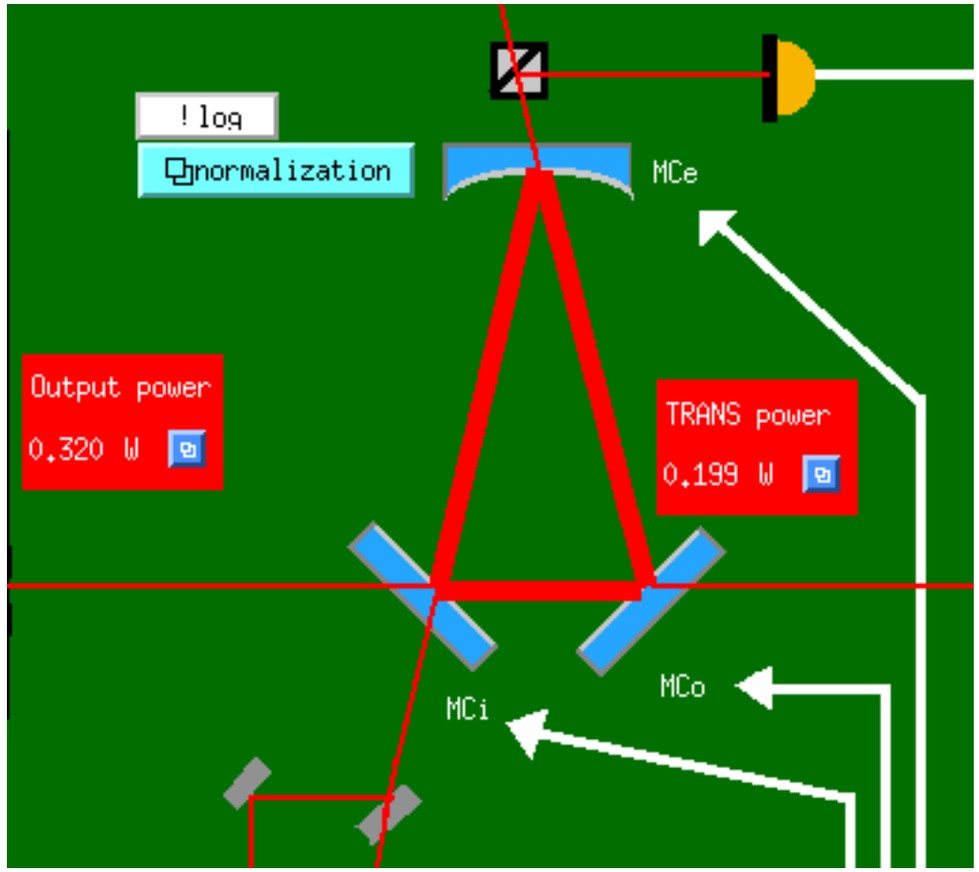
VK PEM meeting

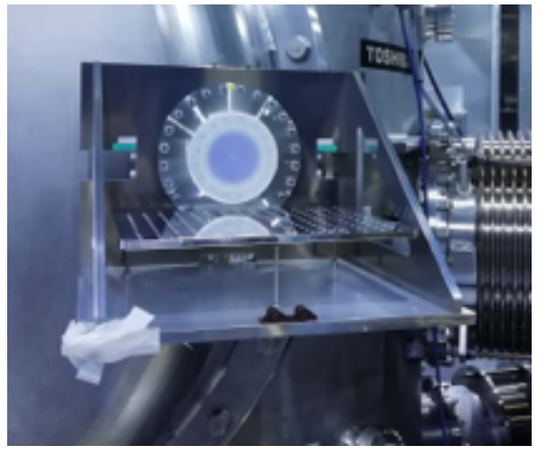
2021-05-28
Takaaki Yokozawa

Status of KAGRA

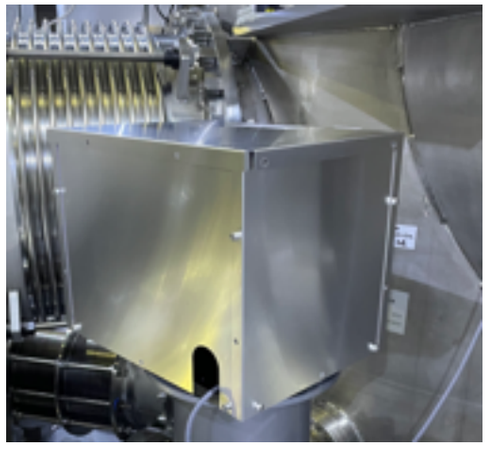
- IMC recovery
  - Pumping down succeeded
  - IMC servo recovery
  - Next
    - Suspension condition check
    - IMC characterization
    - High power
