	-913.9	OPTLEV	HAM9	OUT	(VP5)		49.8			940.3
																	26346.9			
	OPTLEV																			
	SR3	WAMCB4	1012.0	15220.0	8992.6	8992.6	15220.0	-1012.0	-227.4	6000.0	-1012.0	Source	358:00:00	OPTLEV	SR3	IN			842.2	
			1011.0	15235.0	8993.1	8993.1	15235.0	-1011.0	-226.9	6015.0	-1011.0	OPTLEV	SR3	IN	WAMCB4	VP7	15.0			
			91.5	29261.3	9414.2	9414.2	29261.3	-91.5	194.2	20041.3	-91.5	SR3_RADIUS					14062.8			
			-811.5	15235.0	8994.3	8994.3	15235.0	811.5	-225.7	6015.0	811.5	OPTLEV	SR3	OUT	WAMCB4	VP11	14061.7			
			-812.5	15220.0	8993.9	8993.9	15220.0	812.5	-226.1	6000.0	812.5	OPTLEV	SR3	OUT			15.0			2666.7
																	28154.4			
	OPTLEV																			
	HAM11	WAMCB4	879.1	15220.0	9682.5	9682.5	15220.0	-879.1	462.5	6000.0	-879.1	Source	359:00:00	OPTLEV	HAM11	IN			975.1	
			878.4	15235.0	9681.8	9681.8	15235.0	-878.4	461.8	6015.0	-878.4	OPTLEV	HAM11	IN/OUT	WAMCB4	VP5	15.0			
			223.7	28469.9	9074.1	9074.1	28469.9	-223.7	-145.9	19249.9	-223.7	DLC	HAM11	OPTLEV			13265.1			
			878.7	15235.0	9793.0	9793.0	15235.0	-878.7	573.0	6015.0	-878.7	OPTLEV	HAM11	IN/OUT	WAMCB4	VP5	13270.6			
			879.4	15220.0	9793.8	9793.8	15220.0	-879.4	573.8	6000.0	-879.4	OPTLEV	HAM11	OUT			15.0			974.8
																	26565.6			
	OPTLEV																			
	HAM10	WAMCA4	913.9	27045.0	8687.1	8687.1	27045.0	-913.9	-532.9	17825.0	-913.9	Source	361:00:00	OPTLEV	HAM10	IN			940.3	
			913.5	27038.0	8687.5	8687.5	27038.0	-913.5	-532.5	17818.0	-913.5	OPTLEV	HAM10	IN/OUT	WAMCA4	VP5	7.0			
			225.0	13920.2	9478.1	9478.1	13920.2	-225.0	258.1	4700.2	-225.0	DLC	HAM10	OPTLEV			13159.7			
			913.1	27038.0	8811.5	8811.5	27038.0	-913.1	-408.5	17818.0	-913.1	OPTLEV	HAM10	IN/OUT	WAMCA4	VP5	13152.8			
			913.8	27050.0	8810.9	8810.9	27050.0	-913.8	-409.1	17830.0	-913.8	OPTLEV	HAM10	OUT			12.0			940.4
																	26331.5			
	OPTLEV																			

			BEAM POSITION, mm																	
			ZEMAX			GLOBAL			LOCAL											
IFO	**Mirror**	**CHAMBER**	**X**	**Y**	**Z**	**X**	**Y**	**Z**	**X**	**Y**	**Z**	**Comment**					**PATH LENGTH**		**TRANSMIT HEIGHT**	**RECEIVE HEIGHT**
	ITMX FOLD	BSC7	665.0	-155.0	37815.0	37815.0	-155.0	-665.0	37815.0	-9524.0	-665.0	Source	397:00:00	OPTLEV	FOLD	ITMX	CTR	IN	1189.2	
			664.3	-154.6	37782.5	37782.5	-154.6	-664.3	37782.5	-9523.6	-664.3	A1-A	VP4				32.5			
			80.7	200.4	9920.7	9920.7	200.4	-80.7	9920.7	-9168.6	-80.7	FOLD_ITMX-RADIUS					27870.2			
