PMC noise budget

Taiki tanaka

目的

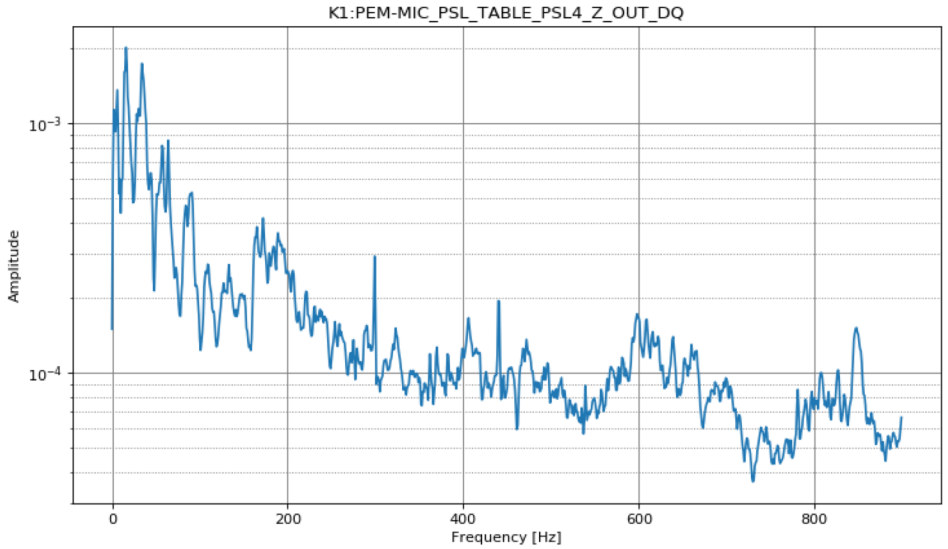
- PSL内の各システムのノイズバジェットを作成する
- とりあえずPMCから
  - システムとして簡単だから
- とりあえず音響の影響から
  - 他に加速度の測定が可能だが音も加速度計で見えてしまうため切り離しやすい音響から

PSL acoustic injection

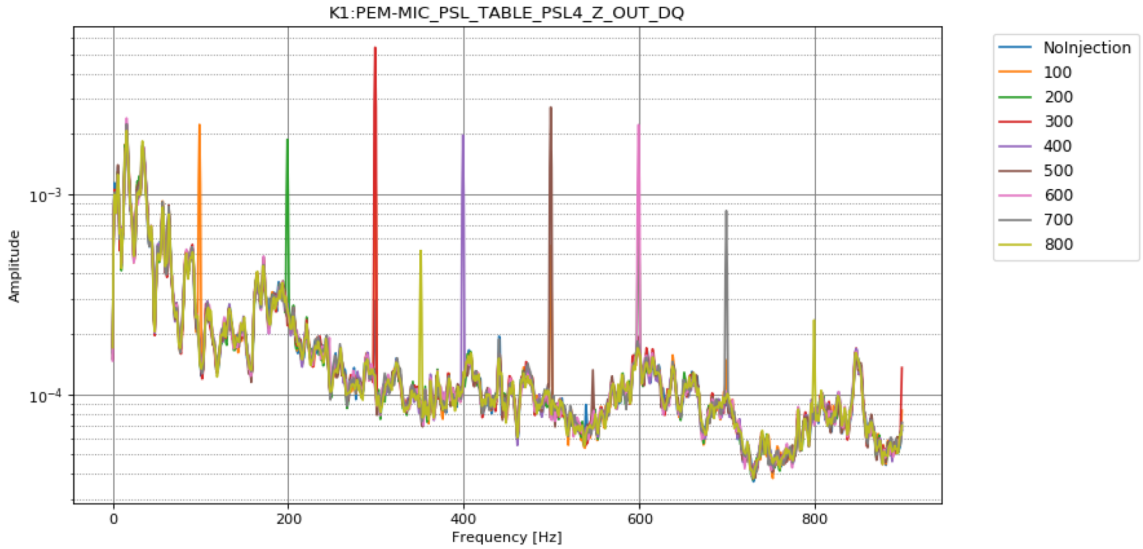
- I performed acoustic injection to PSL room with the cooperation of Nakano-san
- I estimated coupling functions with this measurements data
- I plotted the coupling functions and the noise projections only if coherence is larger than 90% credible level

