

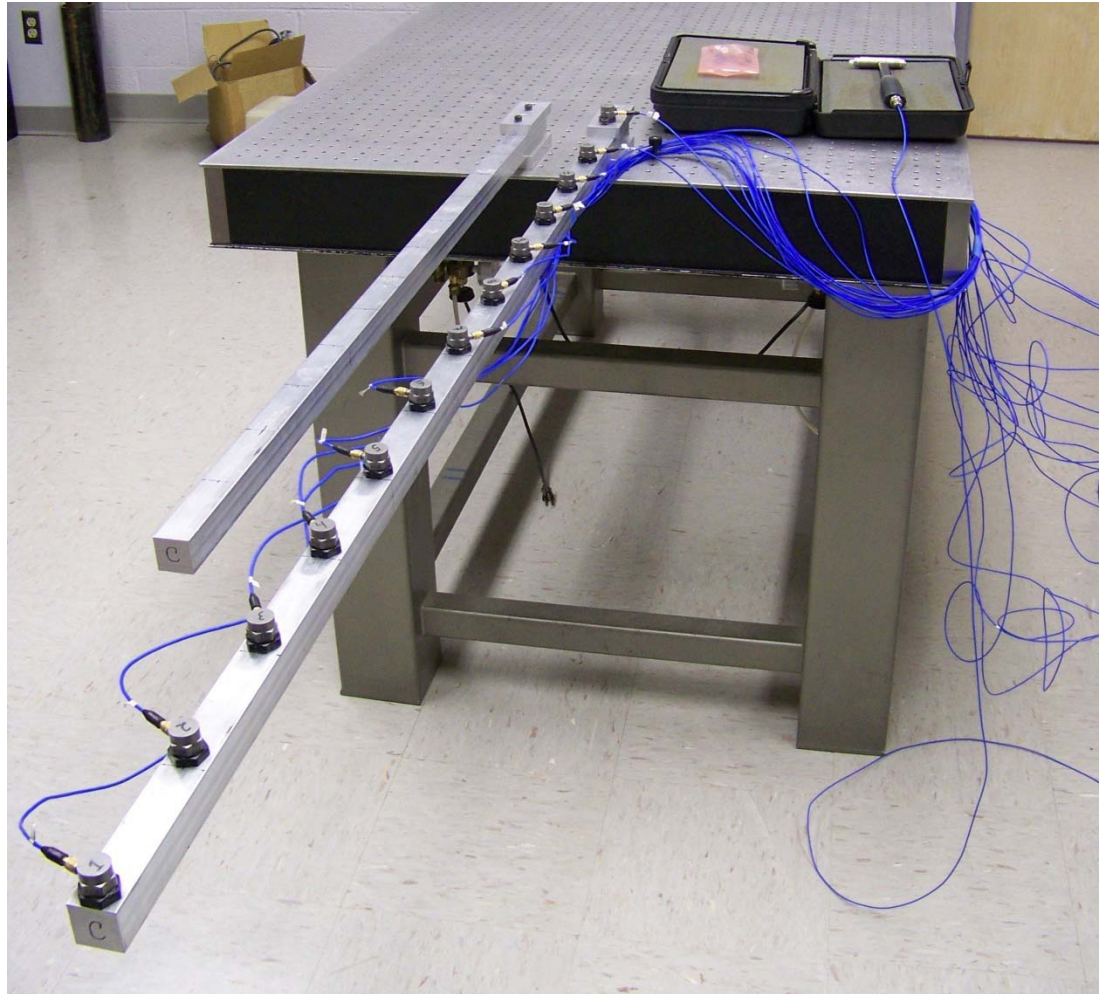
Characterization of Localized Nonlinearity