    - Alignment sensing and control

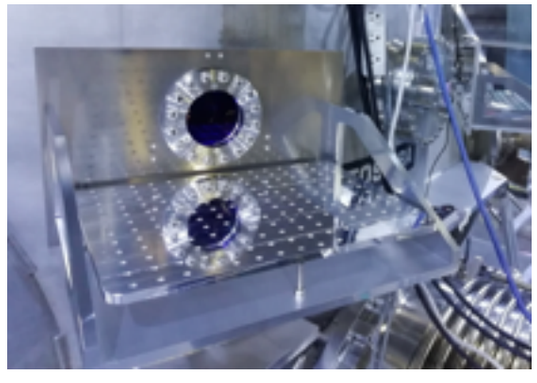


- IX suspension commissioning
  - New accelerometer for tower control -> micro-seismic
  - New oplev installation -> beam profile check



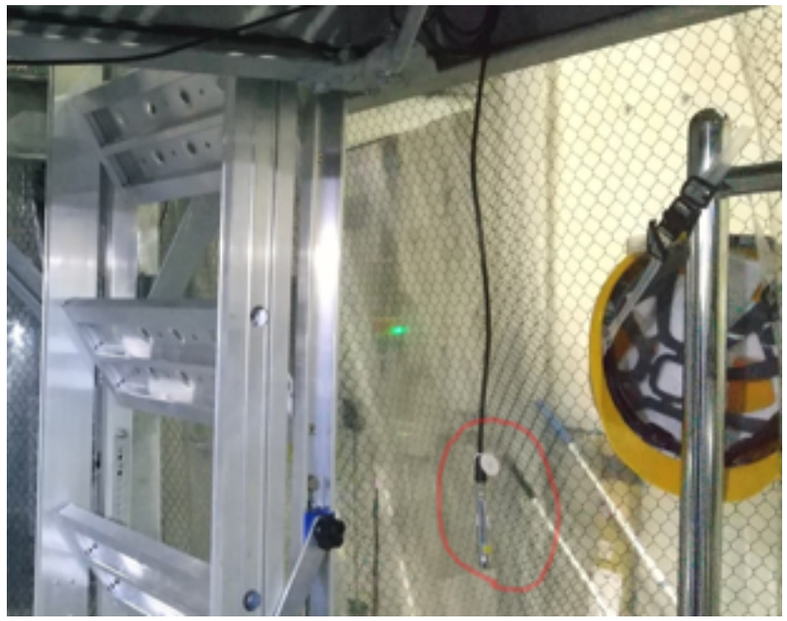
- Next
  - IMM, PR suspension commissioning
  - Initial beam alignment