ASD

The channel of the microphone in PSL room

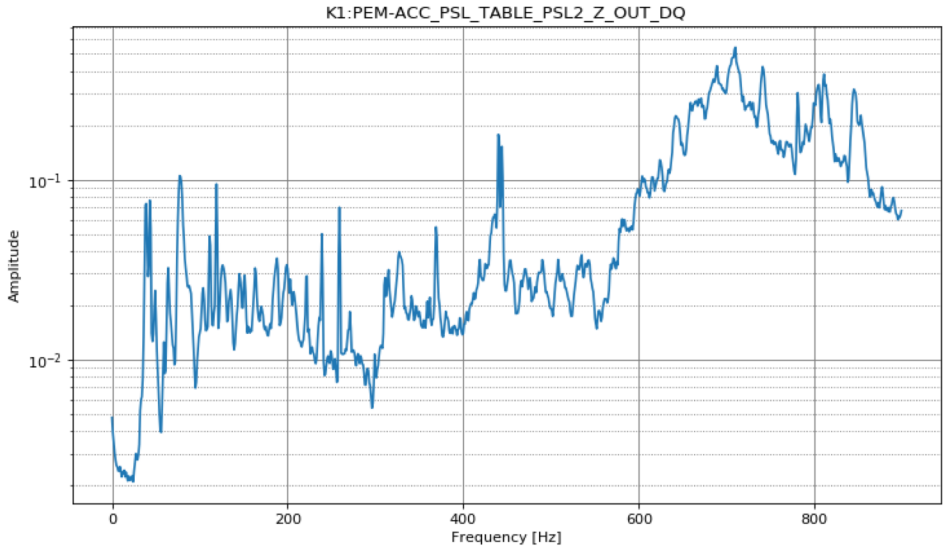


No injection

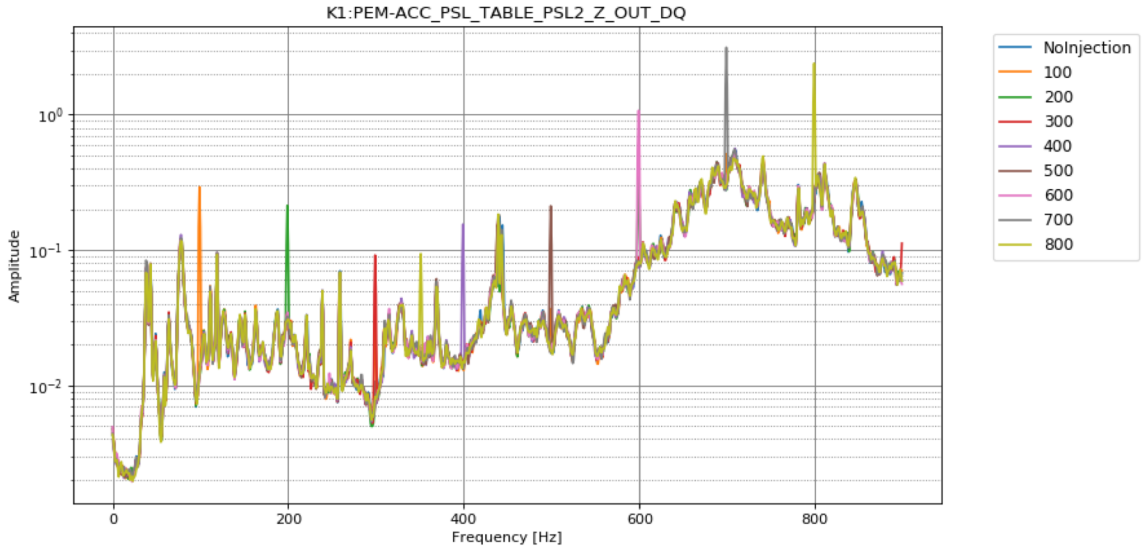


ASD

The channel of the accelerometer