			-502.9	555.3	37782.5	37782.5	555.3	502.9	37782.5	-8813.7	502.9	A1-A	VP1				27870.2			
			-503.3	555.6	37800.0	37800.0	555.6	503.3	37800.0	-8813.4	503.3	FLD	OPTLEV	ITMX	OUT		17.5			2357.5
												TOTAL PATH					55790.4			
	OPTLEV																			
	FMX	BSC7	0.0	1124.6	10460.0	10460.0	1124.6	0.0	10460.0	-8244.4	0.0	Source	415:00:00	OPTLEV	FMX	IN			1854.2	
			0.0	1025.6	10361.0	10361.0	1025.6	0.0	10361.0	-8343.4	0.0	FM	OPTLEV	IN/OUT	BSC7	VP5	139.9			
			0.0	820.0	10155.4	10155.4	820.0	0.0	10155.4	-8549.0	0.0	FMX	optlev	periscope	M1		290.8			
			0.0	1032.1	9943.3	9943.3	1032.1	0.0	9943.3	-8336.9	0.0	FMX	optlev	periscope	M2		300.0			
			0.0	145.4	9056.6	9056.6	145.4	0.0	9056.6	-9223.6	0.0	FMX					1254.0			
			1.0	1032.1	9971.2	9971.2	1032.1	-1.0	9971.2	-8336.9	-1.0	FMX	optlev	periscope	M2		1273.9			
			1.2	820.0	10190.1	10190.1	820.0	-1.2	10190.1	-8549.0	-1.2	FMX	optlev	periscope	M1		304.8			
			1.4	1005.4	10381.3	10381.3	1005.4	-1.4	10381.3	-8363.6	-1.4	FM	OPTLEV	IN/OUT	BSC7	VP5	266.3			
			1.5	1144.5	10524.7	10524.7	1144.5	-1.5	10524.7	-8224.5	-1.5	QPD	FMX	OPTLEV			199.8			1852.7
																	4029.6			
	OPTLEV																			
	ITMYFOLD	BSC8	665.0	37815.0	-155.0	-155.0	37815.0	-665.0	-9524.0	37815.0	-665.0	Source	431:00:00	OPTLEV	FOLD	ITMY	CTR	IN	1189.2	
			664.1	37773.0	-154.5	-154.5	37773.0	-664.1	-9523.5	37773.0	-664.1	A1-B	VP3				42.0			
			80.2	9897.7	200.7	200.7	9897.7	-80.2	-9168.3	9897.7	-80.2	FOLD_ITMY-RADIUS					27883.7			
			-503.7	37773.0	555.8	555.8	37773.0	503.7	-8813.2	37773.0	503.7	A1-B	VP6				27883.7			
			-504.2	37800.0	556.2	556.2	37800.0	504.2	-8812.8	37800.0	504.2	FLD	OPTLEV	ITMY	OUT		27.0			2358.4
												TOTAL PATH					55836.4			
	OPTLEV																			
	FMY	BSC8	0.0	10460.0	1124.6	1124.6	10460.0	0.0	-8244.4	10460.0	0.0	Source	445:00:00	OPTLEV	FMY	IN			1854.2	
			0.0	10361.0	1025.6	1025.6	10361.0	0.0	-8343.4	10361.0	0.0	FM	OPTLEV	IN/OUT	BSC8	VP5	139.9			
			0.0	10155.4	820.0	820.0	10155.4	0.0	-8549.0	10155.4	0.0	FMY	optlev	periscope	M1		290.8			
			0.0	9943.3	1032.1	1032.1	9943.3	0.0	-8336.9	9943.3	0.0	FMY	optlev	periscope	M2		300.0			1854.2
			0.0	9057.3	146.2	146.2	9057.3	0.0	-9222.8	9057.3	0.0	FMY					1252.9			
			1.0	9965.8	1032.1	1032.1	9965.8	-1.0	-8336.9	9965.8	-1.0	FMY	optlev	periscope	M2		1269.0			
			1.2	10183.4	820.0	820.0	10183.4	-1.2	-8549.0	10183.4	-1.2	FMY	optlev	periscope	M1		303.8			