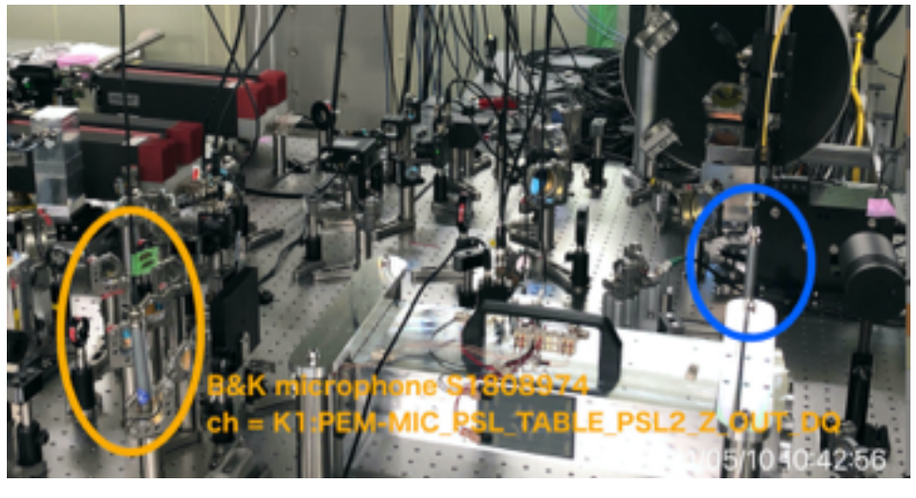


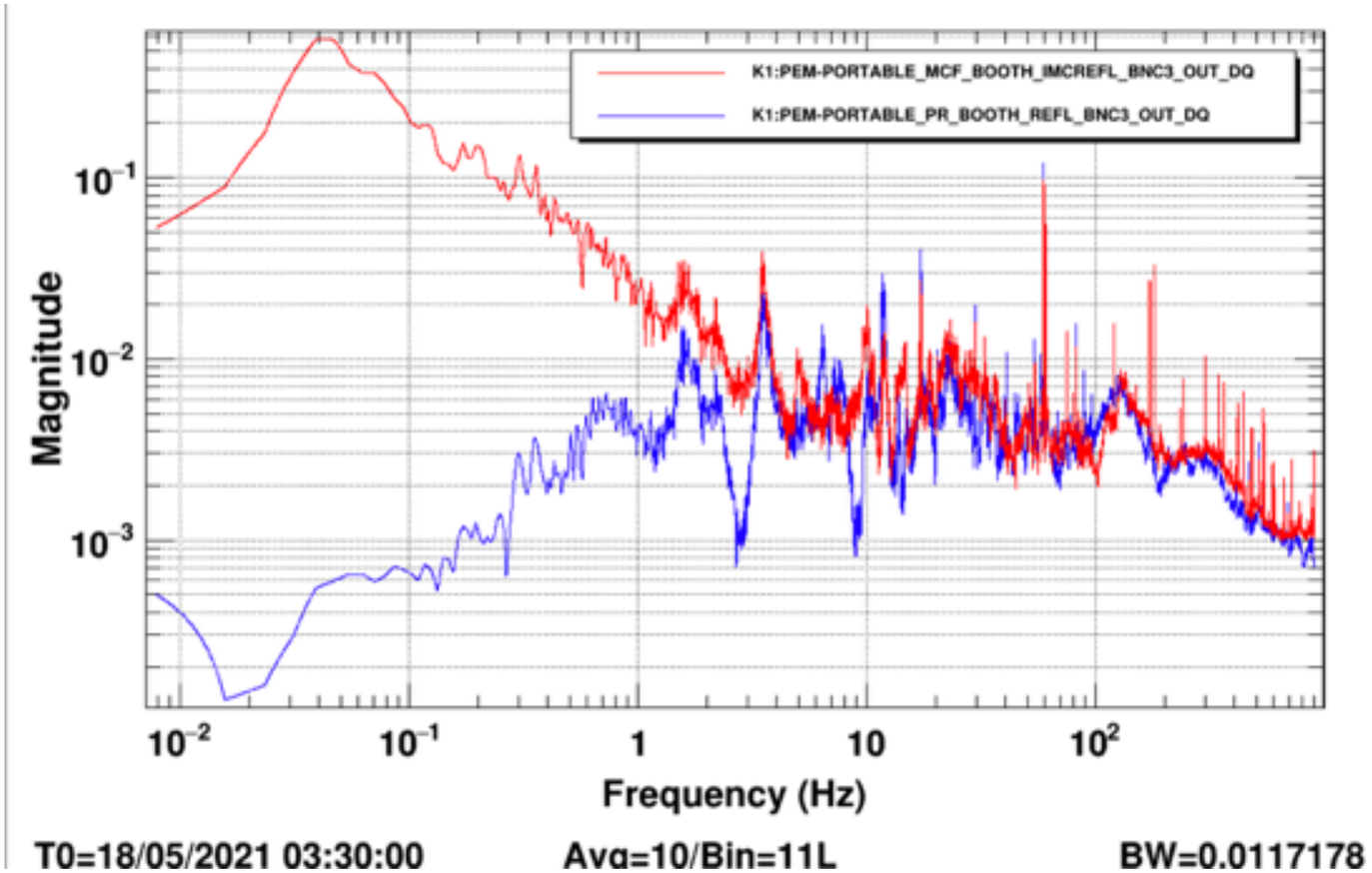
Status of KAGRA PEM

- PEM cabling
  - Cabling plan -> Ready
  - Digital rack -> Ready
  - Realtime Model -> Ready
  - Cabling MCF rack -> Done
  - Set booth microphone -> Done
  - Cabling IY0 rack -> Start
  - PEM characterize -> Start after setting

