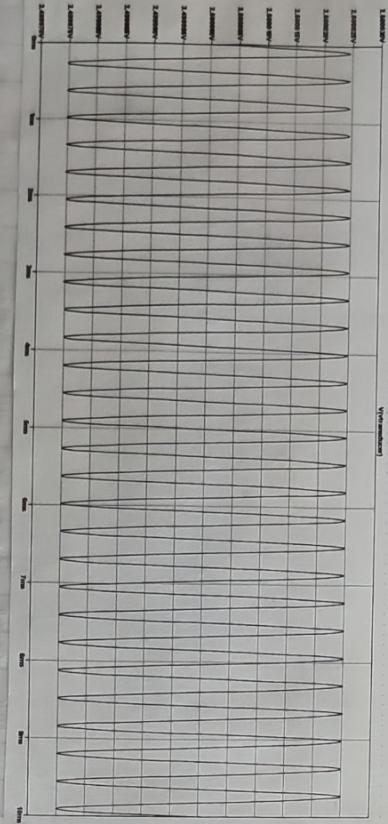


.tran 0 10m 0 10m  
.options abstol=1n reltol=1u vntol=1n



Using Matlab code to simulate these effects on the op amp  
specially seeing a filter still needs to be applied

Op-amp being used : MC16024  $\rightarrow$  rail - rail  $0 \text{--} 5 \text{V}$

Need to use a pre-Amp stage:

Designing for - Work case scenario:  $50 \mu\text{V}$  peak-to-peaks.



$\rightarrow$  MATLAB code  
generate to  
generate the voltage  
output from  
the pre-Amp.

Plan : Sweep over frequencies to see the  
full response  
(  
Side Note generator you  
placed

This may work with a range of  $20 \mu\text{V}$  up to  $20 \text{mV}$   
As the voltage increases a larger capacitor may be needed but  
since no dequantized was found a similar component dequantized  
was used as an approximation to the voltage out from  
the transducer.

08/08/2025

09/08/2025