in center of PSL room

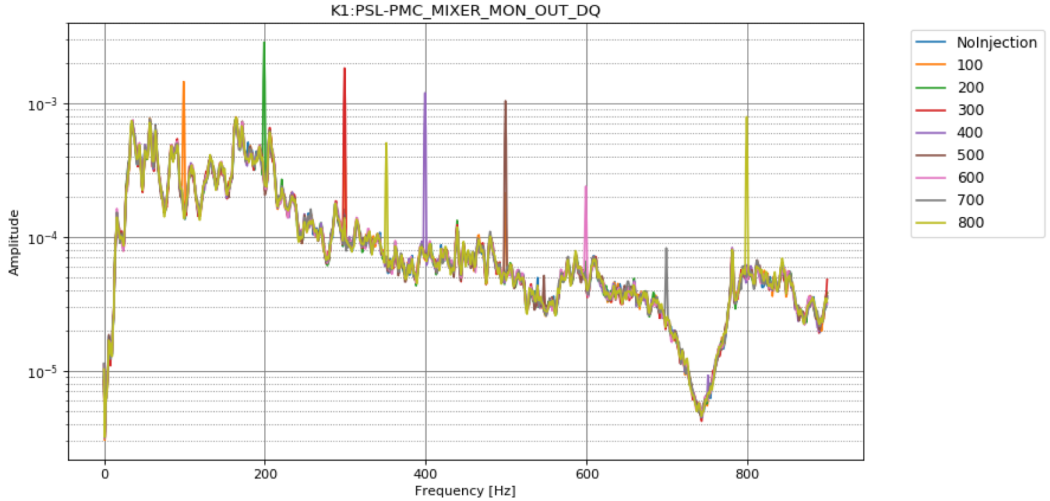


No injection

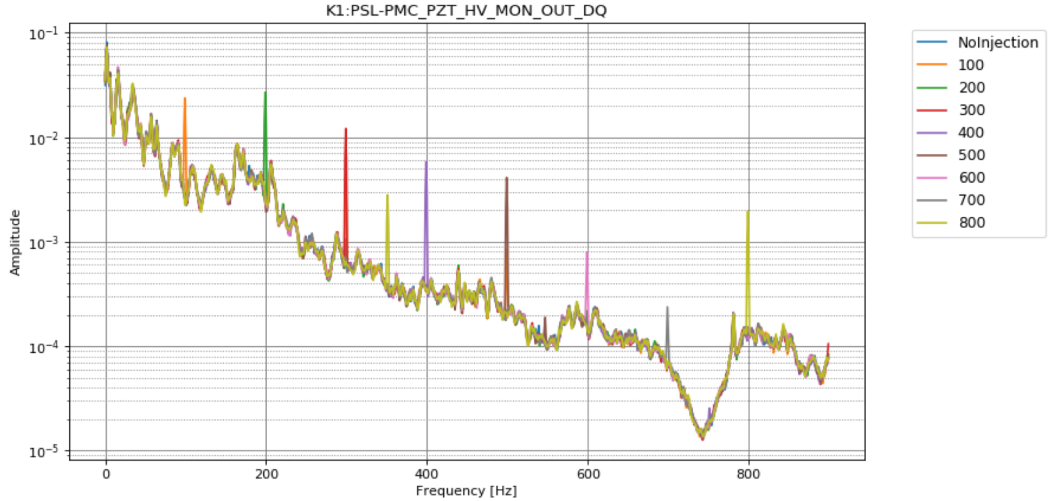


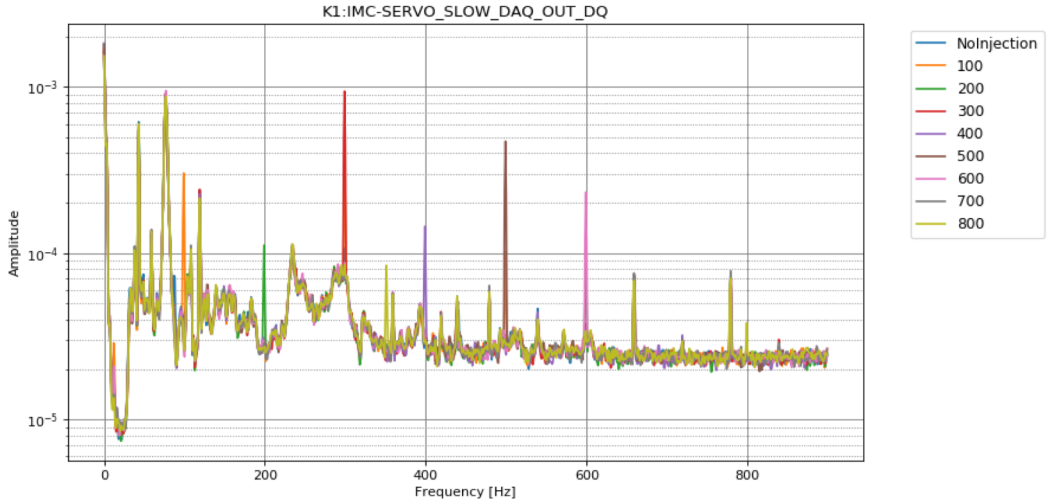
ASD

