Status report : about the Monolithic Accelerometers(ACCs) Test

☐ **Spectra measured on 2016.5.11**

    ☐ **The parameters in the below plot are :**

	Natural frequency [Hz]	Q factor	Gain$_{ACC\text{-}LVDT}$ [V/mm]
ACC_H1	0.611	6	19.1
ACC_H2	1.54	12	24.4
ACC_H3	1.34	25	27.5

* The numbers are obtained from a tilt calibration, by turning the trimmers.

From measurements on 2016.5.11.

I've Just copied from previous Joris' post:
http://klog.icrr.u-tokyo.ac.jp/osl/?r=685

Status report : about the Monolithic Accelerometers(ACCs) Test

☐ **Spectra measured on 2016.5.11**

 * **The calibration for the ACCs is done by turning trimmers:**

Handwritten notes:

Determining LVDT gain

m → x_{LVDT} → Voltage

IP topplate

24 cm

$X_{mass} = \dfrac{\theta \cdot g/\omega_0^2}{\varepsilon_{rad}}$

Leveling screws have M6 fine thread → 0.75 mm

Typically you don't apply larger tilts ± 0.3 mrad

Frame

Regular pendulum

gα

Proof mass

Inverted pendulum

α
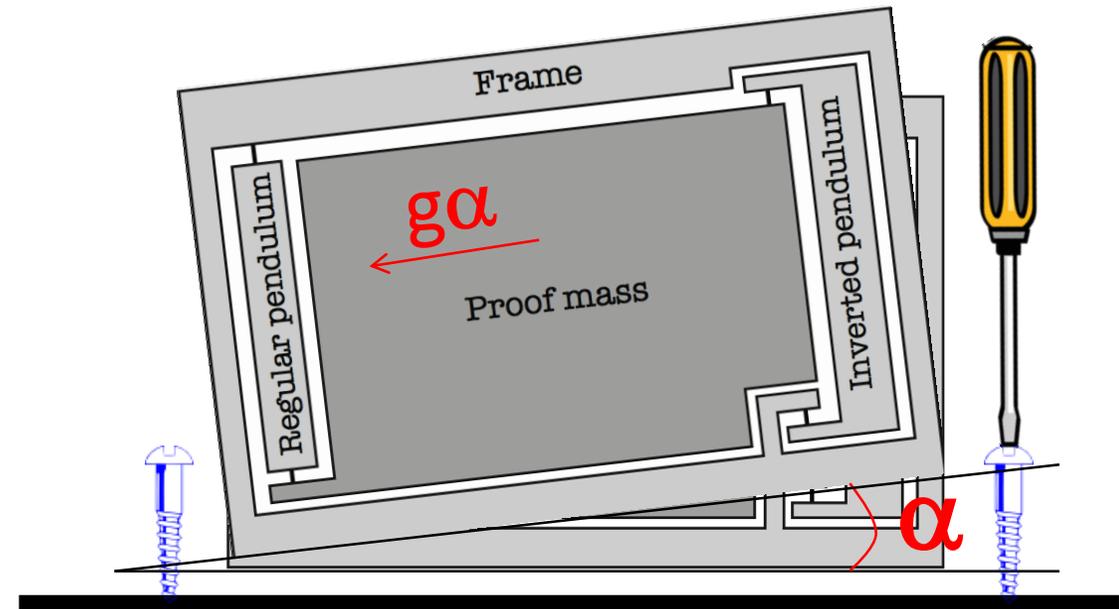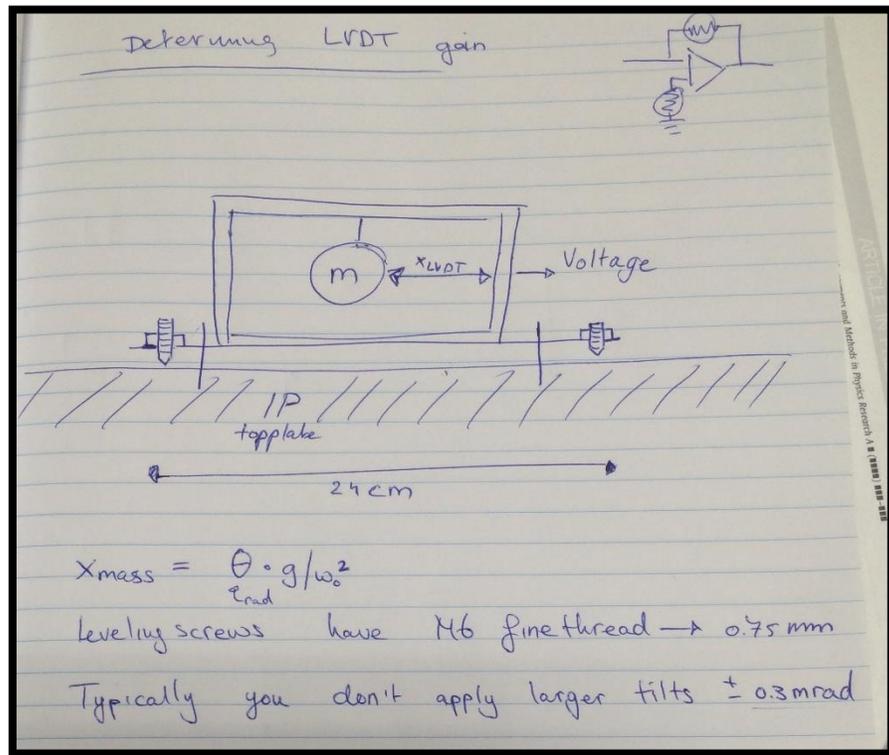
* **This calibration should be done more precisely (,not by eye).**
**At this stage, I obtained rough calibration factors, by eye like this way.**
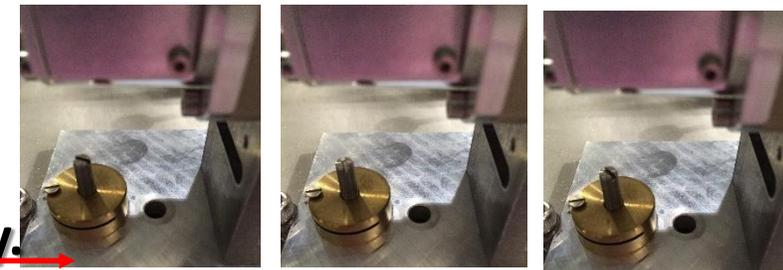
Status report : about the Monolithic Accelerometers(ACCs) Test

