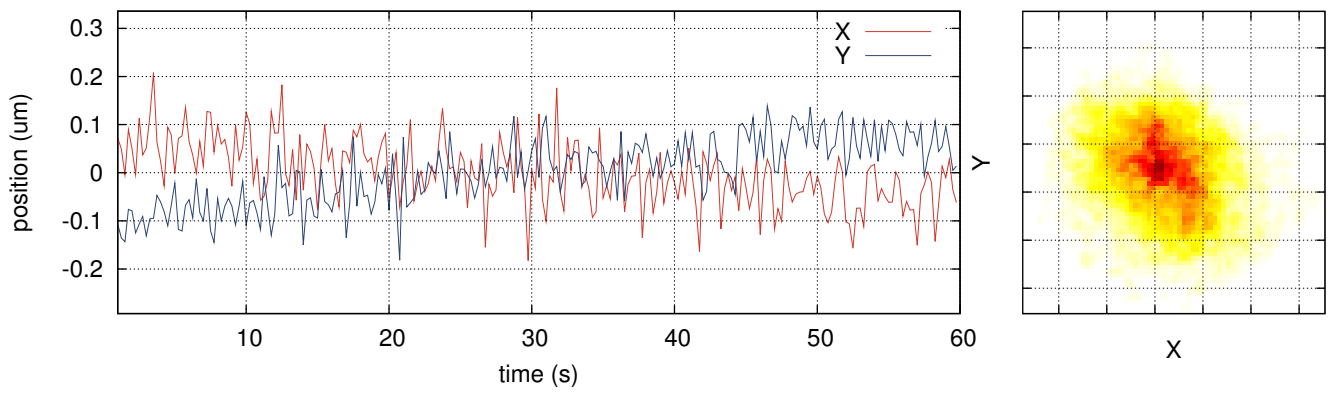
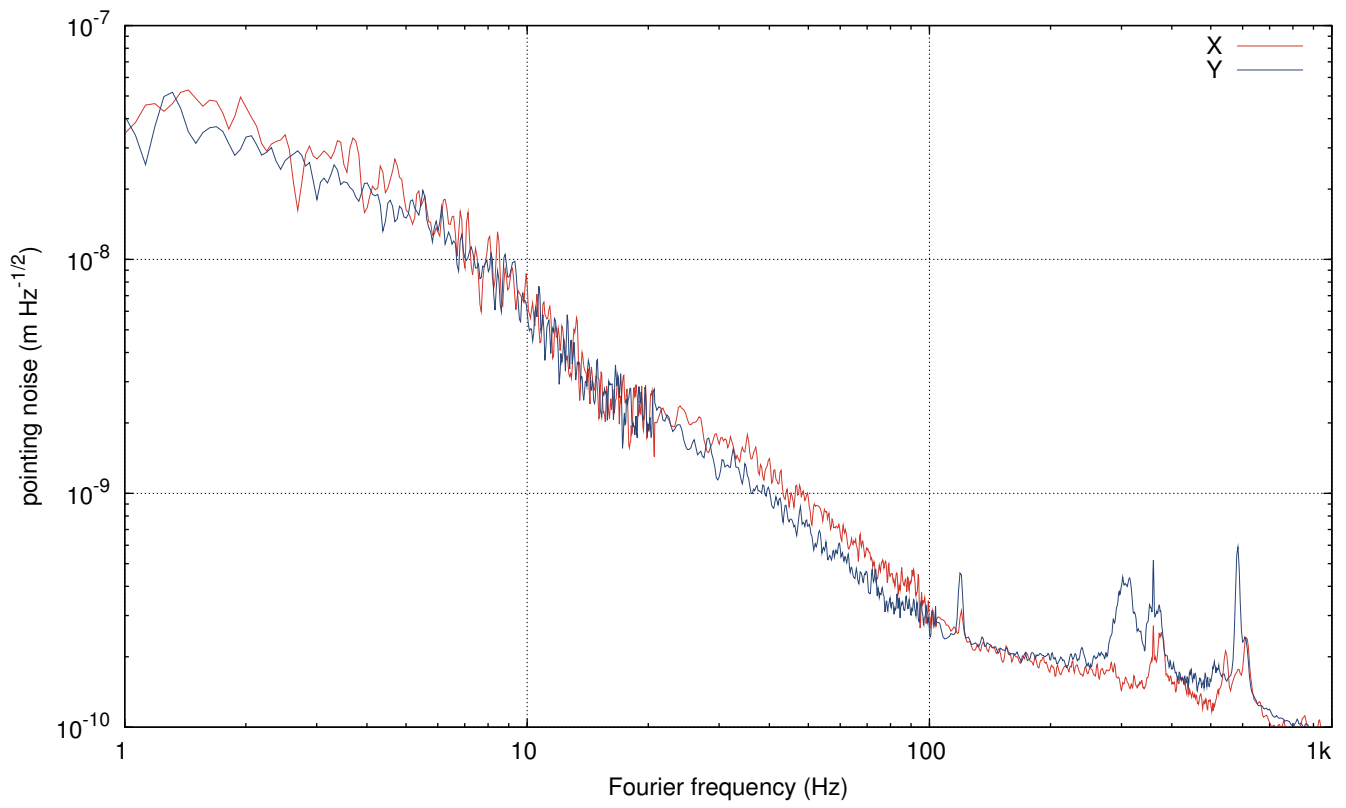