The error signal of PMC



The control signal of PMC

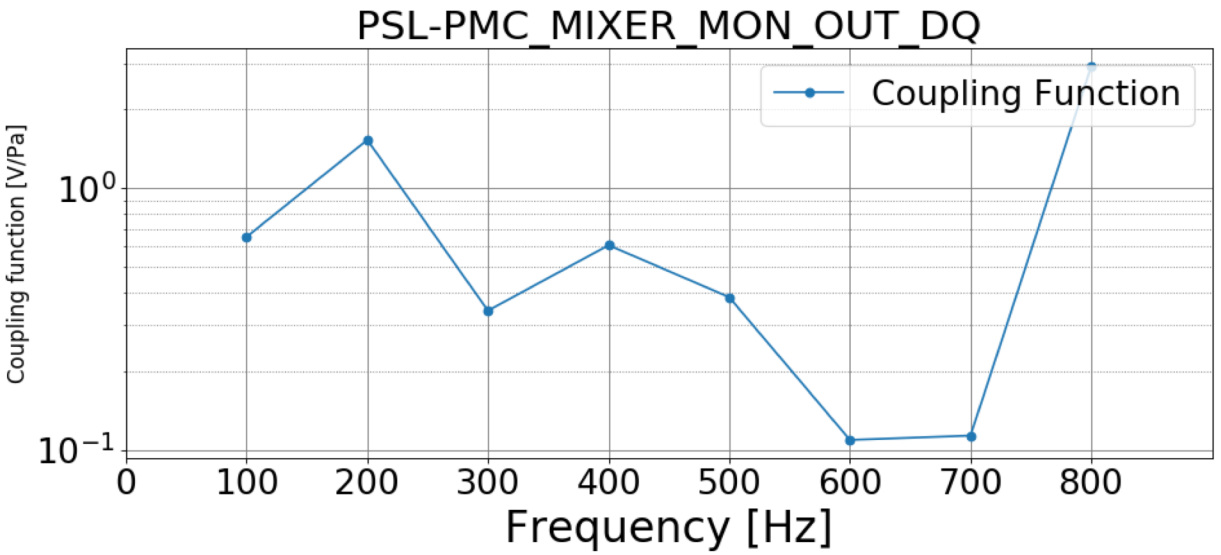


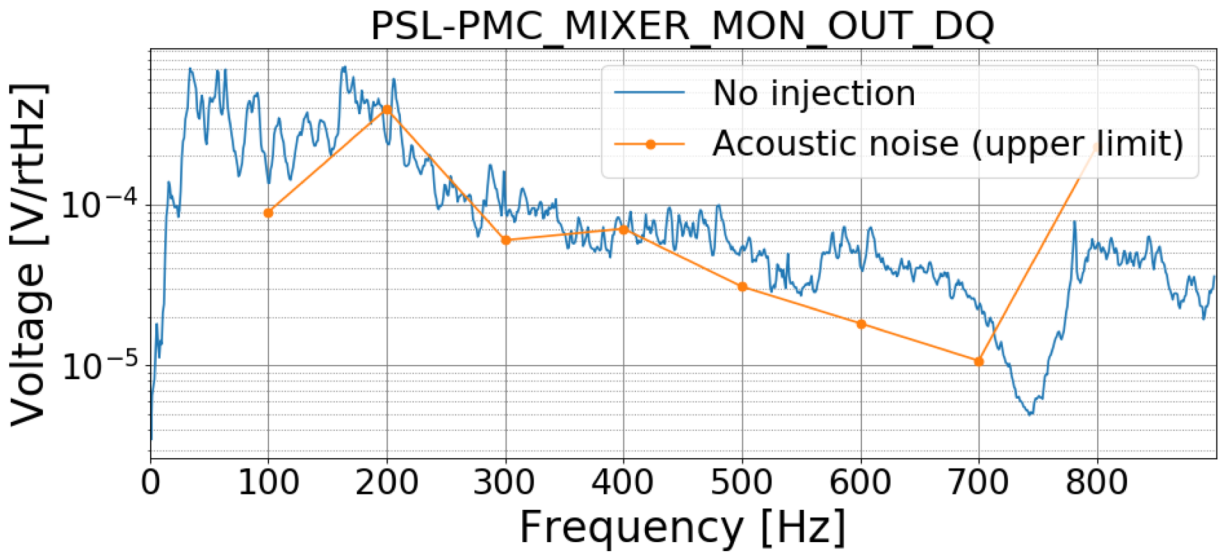


The error signal of IMC

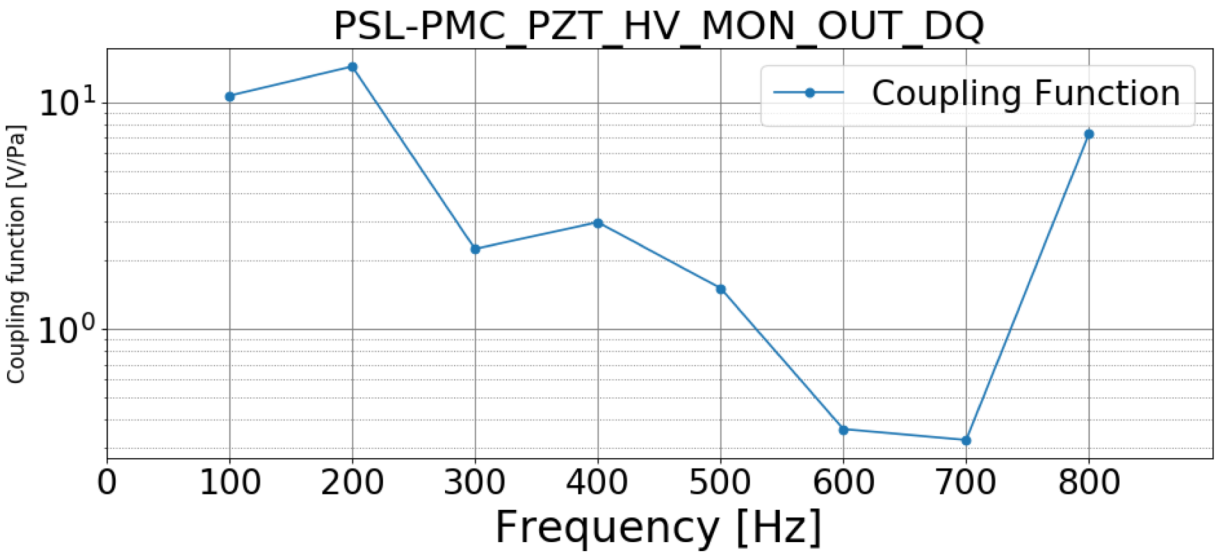
