



DBB	
Diagnostic breadboard:	DBID 0208, lock mode (4)
Selected laser beam:	35W laser (DBB shutter open)
Power in DBB (RPD.DC):	9.9 V
PMC resonant:	100%
Beam alignment:	auto-alignment on
Modematching lens positions:	lens 1 (ML ₁) = -0.6 mm, lens 2 (ML ₂) = -1.8 mm, lenses latched

POINTING	
Measurement:	300 s = 5.0 min, 12. Jul 2011 16:57 CDT
Error signal:	1x = 0.047 eps _{rms} , -0.189 ... 0.256 eps,
	1y = 0.062 eps _{rms} , -0.318 ... 0.298 eps,
Error signal slope (1x, 1y, 2x, 2y):	2x = 0.021 eps _{rms} , -0.122 ... 0.083 eps,
	2y = 0.037 eps _{rms} , -0.168 ... 0.177 eps
Error signal calibration age:	2.51e-04 eps/cts, 2.94e-04 eps/cts, 1.02e-04 eps/cts, 1.91e-04 eps/cts
Control signal:	4.2 min, 3.7 min, 3.2 min, 2.6 min
	1x = -0.177 ± 0.007 eps, 1y = -0.344 ± 0.011 eps,
	2x = 0.394 ± 0.005 eps, 2y = -0.044 ± 0.013 eps

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Measurement duration:	300 s = 5.0 min
Measurement start:	12. Jul 2011 16:57 CDT (12. Jul 2011 21:57 UTC, 994543070 GPS)
NDS:	10.110.140.106:8088 (v12r0)
User:	controls@l1pslctrl4.local
Channels:	<p>L1:PSL-DBB_QPD_1DX_CAL_OUT 65536 Hz, L1:PSL-DBB_QPD_1DY_CAL_OUT 65536 Hz, L1:PSL-DBB_QPD_2DX_CAL_OUT 65536 Hz, L1:PSL-DBB_QPD_2DY_CAL_OUT 65536 Hz, L1:PSL-DBB_CTRL_CTRL1X_EPS_OUTPUT 16 Hz, L1:PSL-DBB_CTRL_CTRL1Y_EPS_OUTPUT 16 Hz, L1:PSL-DBB_CTRL_CTRL2X_EPS_OUTPUT 16 Hz, L1:PSL-DBB_CTRL_CTRL2Y_EPS_OUTPUT 16 Hz, L1:PSL-DBB_SHUTTER 16 Hz, L1:PSL-DBB_DBID 16 Hz, L1:PSL-DBB_MON_SHUTTER_CLOSED 16 Hz, L1:PSL-DBB_MODE_NUM 16 Hz, L1:PSL-DBB_RPD_DC_OUTPUT 16 Hz, L1:PSL-DBB_CTRL_DSWITCH_ON 16 Hz, L1:PSL-DBB_LENS1 16 Hz, L1:PSL-DBB_LENS2 16 Hz, L1:PSL-DBB_LENS_LATCH 16 Hz, L1:PSL-DBB_CTRL_RESONANT 16 Hz, L1:PSL-DBB_QPD_MCALI_AGE_1X 16 Hz, L1:PSL-DBB_QPD_MCALI_AGE_1Y 16 Hz, L1:PSL-DBB_QPD_MCALI_AGE_2X 16 Hz, L1:PSL-DBB_QPD_MCALI_AGE_2Y 16 Hz, L1:PSL-DBB_QPD_MCALI_FACTOR_1X 16 Hz, L1:PSL-DBB_QPD_MCALI_FACTOR_1Y 16 Hz, L1:PSL-DBB_QPD_MCALI_FACTOR_2X 16 Hz, L1:PSL-DBB_QPD_MCALI_FACTOR_2Y 16 Hz</p>
Raw data:	rawdata.zip (attached to this .pdf file, use Adobe Reader)
Calibration:	default.cali (embedded), 01. Jan 1970 00:00 UTC
Report source files:	report.zip (attached to this .pdf file, use Adobe Reader)
Program:	dbb_pnt.py v0.3-12-g5bf8f1d, Patrick Kwee, patrick.kwee@aei.mpg.de

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Measurement method: The beam pointing fluctuations are measured with the differential wavefront sensing method. The fundamental mode of the DBB PMC is used as beam pointing reference. Shift and tilt of the beam are normalized with the beam waist radius and the beam divergence angle.

Detailed information about the measurement method and instructions for performing this measurement are available in Kwee et al., Appl. Opt., 47(32):6022–6032, 2008; LIGO-T0900133; LIGO-T0900579.

characterization measurement for OBS1 report