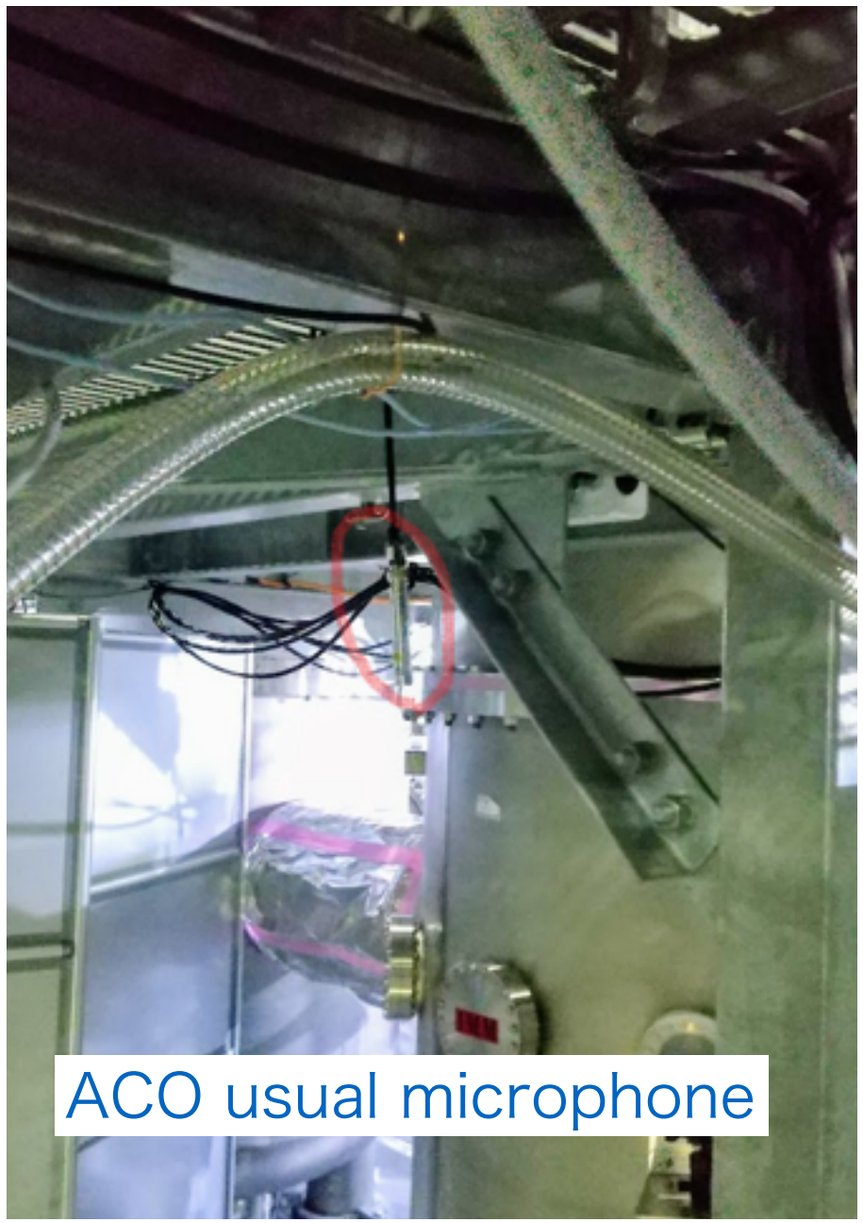


- O3GK analysis
  - One progress report today
- Magnetometer analysis
  - Calibration, lightening sensor (Washimi-san will report)
- Seismometer and infrasound
  - Start seismic motion commissioning around MCF
  - New infrasound and its schedule
  - Analysis of the PMC characterization is ongoing

