Software Injection tests on Deepclean: Data Preparation for Training

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Data preparation for training

- GPS time: 1275891680 ~ 1275891920 (240-second)
- Strain data used: K1:CAL-CS_PROC_C00_STRAIN,DBL,DQ
- PEM channel used: K1:PEM-MIC_PSL_TABLE_PSL4,Z_OUT,DQ
- We have a gwf for noise subtraction: K-K1_NOISE_INJ_BGRD-1275891680-240.gwf
- We inject sinusoidal continuous waves on the software injection test.
Channel Name: K1:CAL-CS_PROC_C00_STRAIN,DBL,DQ
PEM Background

Channel Name: K1:PEM-MIC_PSL_TABLE_PSL4_Z_OUT_DQ
ASD from Hardware Injection

![Graph 1: ASD: Hardware-strain](image1)

![Graph 2: ASD: Hardware-PEM](image2)
Injection Data PEM

Energy Density [Pa]

Time [minutes] from 2020-06-11 06:21:00 UTC (1275891678.0)
ASD for Software Injection
# Problems

- **Training and Cleaning Setup:**
  
  ```
  # GPS time to clean  # bandpass filter
  clean_t0 = 1275891680  filt_fl = 100  
  clean_duration = 240  filt_fh = 300  
  # GPS time to train on
  train_t0 = 1275891680  
  train_duration = 240
  ```

- We get "**Train loss: nan**" and "**Test loss: nan**" when we apply DeepClean on the training data.

- We are trying to adjust the bandpass filter, training/cleaning duration.