

# MoonPenetrator

## Workshop Example

**By: Ted Diehl, Bodie Tech.**

**Date: 11-Jul-2021 19:38:20**

### Images:

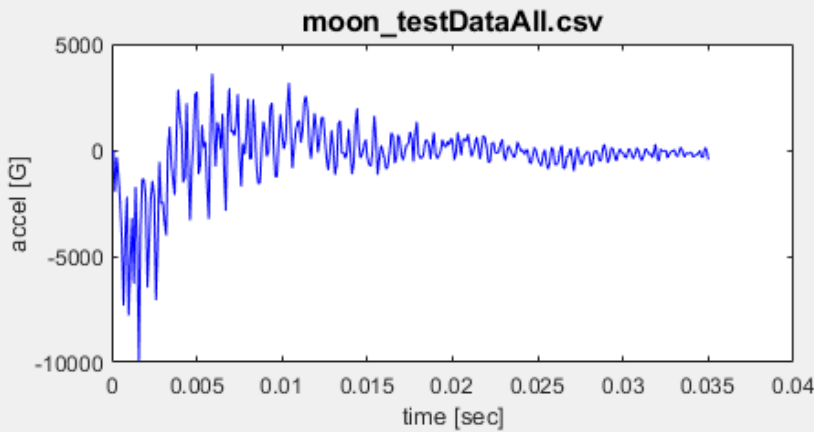
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Raw Data

moon\_testDataAll.csv

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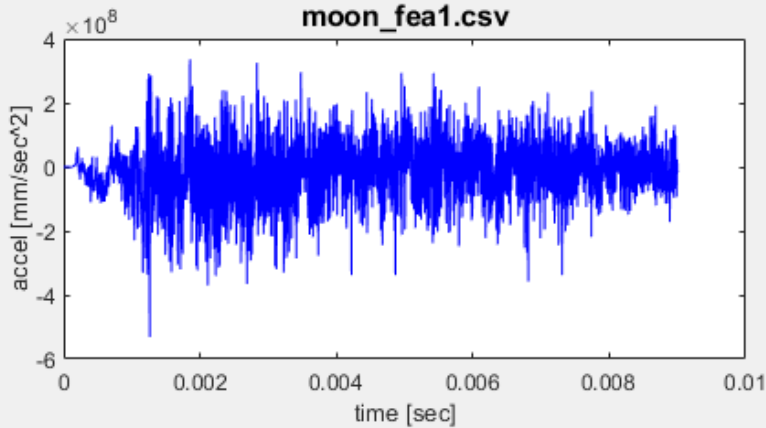
time	accel
[sec]	[G]
0.0000e+00	-2.2819
1.0000e-04	-81.9856
2.0000e-04	-1963.1539
3.0000e-04	-325.4975
... 347 rows not shown.	



moon\_fea1.csv

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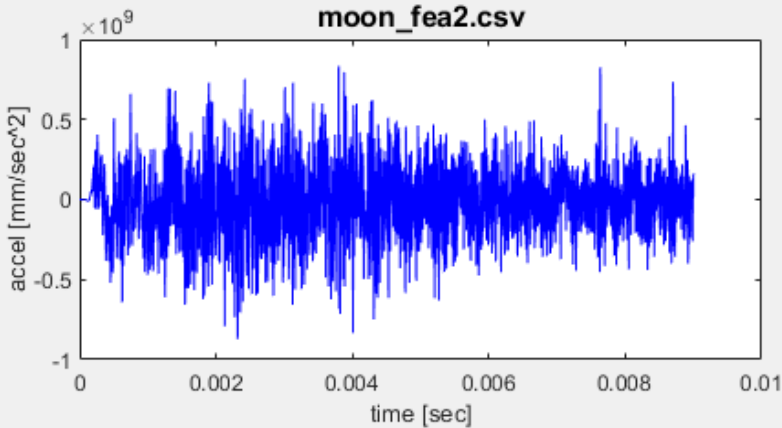
time	accel
[sec]	[mm/sec^2]
0.0000e+00	-10193.0253
9.6100e-08	-10456.4398
1.9225e-07	-10737.2218
2.8835e-07	-11034.5649
... 101002 rows not shown.	