			1.4	10377.4	1009.3	1009.3	10377.4	-1.4	-8359.7	10377.4	-1.4	FM	OPTLEV	IN/OUT	BSC8	VP5	271.1			
			1.6	10520.5	1148.7	1148.7	10520.5	-1.6	-8220.3	10520.5	-1.6	QPD	FMY	OPTLEV			199.8			
																	4027.4			
	OPTLEV																			
	ETMX	BSC5	670.0	-160.0	72876.7	72876.7	-160.0	-670.0	-3493.4	-160.0	-670.0	Source	592:00:00	OPTLEV	ETMX	H2	CTR	IN	1184.2	
			663.2	-155.8	72911.7	72911.7	-155.8	-663.2	-3458.4	-155.8	-663.2	A-7A	VP3				35.9			
			83.0	201.5	75920.7	75920.7	201.5	-83.0	-449.3	201.5	-83.0	FOLD-ETMX-RADIUS					3085.2			
			-497.7	559.3	72911.7	72911.7	559.3	497.7	-3458.4	559.3	497.7	A-7A	VP6				3085.4			
			-499.7	560.5	72901.7	72901.7	560.5	499.7	-3468.4	560.5	499.7	OPTLEV	ETMX	H2	OUT		10.3			2353.9
																	6216.8			1854.2
	PHOTCAL1																			
	ETMX	BSC5	0.0	-724.0	72906.7	72906.7	-724.0	0.0	-3463.4	-724.0	0.0	Source	597:00:00	PHOTCAL1	ETMX	H2	IN			
			0.3	-722.5	72911.7	72911.7	-722.5	-0.3	-3458.4	-722.5	-0.3	A-7A	VP2				5.2		1853.9	
			191.3	199.1	75920.7	75920.7	199.1	-191.3	-449.3	199.1	-191.3	FOLD-ETMX-RADIUS					3152.8			
			313.9	790.7	73991.1	73991.1	790.7	-313.9	-2378.9	790.7	-313.9	PERI1-1	PHOTCAL	ETMX			2022.0			
			313.8	688.6	74022.5	74022.5	688.6	-313.8	-2347.5	688.6	-313.8	PERI1-2	PHOTCAL	ETMX			106.8			
			0.4	734.0	72911.7	72911.7	734.0	-0.4	-3458.4	734.0	-0.4	A-7A	VP5				1155.1			
			-2.4	734.4	72901.7	72901.7	734.4	2.4	-3468.4	734.4	2.4	PHOTCAL	ETMX	H2	OUT		10.4			1856.6
																	6452.3			
	PHOTCAL2																			
	ETMX	BSC5	0.0	-800.0	72906.7	72906.7	-800.0	0.0	-3463.4	-800.0	0.0	Source	598:00:00	PHOTCAL2	ETMX	H2	IN		1854.2	
			-0.1	-798.3	72911.7	72911.7	-798.3	0.1	-3458.4	-798.3	0.1	A-7A	VP2				5.3			
			-31.8	199.0	75920.7	75920.7	199.0	31.8	-449.3	199.0	31.8	FOLD-ETMX-RADIUS					3170.2			
			-52.3	840.7	73986.4	73986.4	840.7	52.3	-2383.6	840.7	52.3	PERI2-1	PHOTCAL	ETMX			2038.1			
			-53.8	689.6	74019.5	74019.5	689.6	53.8	-2350.5	689.6	53.8	PERI2-2	PHOTCAL	ETMX			154.7			
			-5.5	792.4	72911.7	72911.7	792.4	5.5	-3458.4	792.4	5.5	A-7A	VP5				1113.7			
			-5.1	793.3	72901.7	72901.7	793.3	5.1	-3468.4	793.3	5.1	PHOTCAL	ETMX	H2	OUT		10.1			1859.3

			BEAM POSITION, mm																	
			ZEMAX			GLOBAL			LOCAL											
IFO	**Mirror**	**CHAMBER**	**X**	**Y**	**Z**	**X**	**Y**	**Z**	**X**	**Y**	**Z**	**Comment**					**PATH LENGTH**		**TRANSMIT HEIGHT**	**RECEIVE HEIGHT**
																	6492.0			