☐ **Spectra measured on 2016.5.11**

 * The calibration for the ACCs is done by turning trimmers:
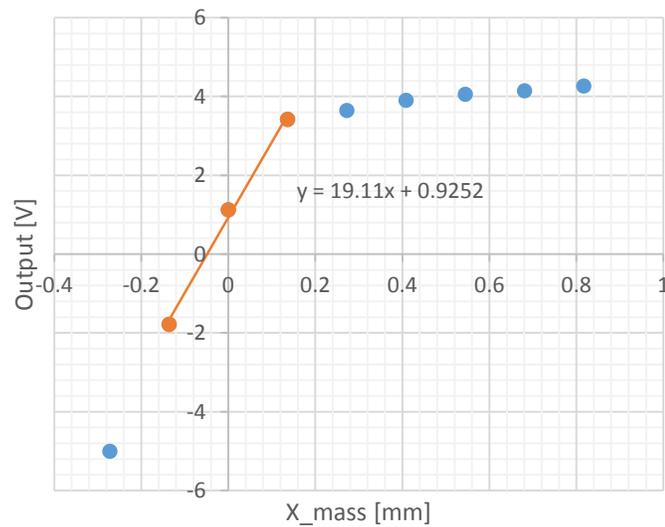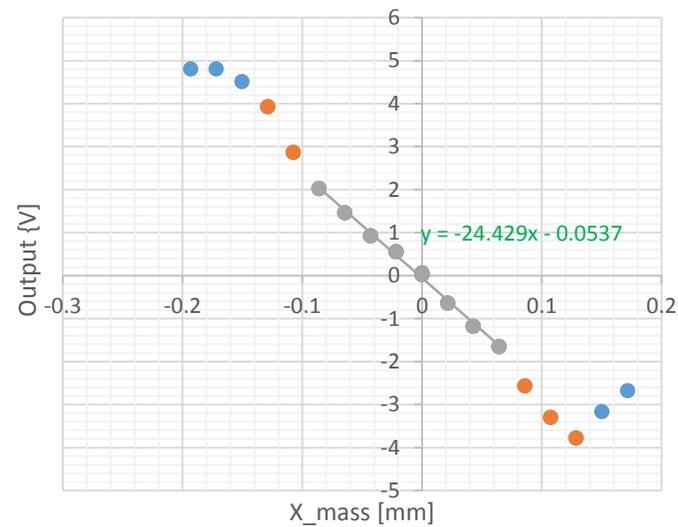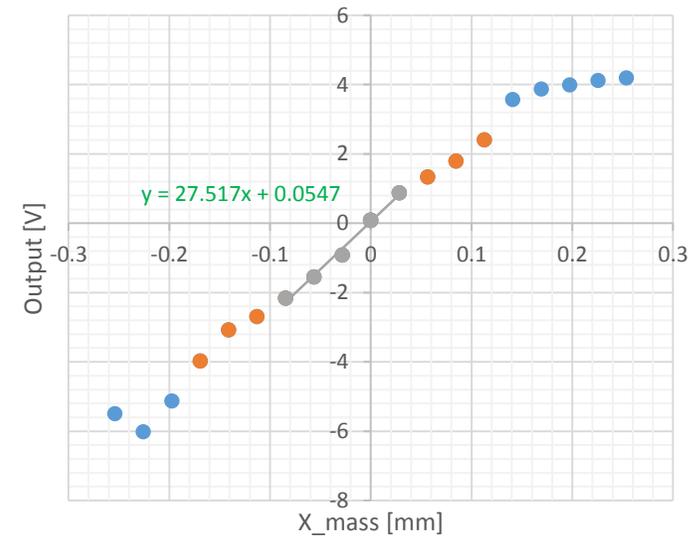
ACC_H1   **ACC_H2**   **ACC_H3**

