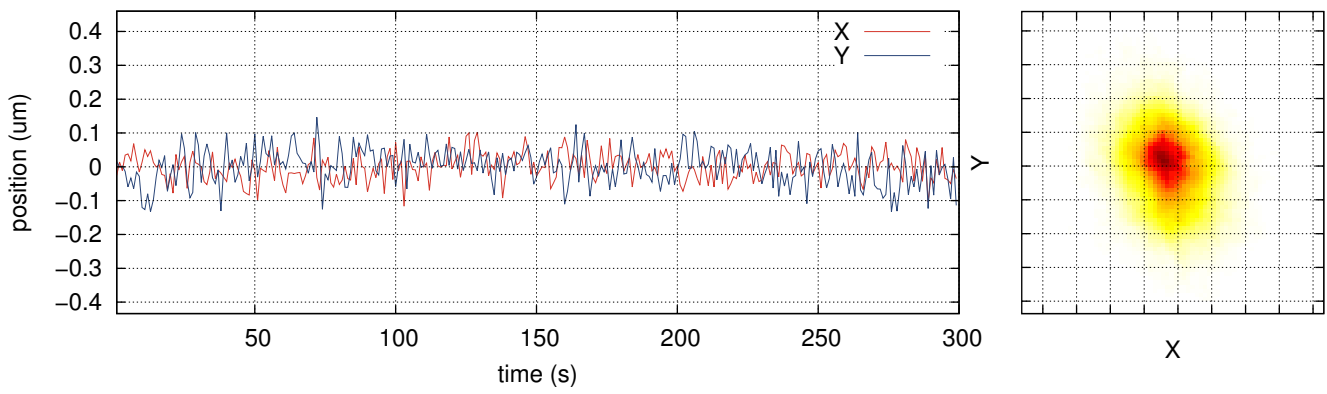
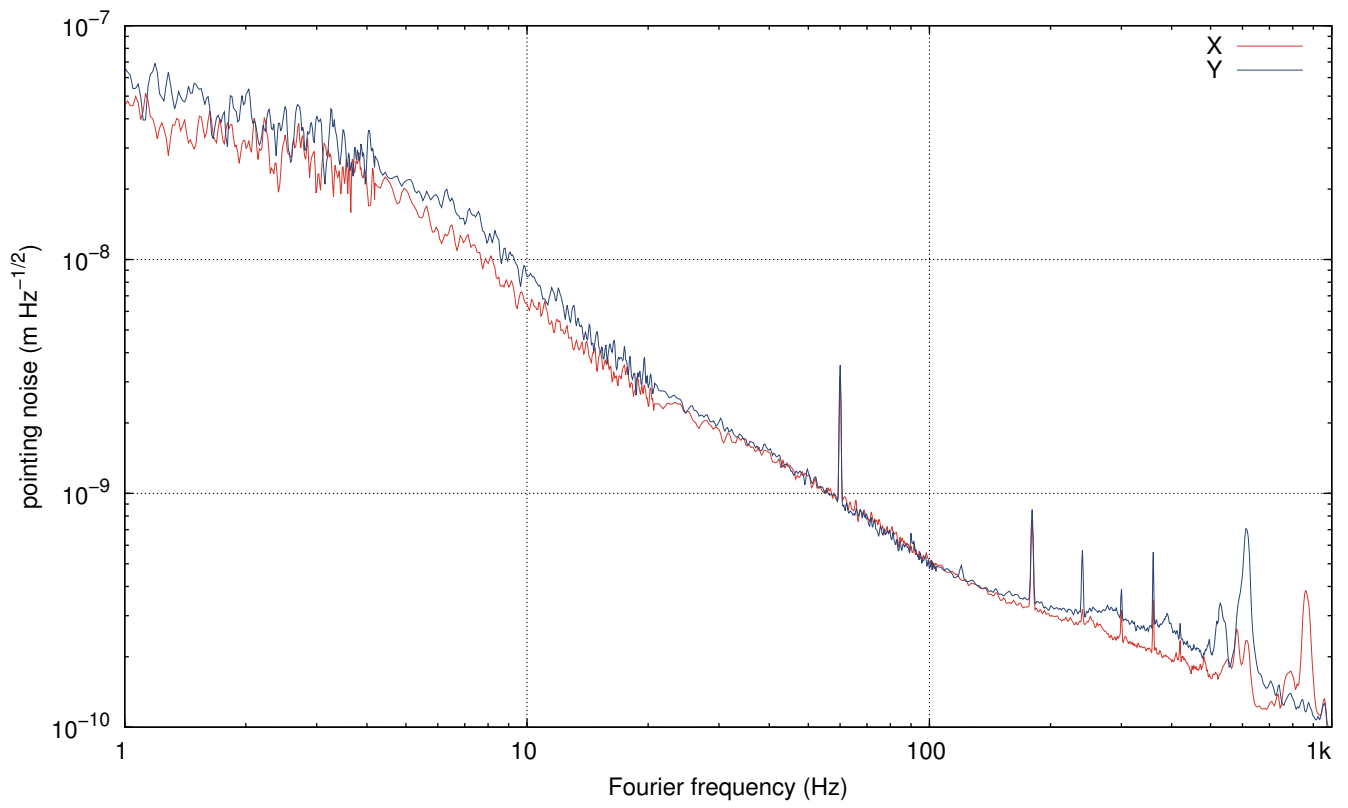