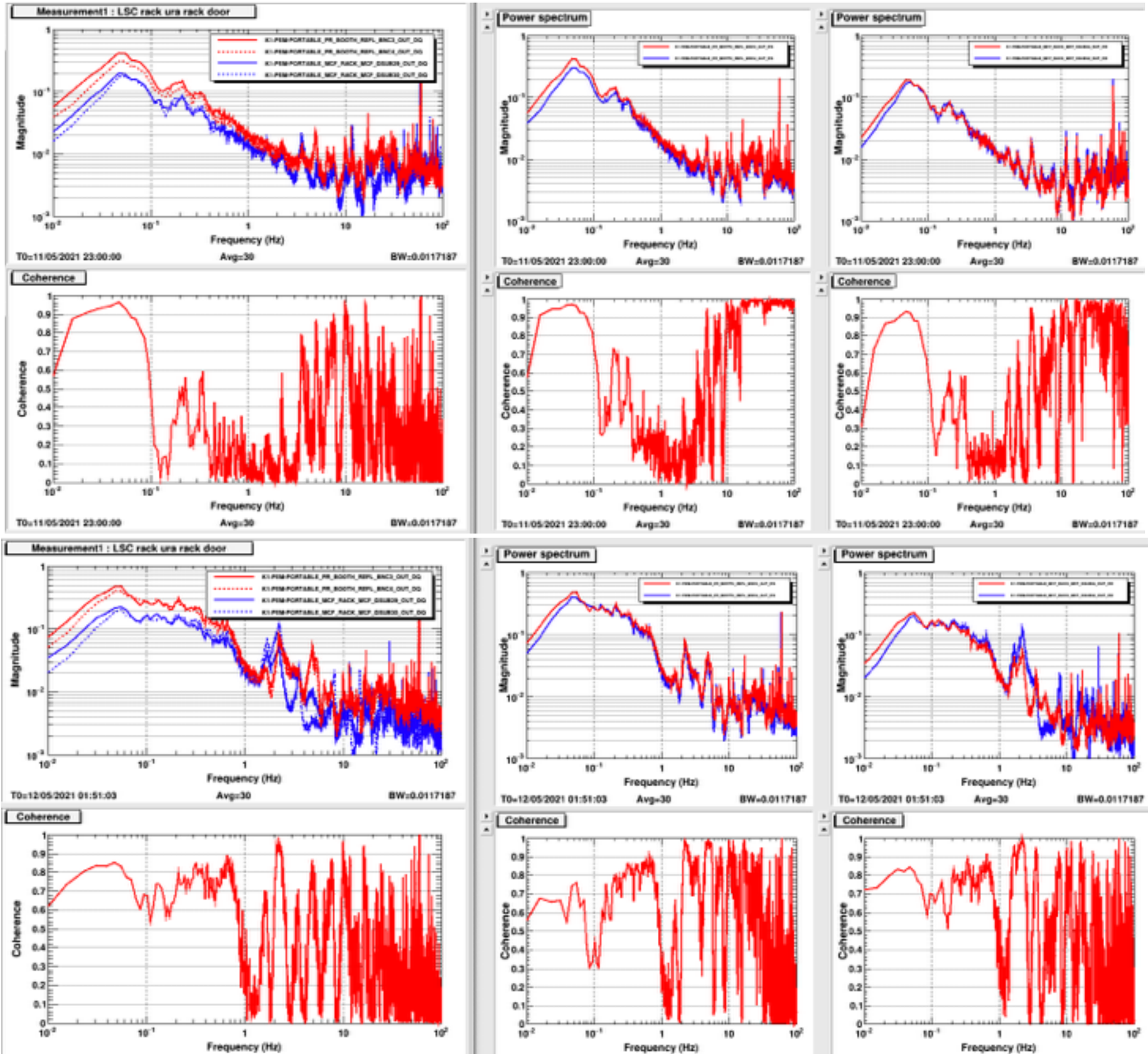


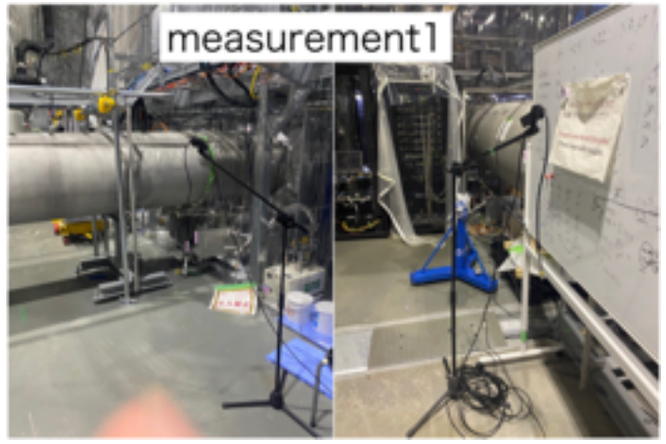


Installed microphone at IMC(Infrasound) and