Status report : about the Monolithic Accelerometers(ACCs) Test

☐ **Spectra measured on 2016.5.11**

* The transfer functions of the ACCs($X_{rel}/V_{ACC-LVDT}$) drawn here are used.

Status report : about the Monolithic Accelerometers(ACCs) Test

☐ **Spectra measured on 2016.5.11 : ①In the case of "IP locked"**

Locked IP spectra plot measured by ACCs, geo

Status report : about the Monolithic Accelerometers(ACCs) Test

❑ **Spectra measured on 2016.5.11 : ②In the case of "IP released(free)"**

Free IP spectra plot measured by ACCs, geo
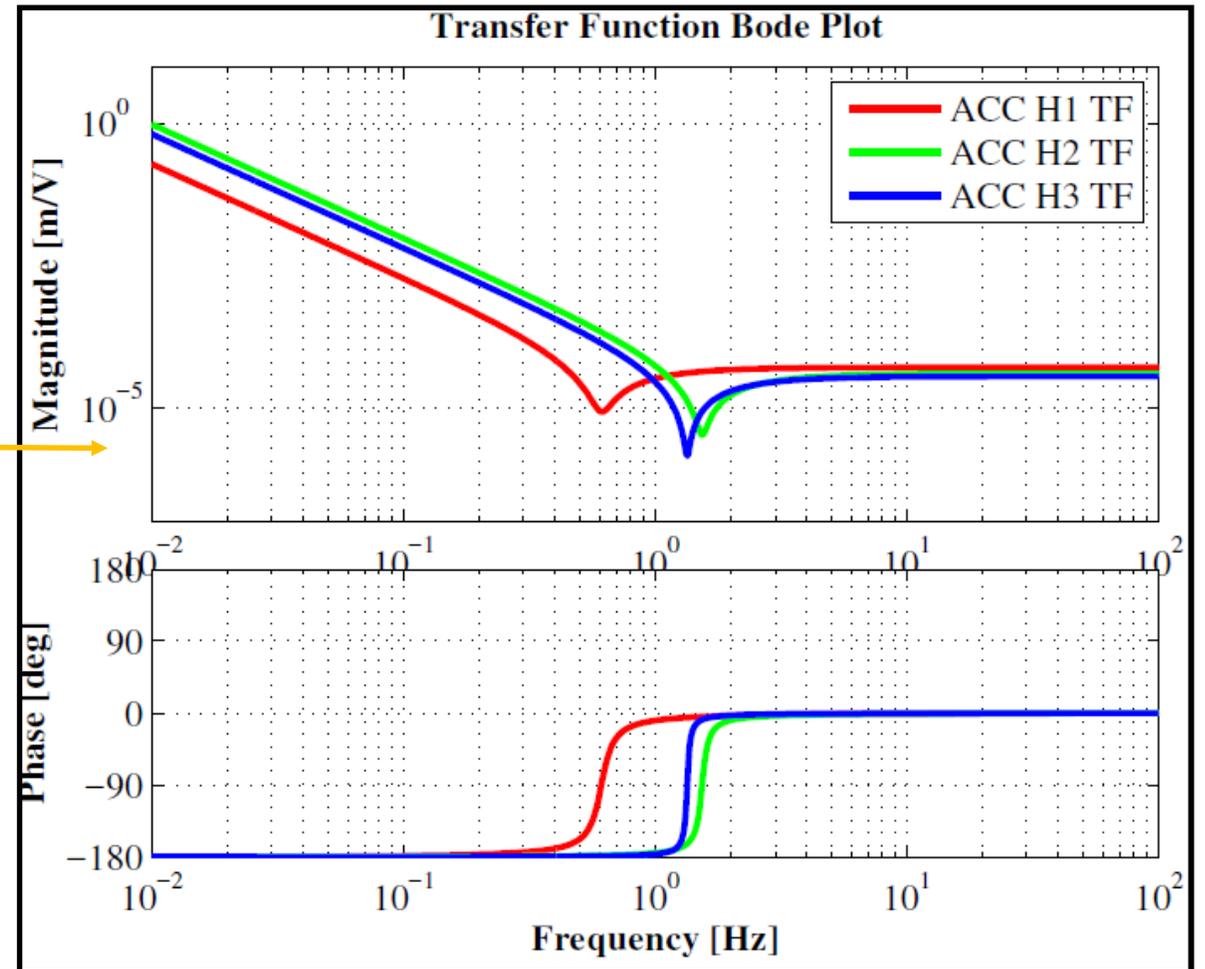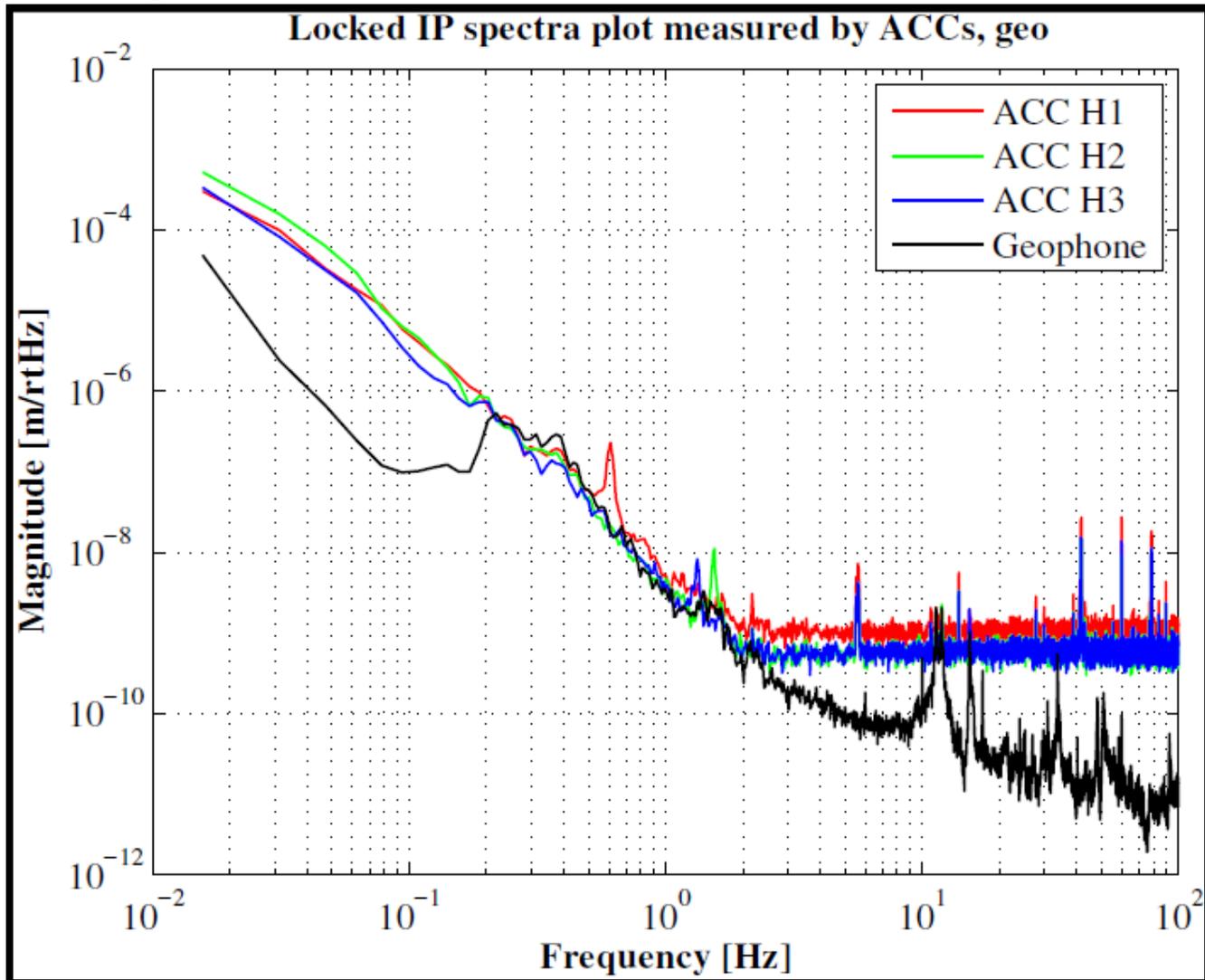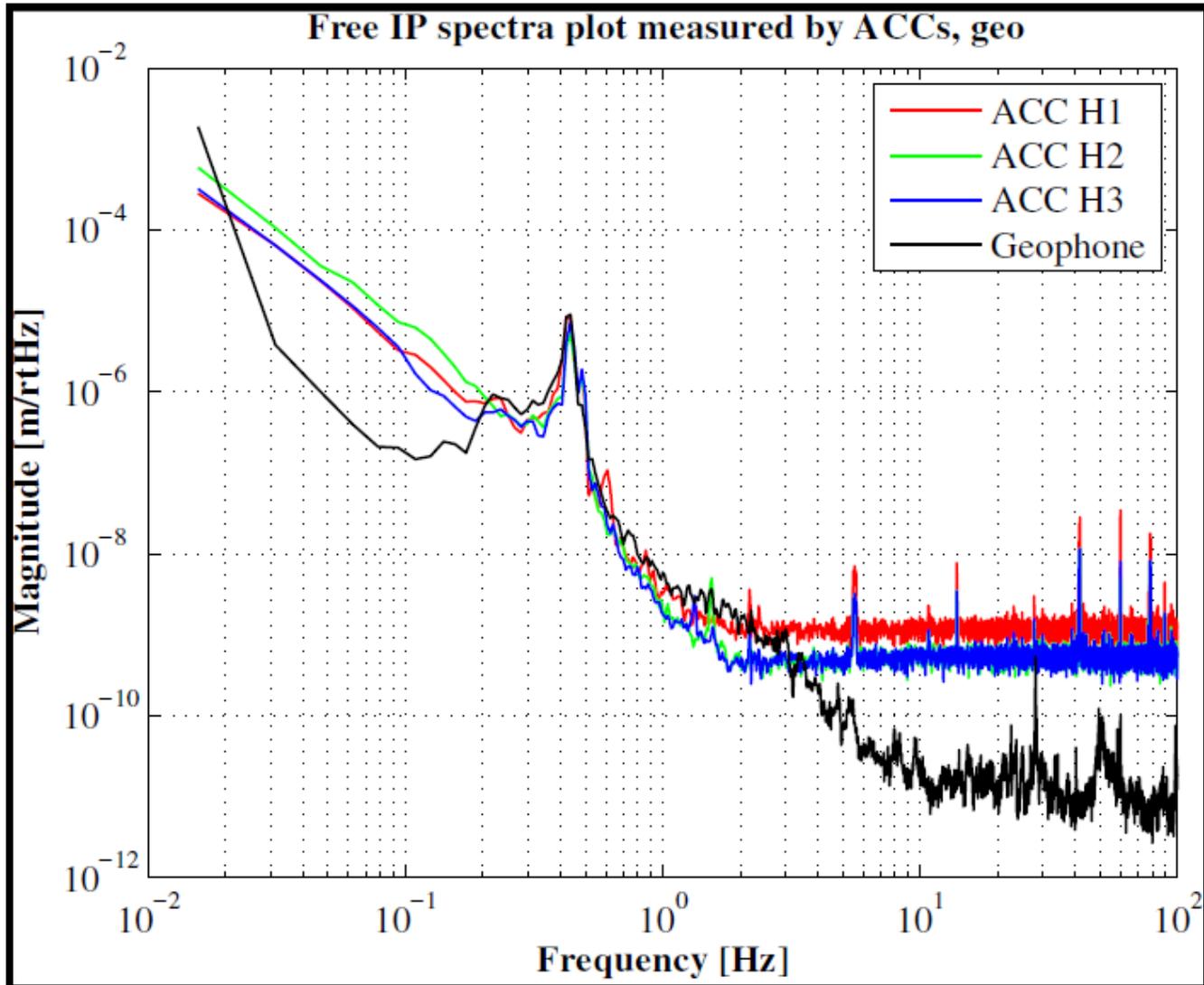
Status report : about the Monolithic Accelerometers(ACCs) Test