## POWER STABILIZATION

Measurement:	300 s = 5.0 min, 12. Jul 2011 15:10 CDT
Stabilization:	first loop closed, integrator on; second loop injection off
Reference signal:	-2.139 V
First-loop gain:	-4.0 V
Last saturation event:	0d 1h 4m
Average AOM diffraction:	2.44%
Diffraction signal range:	1.16% . . . 3.24% (2.08% peak-to-peak, 32768 Hz samplingrate)

## POWER NOISE

	Photodiode A (PDA)	Photodiode B (PDB)
Average DC signal:	10.882 V	11.106 V
FILT signal range:	2.173 V . . . 2.180 V (0.001 $V_{\text{rms}}$ )	2.173 V . . . 2.270 V (0.011 $V_{\text{rms}}$ )
FILT samplingrate:	32768 Hz	32768 Hz
Photocurrent:	3.3 mA	3.3 mA
Relative shot noise level:	$9.89\text{e-}09 \text{ Hz}^{-1/2}$	$9.79\text{e-}09 \text{ Hz}^{-1/2}$



POSITION FLUCTUATIONS	
X position:	$2.171 \pm 0.084 \mu\text{m}$ , $1.758 \mu\text{m} \dots 2.549 \mu\text{m}$
Y position:	$-5.803 \pm 0.108 \mu\text{m}$ , $-6.237 \mu\text{m} \dots -5.343 \mu\text{m}$
Samplingrate:	32768 Hz, 32768 Hz

D A Q	
Measurement duration:	300 s = 5.0 min
Measurement start:	12. Jul 2011 15:10 CDT (12. Jul 2011 20:10 UTC, 994536668 GPS)
NDS:	10.110.140.106:8088 (v12r0)
User:	controls@11pslctrl4.local
Channels:	L1:PSL-ISS_PDA_OUT 32768 Hz, L1:PSL-ISS_PDB_OUT 32768 Hz, L1:PSL-ISS_DIFFRACTION_OUT 32768 Hz, L1:PSL-ISS_QPD_DX_OUT 32768 Hz, L1:PSL-ISS_QPD_DY_OUT 32768 Hz, L1:PSL-ISS_LOOP_STATE_OUTPUT 16 Hz, L1:PSL-ISS_REFSIGNAL_MON_OUTPUT 16 Hz, L1:PSL-ISS_GAIN 16 Hz, L1:PSL-ISS_SECONDLOOP_CLOSED 16 Hz, L1:PSL-ISS_SAT_MIN 16 Hz, L1:PSL-ISS_SAT_HOUR 16 Hz, L1:PSL-ISS_SAT_DAY 16 Hz
Raw data:	<a href="#">rawdata.zip</a> (attached to this .pdf file, use Adobe Reader)
Calibration:	default.cali (embedded), 01. Jan 1970 00:00 UTC
Report source files:	<a href="#">report.zip</a> (attached to this .pdf file, use Adobe Reader)
Program:	iss_rpn.py v0.3-12-g5bf8f1d, Patrick Kwee, patrick.kwee@aei.mpg.de

I N F O	
Measurement method: The power noise downstream of the PMC is measured with two low-noise 2 mm InGaAs photodetectors. One of the photodetectors is used as sensor in the ISS first feedback control loop. The signal to the AOM driver is used to estimate the free-running power noise of the laser system.	
measurement for characterization of OBS1 after optimization of all parameters	