The control signal of REFCAV

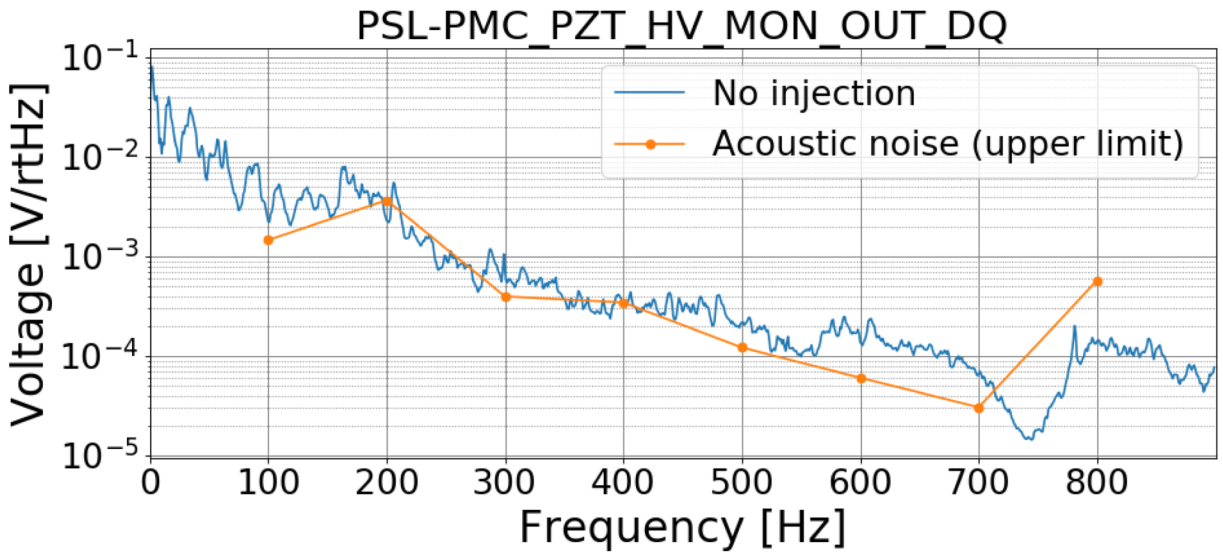
Coupling function



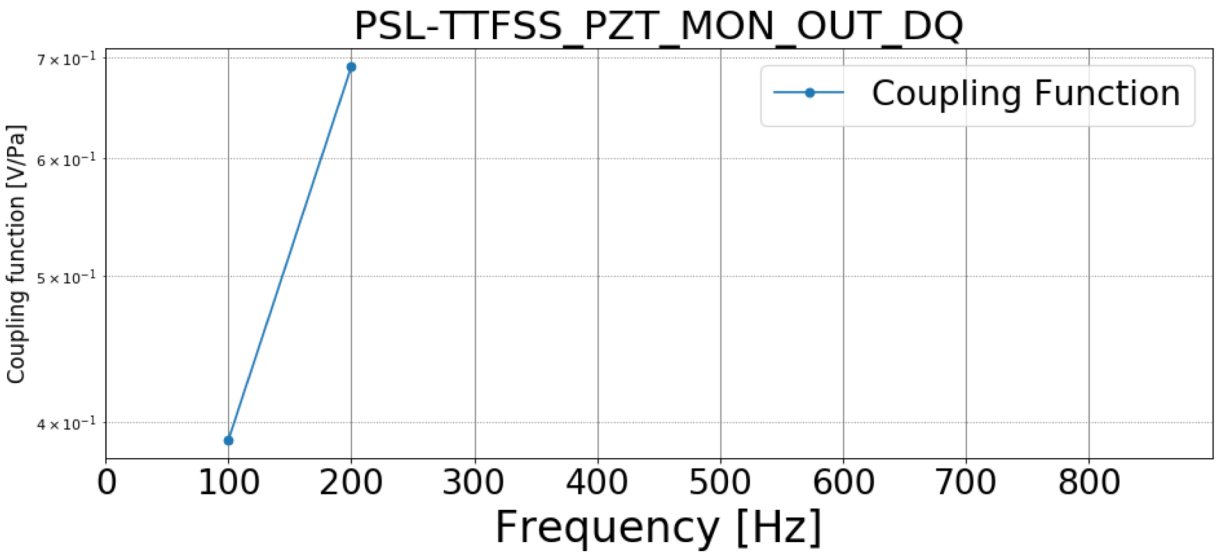


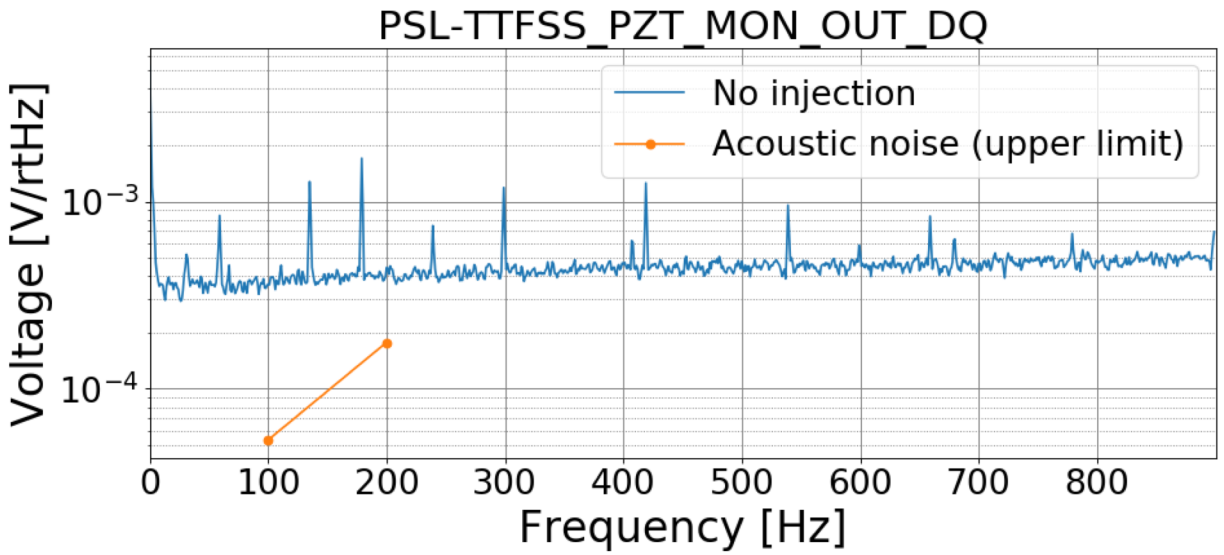