IMM(normal>20Hz) booth



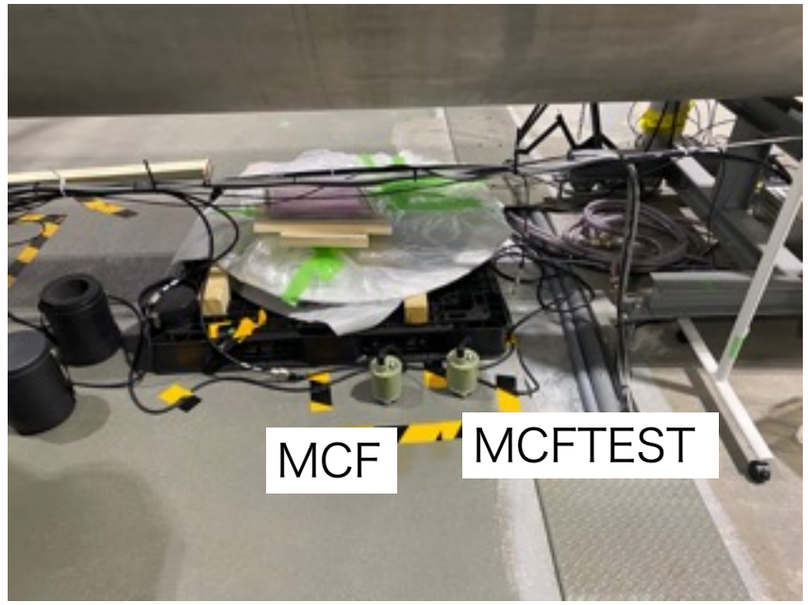
Time variance >> Position dependence -> long term check