	OPTLEV																			
	ETMY	BSC6	670.0	72876.7	-160.0	-160.0	72876.7	-670.0	-160.0	-3493.4	-670.0	Source	613:00:00	OPTLEV	ETMY	H2	CTR	IN	1184.2	
			663.2	72911.7	-155.8	-155.8	72911.7	-663.2	-155.8	-3458.4	-663.2	A-7A	VP4				35.9			
			80.3	75897.7	198.3	198.3	75897.7	-80.3	198.3	-472.3	-80.3	ETMY-RADIUS	F				3062.9			
			-502.5	72911.7	552.4	552.4	72911.7	502.5	552.4	-3458.4	502.5	A-7A	VP1				3062.9			
			-503.4	72906.7	553.0	553.0	72906.7	503.4	553.0	-3463.4	503.4	OPTLEV	ETMY	H2	OUT		5.1			2357.6
																	6166.9			
	PHOTCAL1																			
	ETMY	BSC6	0.0	72906.7	-724.0	-724.0	72906.7	0.0	-724.0	-3463.4	0.0	Source	617:00:00	PHOTCAL1	ETMY	H2	IN		1854.2	
			0.3	72911.7	-722.5	-722.5	72911.7	-0.3	-722.5	-3458.4	-0.3	A-7A	VP5				5.2			
			190.0	75897.7	198.9	198.9	75897.7	-190.0	198.9	-472.3	-190.0	ETMY-RADIUS	F				3130.7			
			311.3	73988.8	788.5	788.5	73988.8	-311.3	788.5	-2381.2	-311.3	PERI1-1	PHOTCAL	ETMY			2001.6			
			311.2	74020.7	685.6	685.6	74020.7	-311.2	685.6	-2349.3	-311.2	PERI1-2	PHOTCAL	ETMY			107.7			
			-2.3	72911.7	733.2	733.2	72911.7	2.3	733.2	-3458.4	2.3	A-7A	VP2				1153.5			
			-3.7	72906.7	733.5	733.5	72906.7	3.7	733.5	-3463.4	3.7	PHOTCAL	ETMY	H2	OUT		5.2			1857.9
																	6403.9			
	PHOTCAL2																			
	ETMY	BSC6	0.0	72906.7	-800.0	-800.0	72906.7	0.0	-800.0	-3463.4	0.0	Source	618:00:00	PHOTCAL2	ETMY	H2	IN		1854.2	
			-0.1	72911.7	-798.3	-798.3	72911.7	0.1	-798.3	-3458.4	0.1	A-7A	VP5				5.3			
			-31.6	75897.7	198.9	198.9	75897.7	31.6	198.9	-472.3	31.6	ETMY-RADIUS	F				3148.3			
			-51.9	73984.1	838.6	838.6	73984.1	51.9	838.6	-2385.9	51.9	PERI2-1	PHOTCAL	ETMY			2017.8			
			-53.4	74017.6	687.3	687.3	74017.6	53.4	687.3	-2352.4	53.4	PERI2-2	PHOTCAL	ETMY			155.0			
			-5.1	72911.7	792.5	792.5	72911.7	5.1	792.5	-3458.4	5.1	A-7A	VP2				1111.9			
			-4.9	72906.7	793.0	793.0	72906.7	4.9	793.0	-3463.4	4.9	PHOTCAL	ETMY	H2	OUT		5.0			1859.1
																	6443.4			
MC Tube viewport ref in ZEMAX																				
	WAMC3		0.0	9220.0	9220.0	9220.0	9220.0	0.0												
	WAMC4		0.0	9220.0	9220.0	9220.0	9220.0	0.0												
chamber coordinates in ZEMAX																				
	BSC4		0.0	9220.0	9220.0	9220.0	9220.0	0.0												
	BSC7		0.0	9369.0	0.0	0.0	9369.0	0.0												
	BSC8		0.0	0.0	9369.0	9369.0	0.0	0.0												
	BSC5		0.0	0.0	76370.0	76370.0	0.0	0.0												
	BSC6		0.0	76370.0	0.0	0.0	76370.0	0.0												