Coupling function



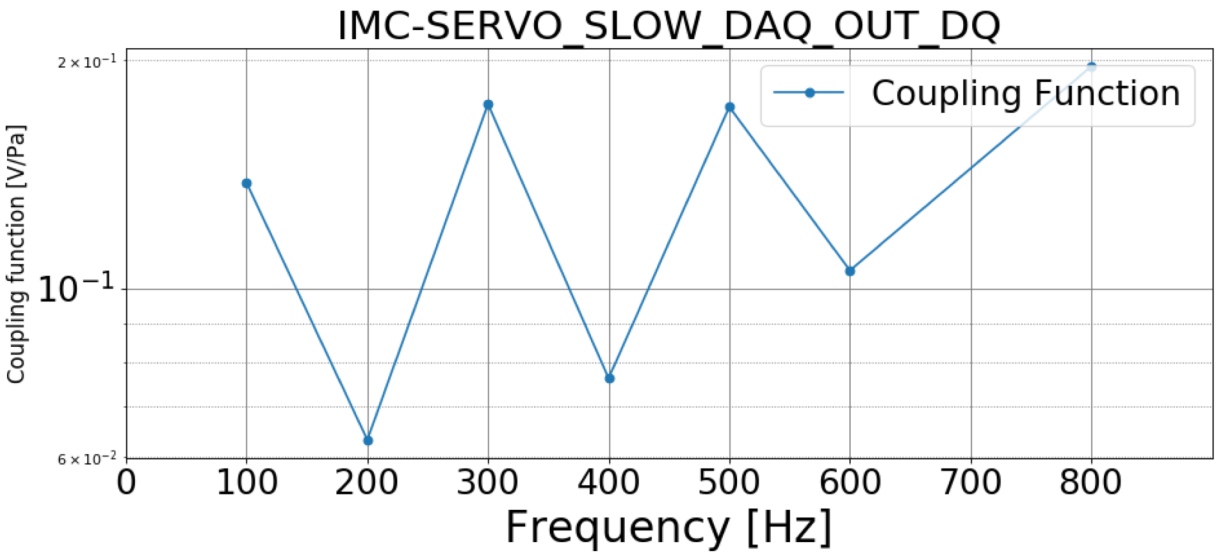


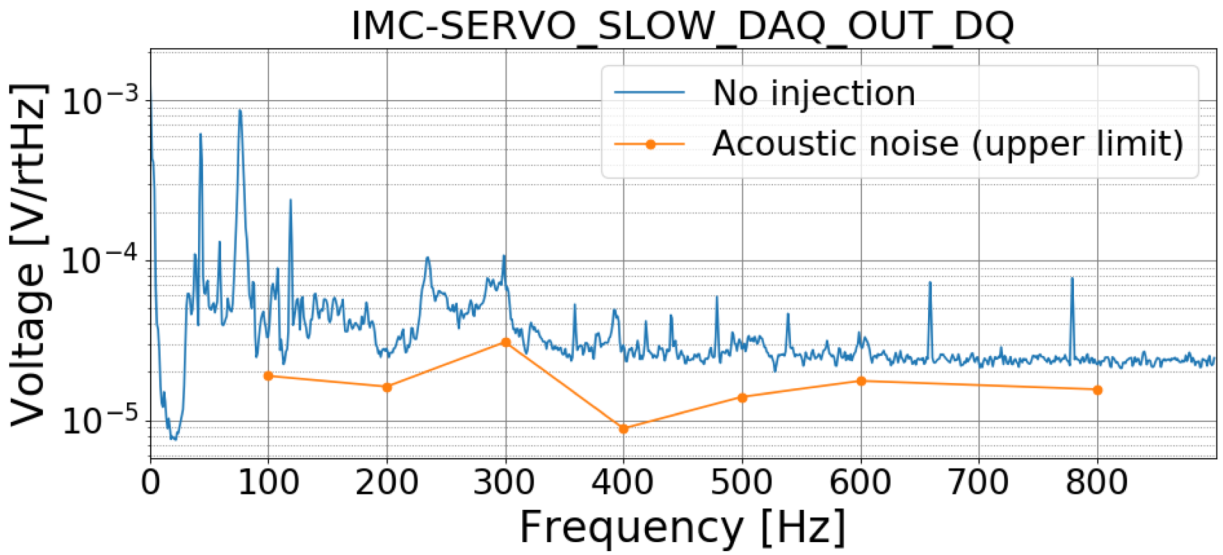
Coupling function





Coupling function





Noise budget (not yet)

- Make PMC noise budget with using coupling function

Measurement at night (not yet)

- I want to measure follows for a long time to make PMC noise budget in detail
- Measurement at night is a candidate of Long time measurement
- Transfer function (about 100 point or more)
  - IMC at low frequencies (50-100 Hz)
  - PMC at high frequencies (200-900 Hz)