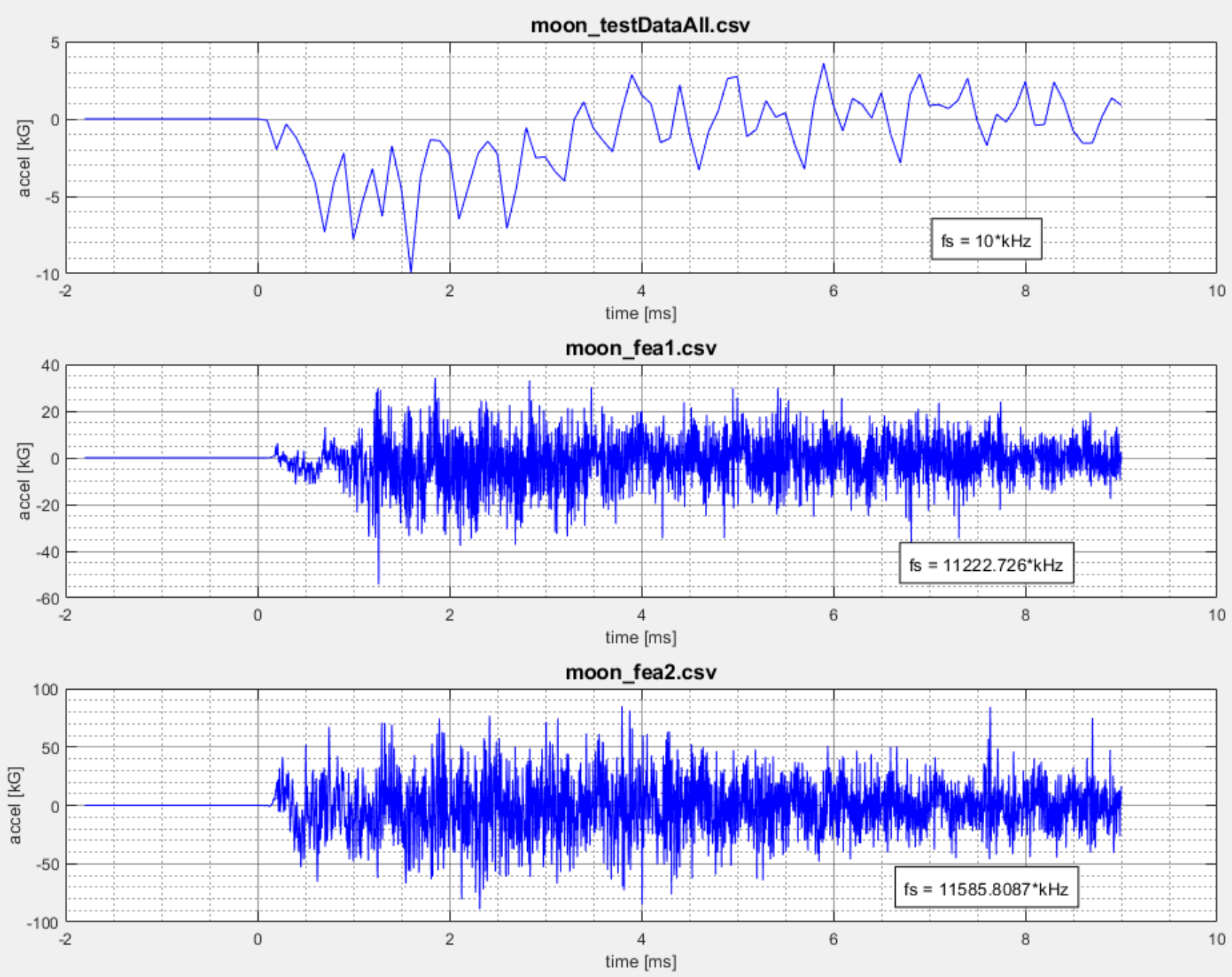
moon\_fea2.csv

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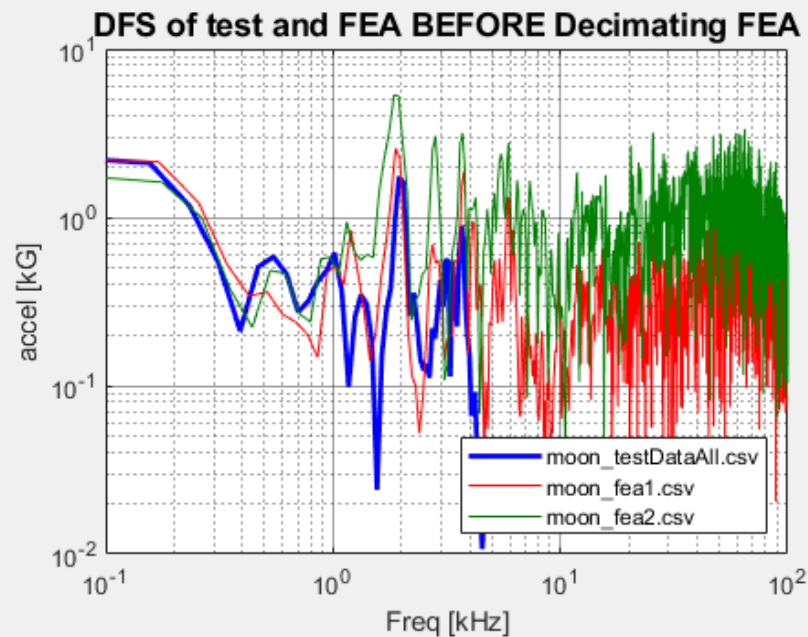