| POWER STABILIZATION       |   |
|---------------------------|---|
| Measurement:              | 60 s = 1.0 min, 24. Aug 2012 10:50 PDT                          |
| Stabilization:            | first loop closed, integrator on; second loop injection off     |
| Reference signal:         | -2.502 V  |
| First-loop gain:          | 7.0 V   |
| Last saturation event:    | 0d 0h 1m  |
| Average AOM diffraction:  | 8.86%   |
| Diffraction signal range: | 1.10% . . . 13.17% (12.08% peak-to-peak, 32768 Hz samplingrate) |

| POWER NOISE                |   |   |
|----------------------------|---|---|
|                            | Photodiode A (PDA)                              | Photodiode B (PDB)                              |
| Average DC signal:         | 12.132 V  | 12.679 V  |
| FILT signal range:         | 2.369 V . . . 2.484 V (0.016 V <sub>rms</sub> ) | 2.530 V . . . 2.542 V (0.001 V <sub>rms</sub> ) |
| FILT samplingrate:         | 32768 Hz  | 32768 Hz  |
| Photocurrent:              | 3.7 mA  | 3.8 mA  |
| Relative shot noise level: | 9.36e-09 Hz <sup>-1/2</sup>                     | 9.16e-09 Hz <sup>-1/2</sup>                     |



| POSITION FLUCTUATIONS |   |
|-----------------------|---|
| X position:           | $-11.582 \pm 0.090 \mu\text{m}$ , $-11.849 \mu\text{m} \dots -11.246 \mu\text{m}$ |
| Y position:           | $-11.660 \pm 0.087 \mu\text{m}$ , $-11.953 \mu\text{m} \dots -11.380 \mu\text{m}$ |
| Samplingrate:         | 32768 Hz, 32768 Hz  |

| D A Q                 |  |
|-----------------------|--|
| Measurement duration: | 60 s = 1.0 min   |
| Measurement start:    | 24. Aug 2012 10:50 PDT (24. Aug 2012 17:50 UTC, 1029865838 GPS)  |
| NDS:                  | h1nds1:8088 (v12r0)  |
| User:                 | psl@operator2  |
| Channels:             | H1:PSL-ISS_PDA_OUT 32768 Hz,<br>H1:PSL-ISS_PDB_OUT 32768 Hz,<br>H1:PSL-ISS_DIFFRACTION_OUT 32768 Hz,<br>H1:PSL-ISS_QPD_DX_OUT 32768 Hz,<br>H1:PSL-ISS_QPD_DY_OUT 32768 Hz,<br>H1:PSL-ISS_LOOP_STATE_OUTPUT 16 Hz,<br>H1:PSL-ISS_REFSIGNAL_MON_OUTPUT 16 Hz,<br>H1:PSL-ISS_GAIN 16 Hz,<br>H1:PSL-ISS_SECONDDLOOP_CLOSED 16 Hz,<br>H1:PSL-ISS_SAT_MIN 16 Hz,<br>H1:PSL-ISS_SAT_HOUR 16 Hz,<br>H1: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 v0.6, 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. |  |
| <i>no comment</i>   |  |