☐ **Spectra measured on 2016.5.11**

* For the ADC noise, measured ones(,which was done on 2016.4.6) are used:
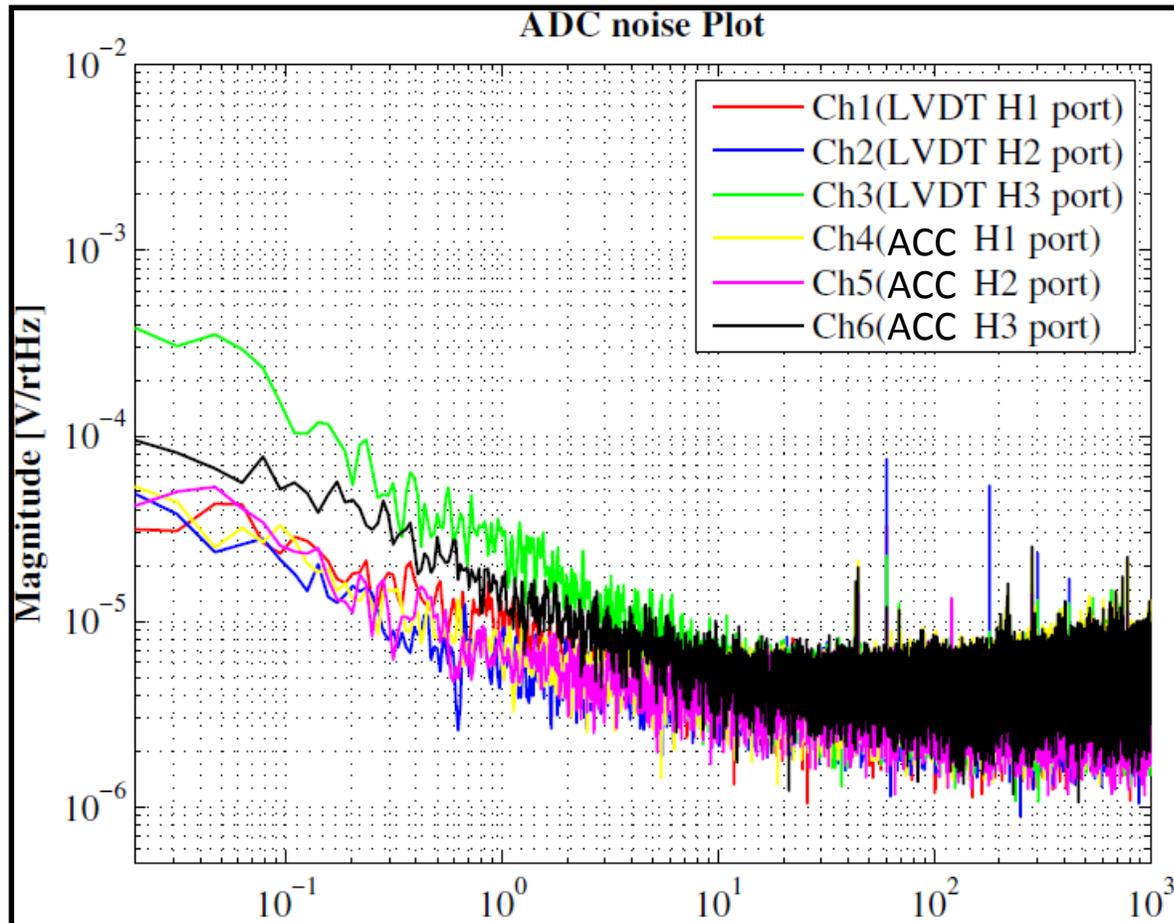
Status report : about the Monolithic Accelerometers(ACCs) Test