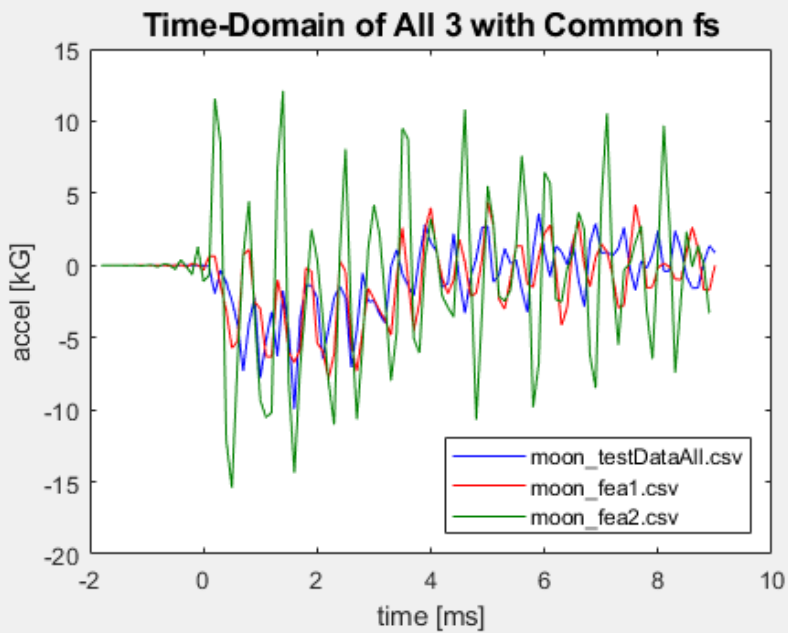
time	accel
[sec]	[mm/sec^2]
0.0000e+00	-2.0411e+05
9.6100e-08	-2.0436e+05
1.9225e-07	-2.0459e+05
2.8835e-07	-2.0482e+05
... 104270 rows not shown.	