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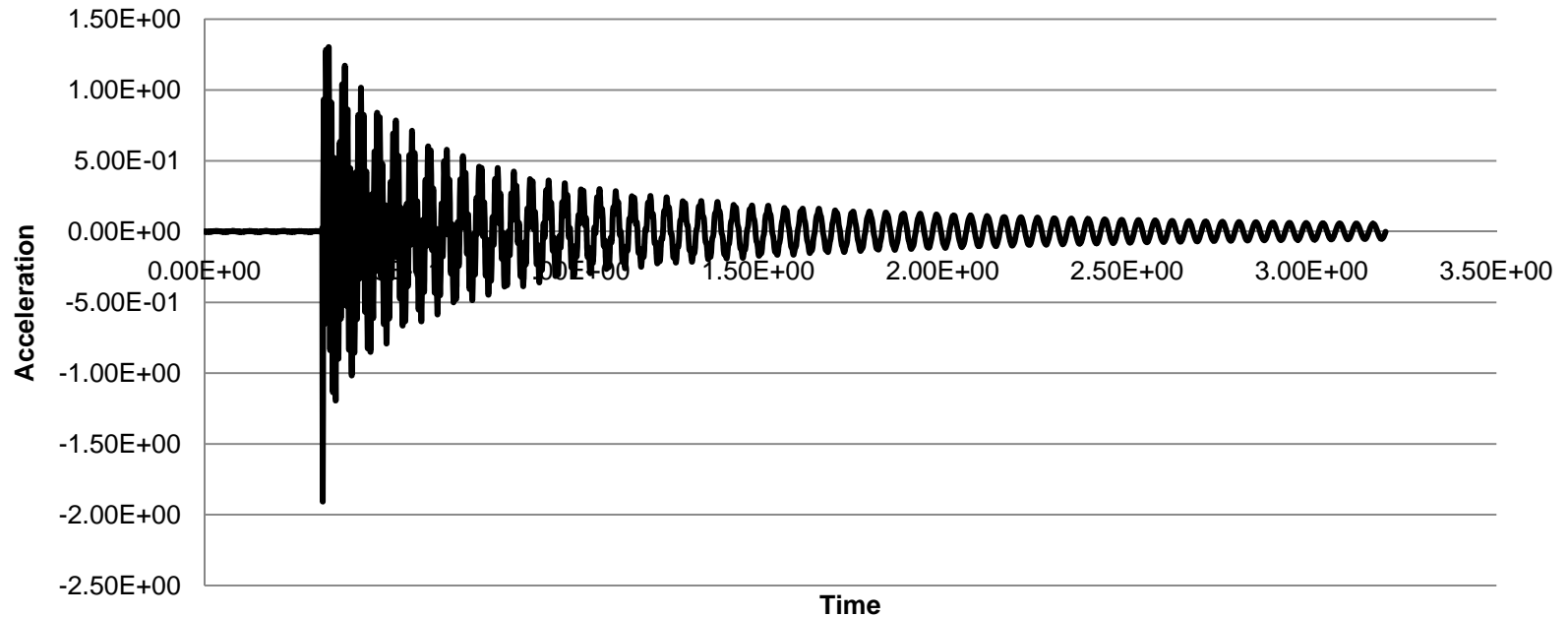
Experimental Setup

- 13 accelerometers
- Impulse force hammer for measured excitation
- Three beam lengths
 - a) 2 ft
 - b) 3 ft
 - c) 4 ft