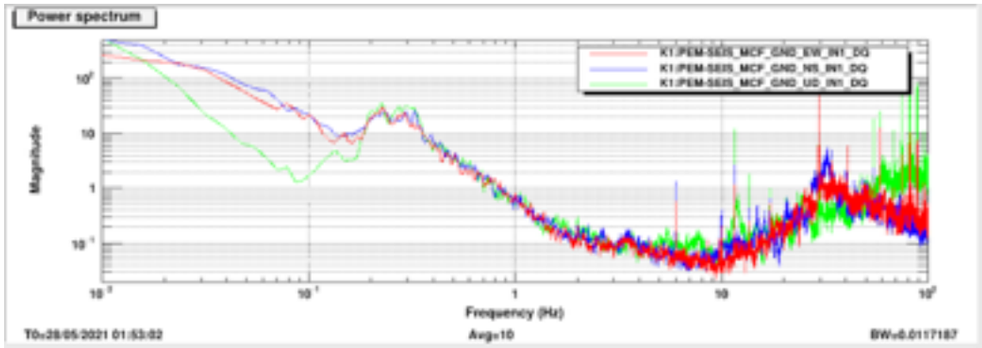


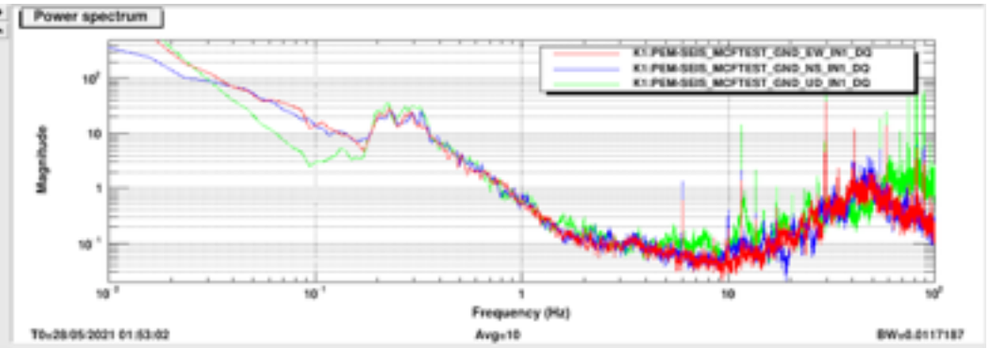


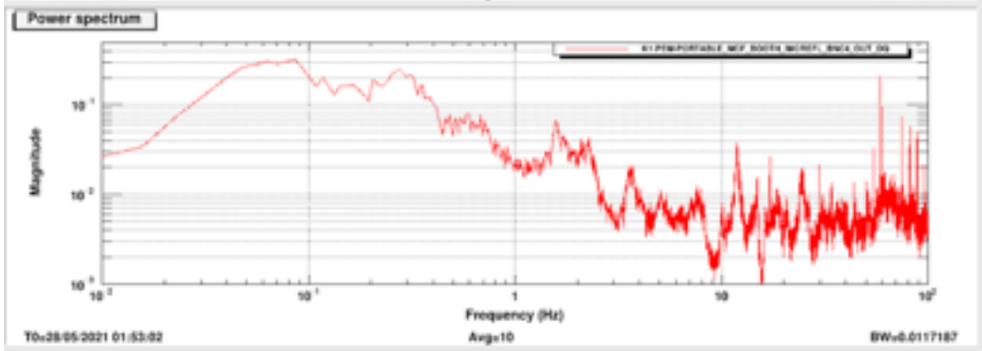
2. Infrasound vs Seismometer

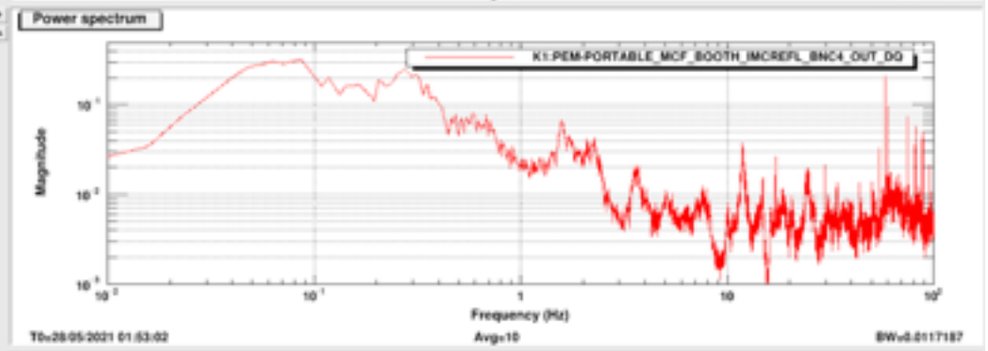
- See the spectrum
  - both seismometer : XY is larger than Z below 0.1Hz
- See coherence
  - No coherence below 10Hz