Trimmed, Extended and Regularized

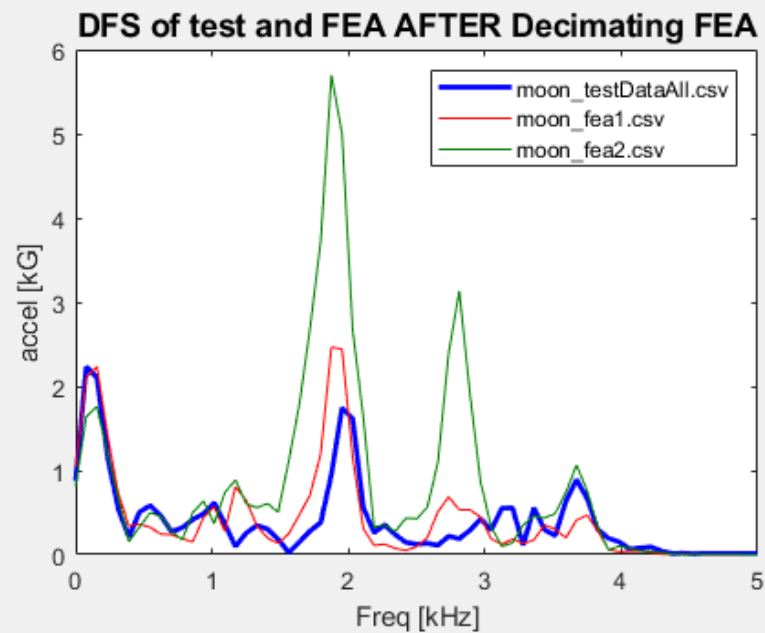


# DFS Assessment & Decimation

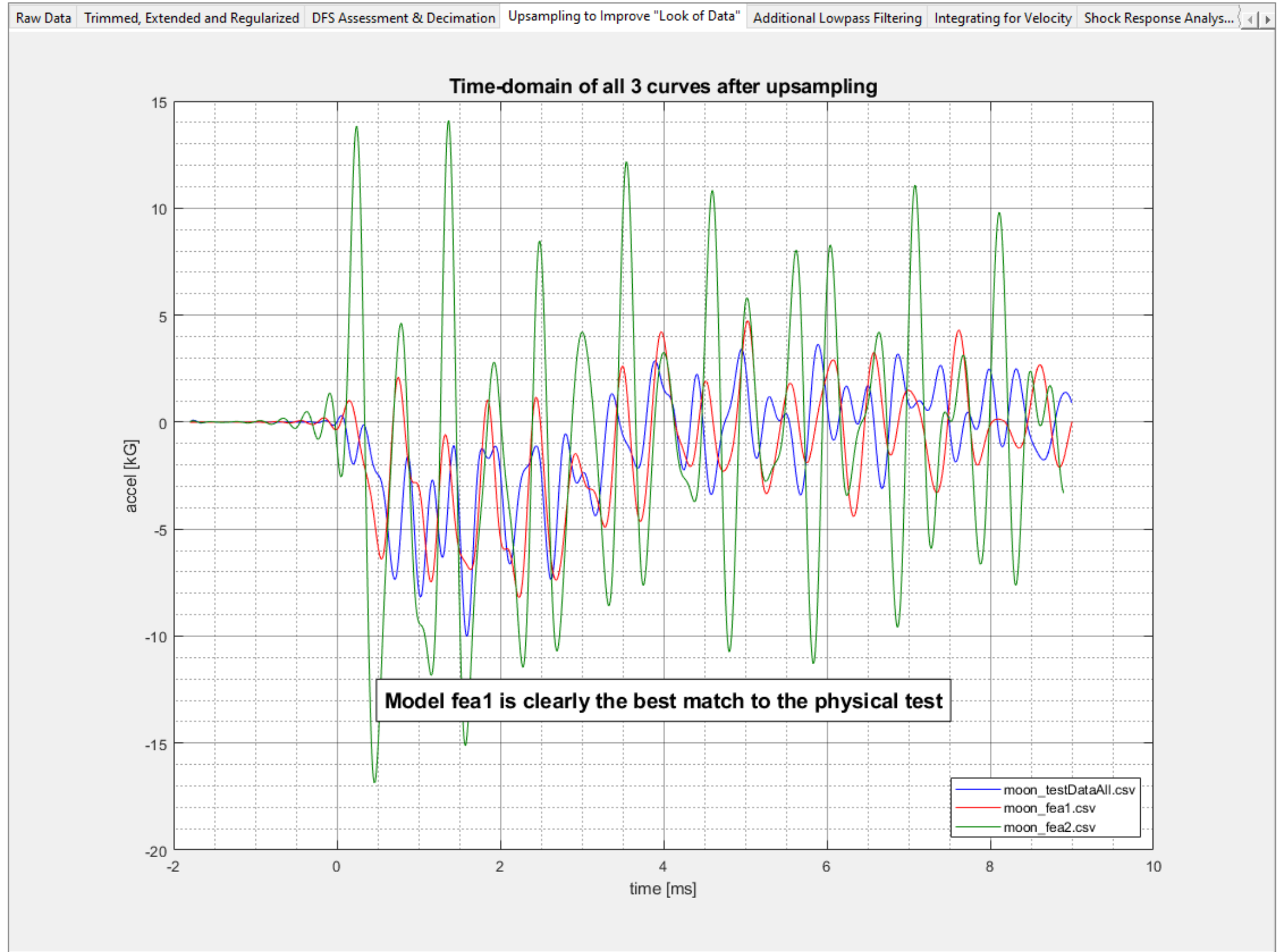


Notes:

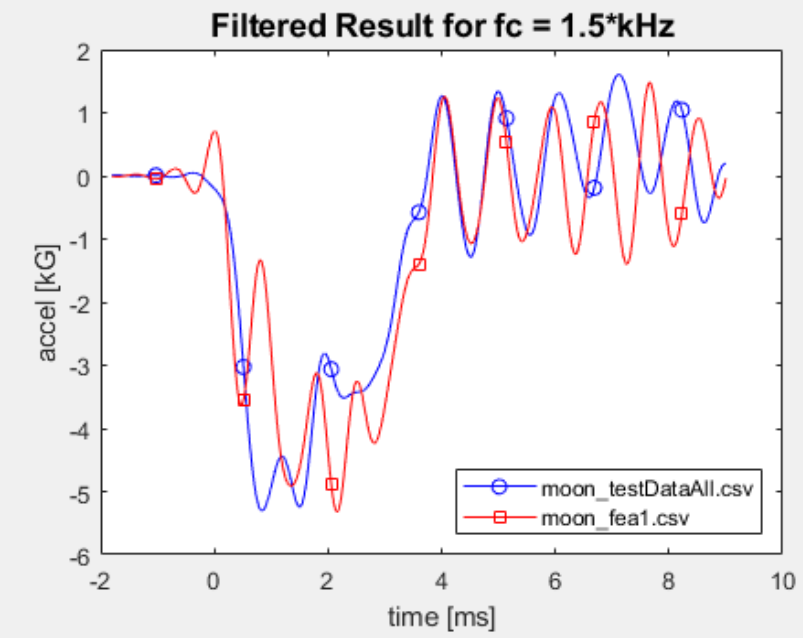
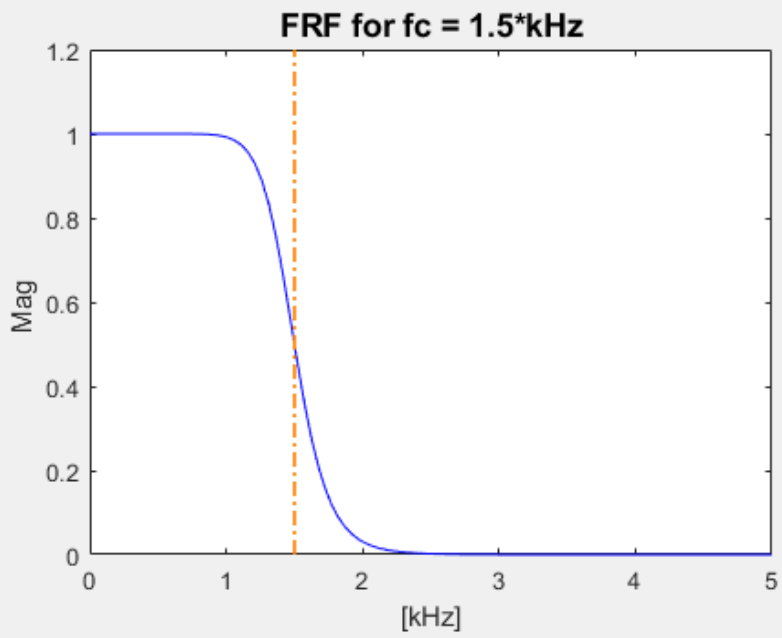
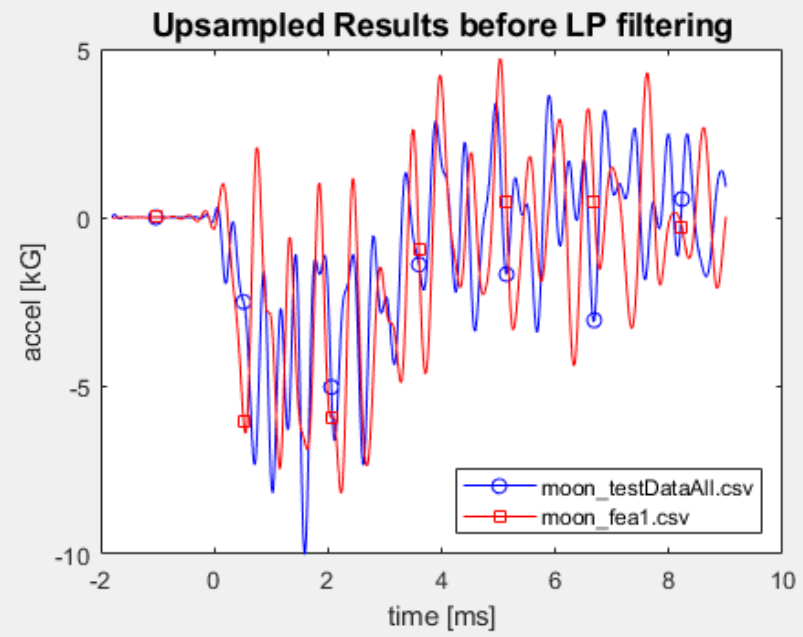
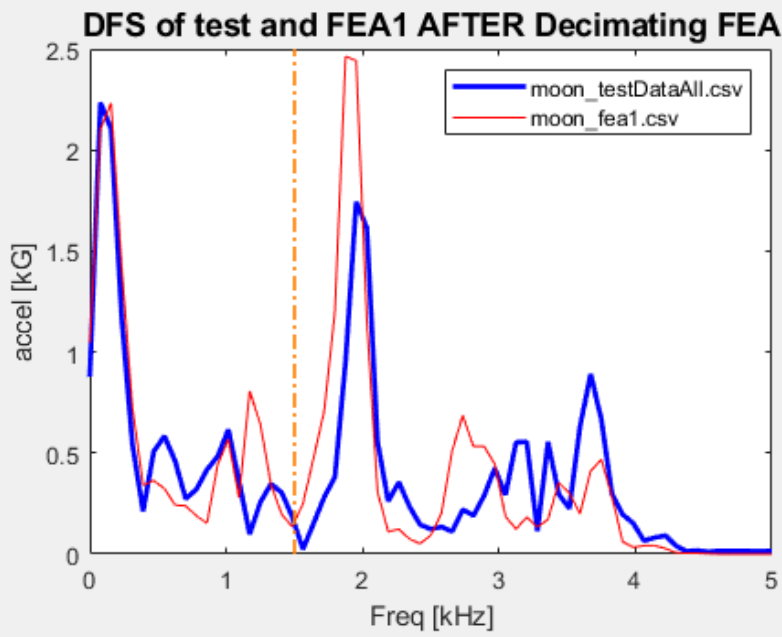
- 1) Both the time-domain and DFS plots show that the fea1 model is the better match to testData.
- 2) The decimated FEA and the testData look a bit coarsely sampled at 10\*kHz sampling frequency.