❑ **Spectra measured on 2016.5.11 : ①In the case of "IP locked"**
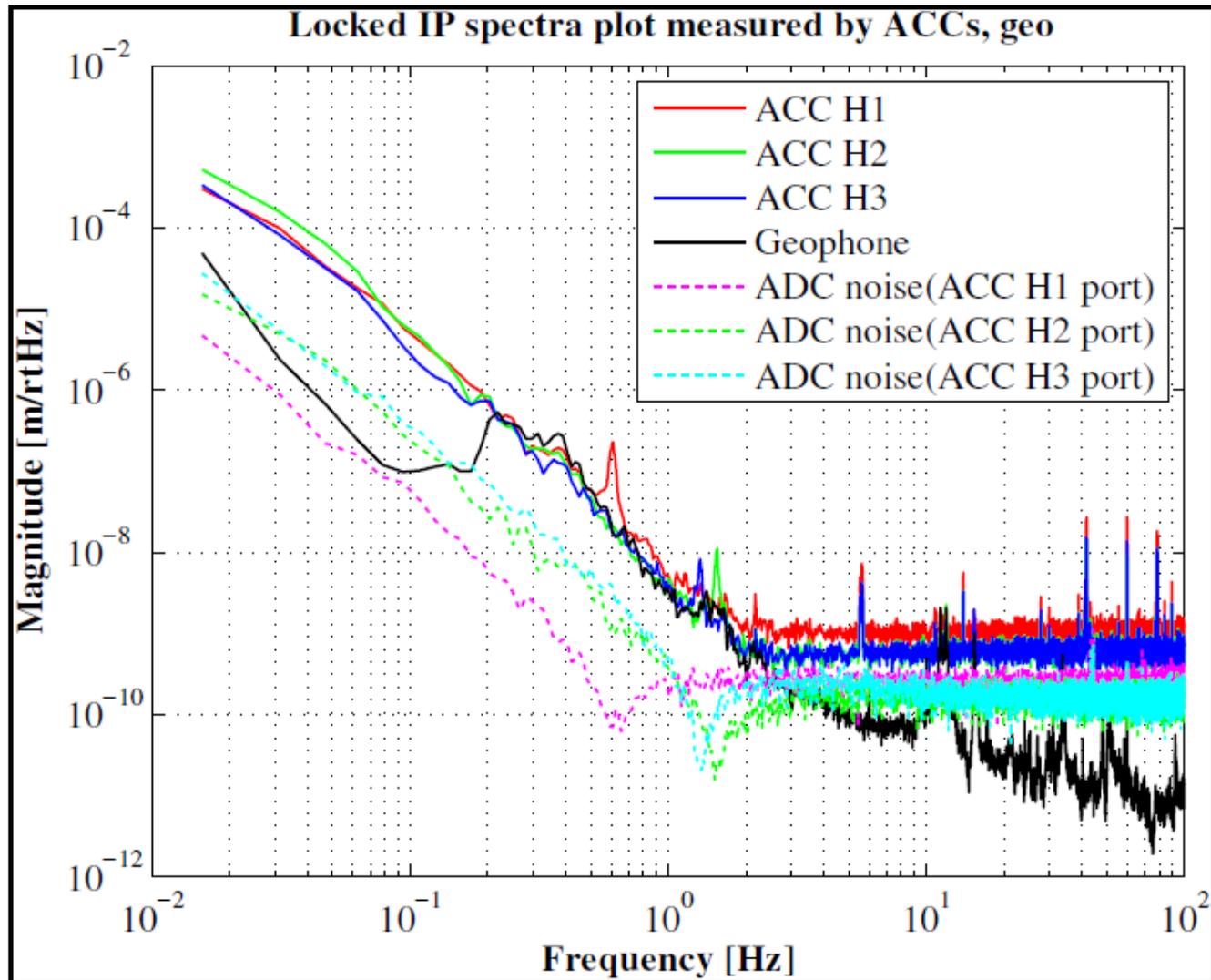
with ADC noise

Status report : about the Monolithic Accelerometers(ACCs) Test

❏ **Spectra measured on 2016.5.11 : ②In the case of "IP released(free)"**

with ADC noise

Free IP spectra plot measured by ACCs, geo