Preliminary Experimental Data

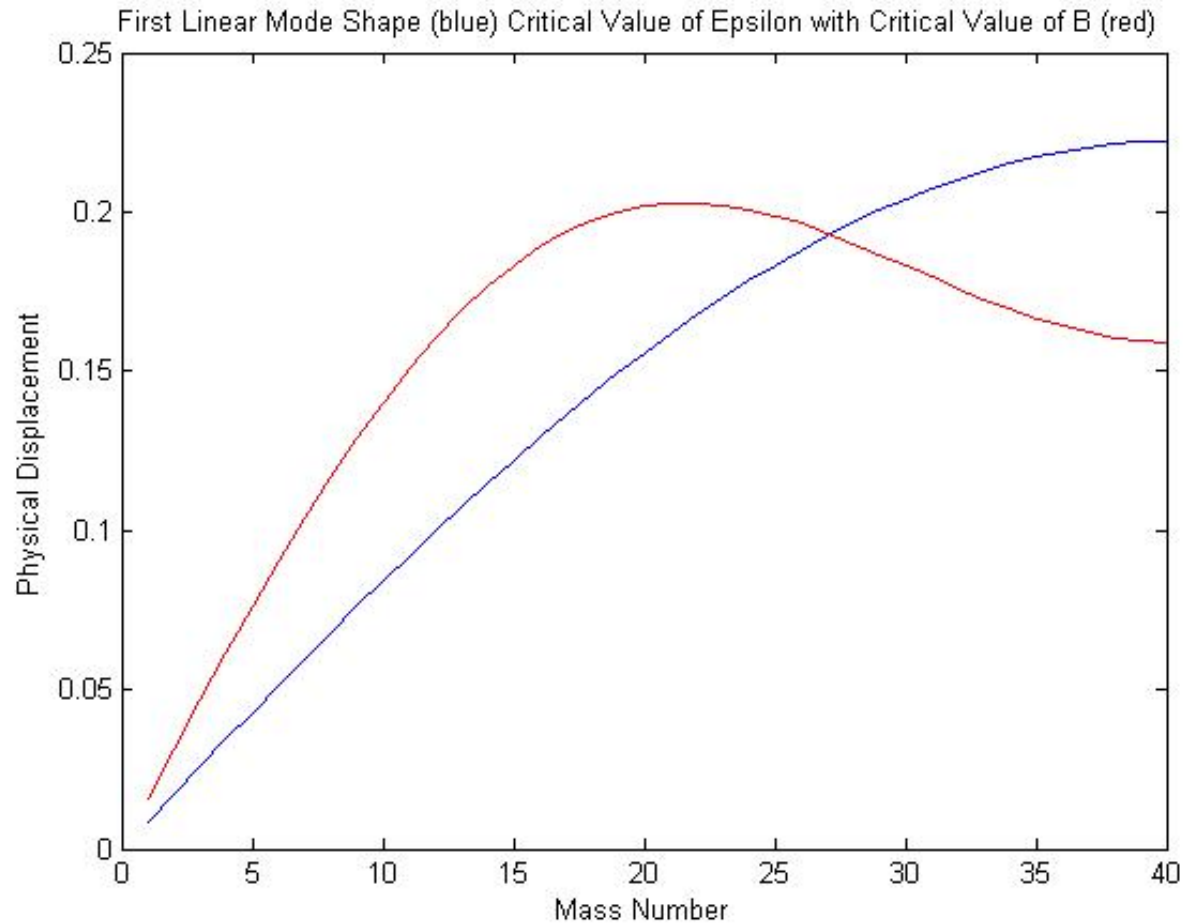
Tip Acceleration from Tap Test



Hypotheses to Check During Next Year

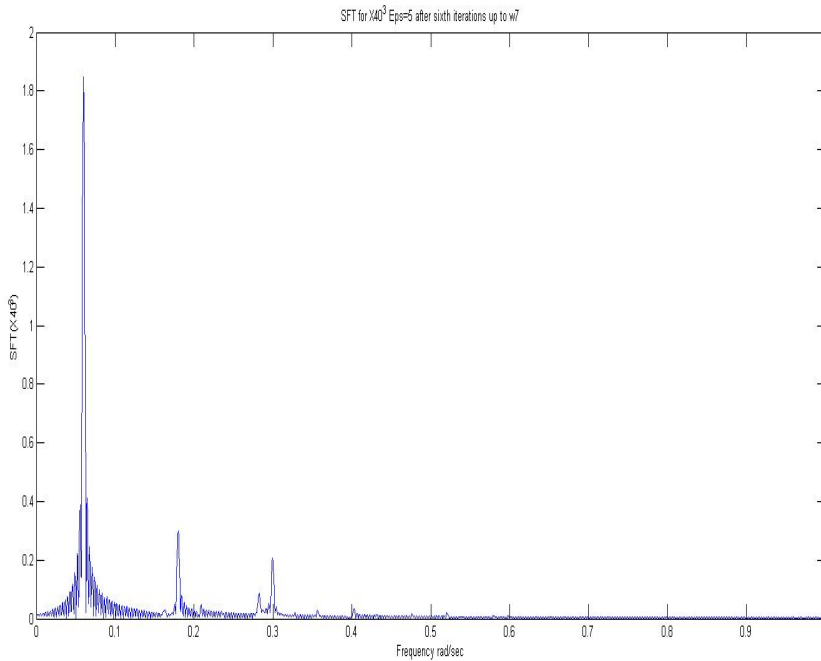
- 1) Damping properties significantly influenced by damage (EMD, Hilbert transforms)
- 2) Changes in NL modal properties will be visible in some cases

Small ϵ : $\epsilon = -0.00106$



Large ϵ : $\epsilon = 5$

SFT for x_{40}^3 after sixth iteration



1st NNM after 6 iterations