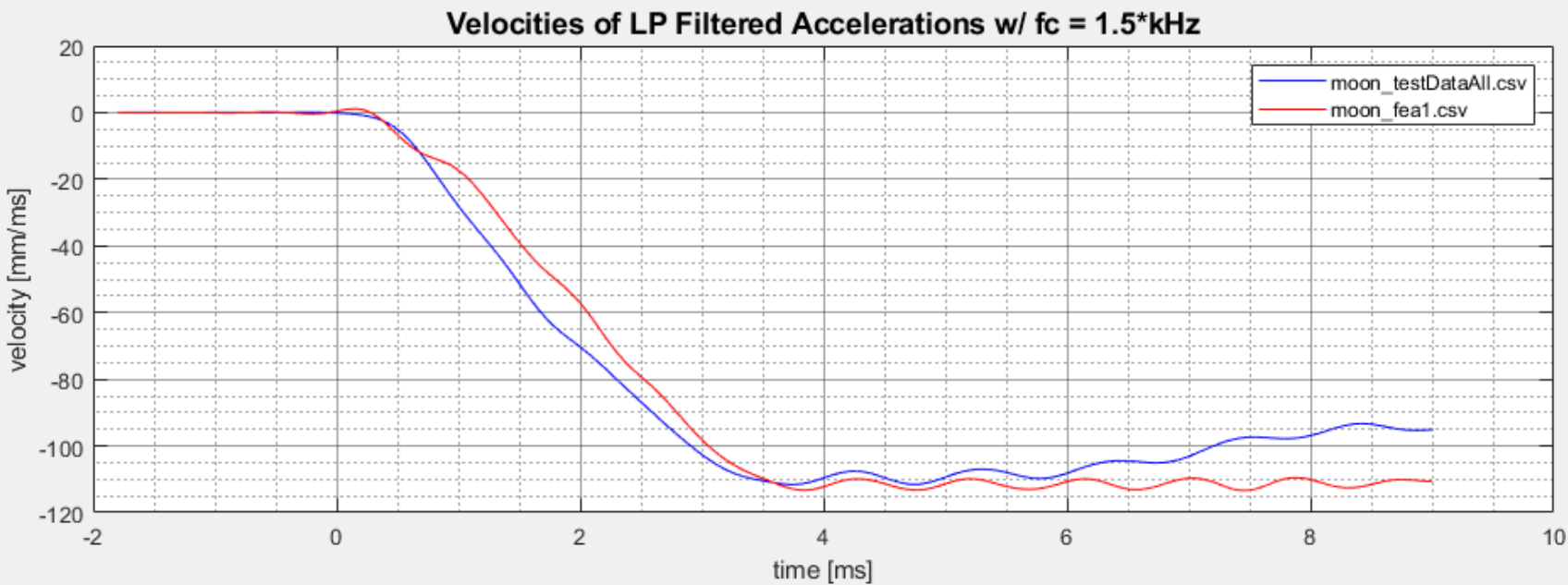
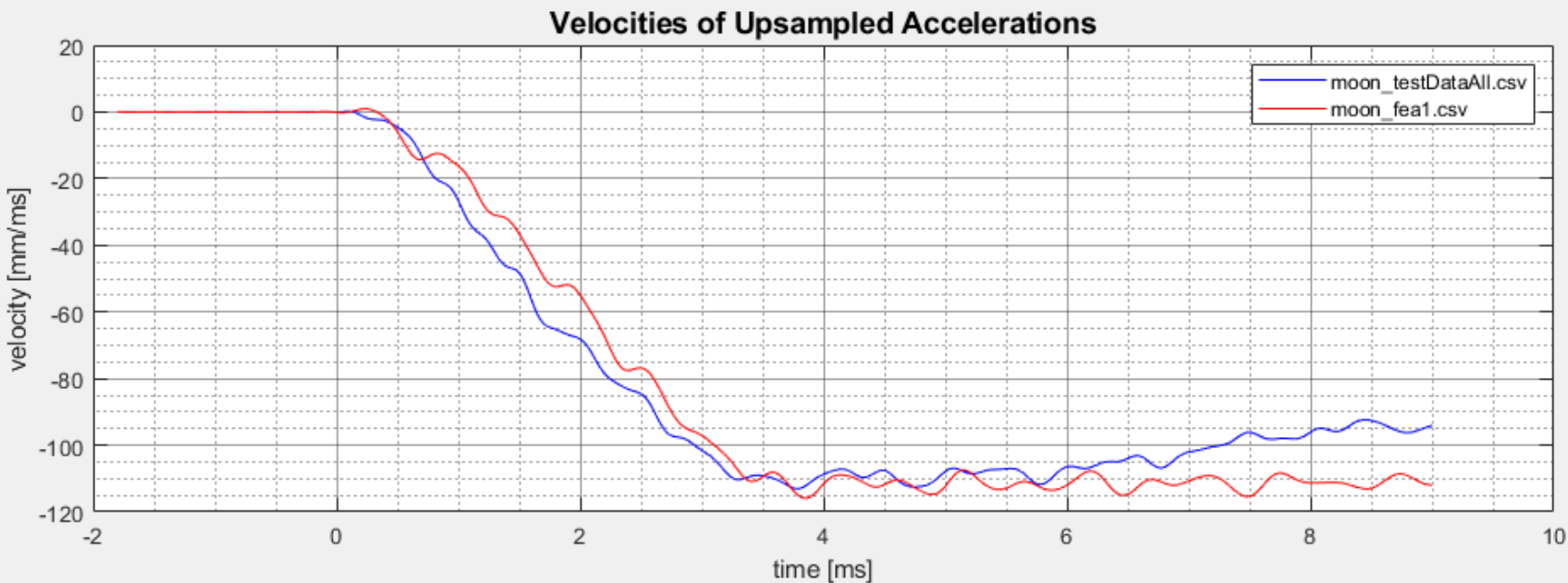
# Upsampling to Improve "Look of Data"