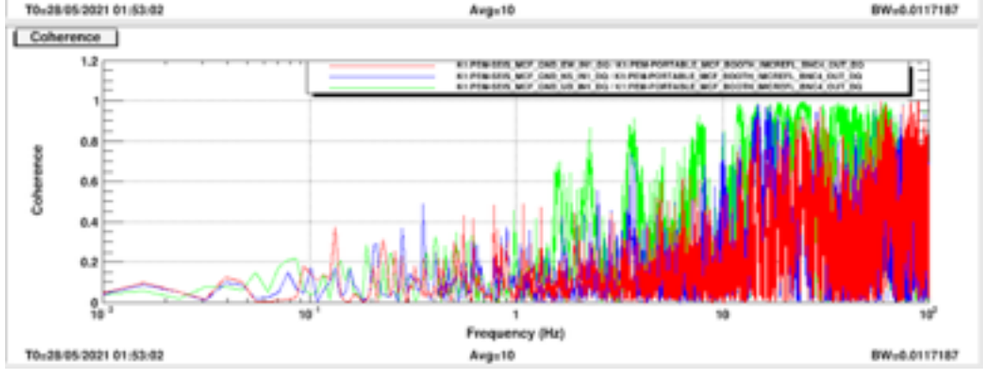


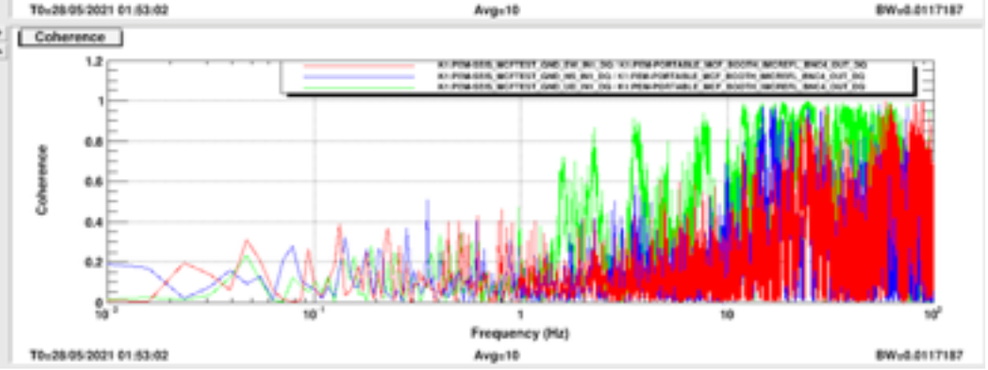












2. Infrasound vs Seismometer

- See the spectrum
  - The trend is similar, especially 0.1-1 Hz
- See the coherence
  - Same axis-> Coherence above 0.1 Hz
  - No coherence below 0.1 Hz even in similar shape
  - 1-2 Hz XYZ direction coherence, some sound origin?