Additional Lowpass Filtering

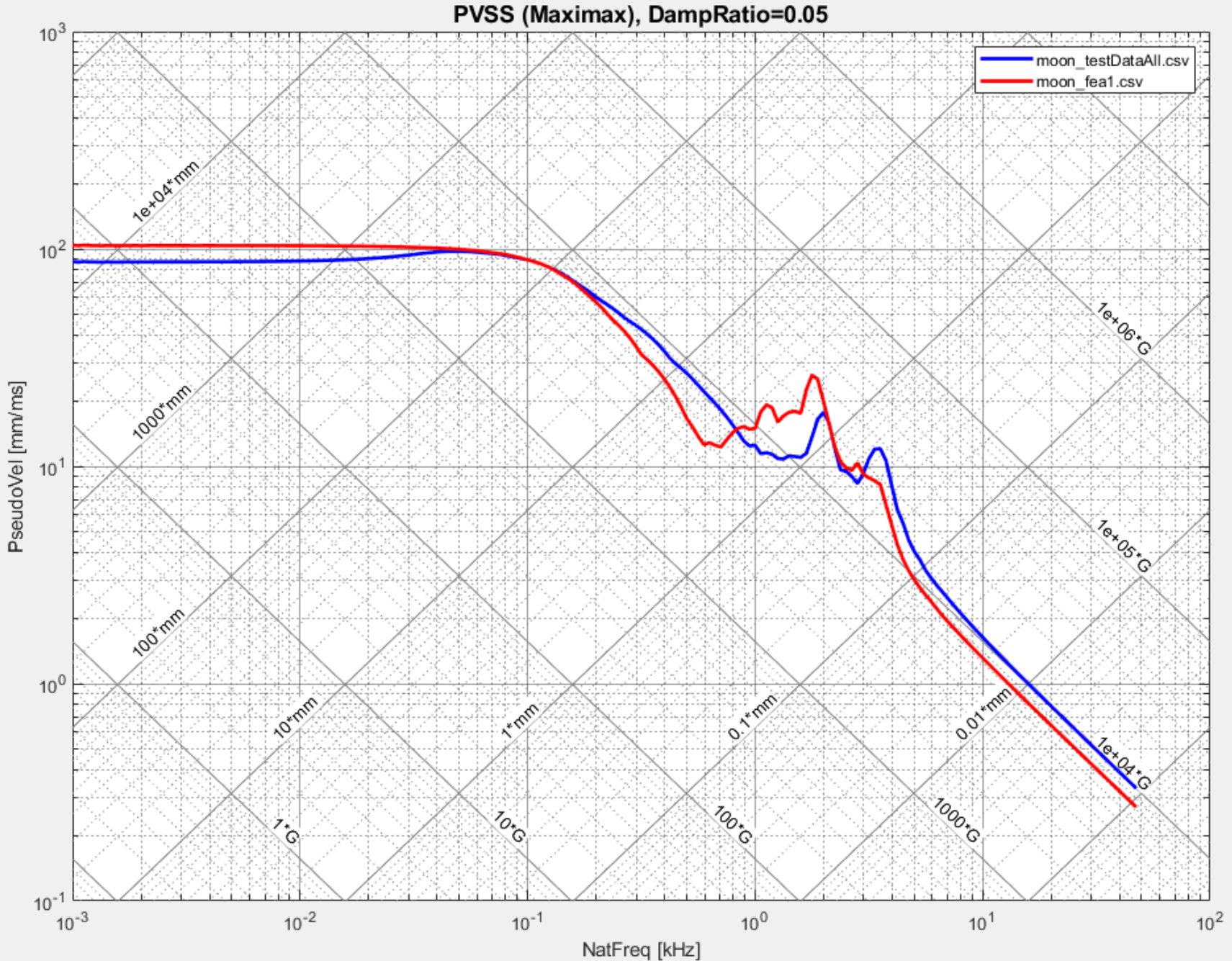


Integrating for Velocity





Shock Response Analysis via PVSS





Final Summary of Results

