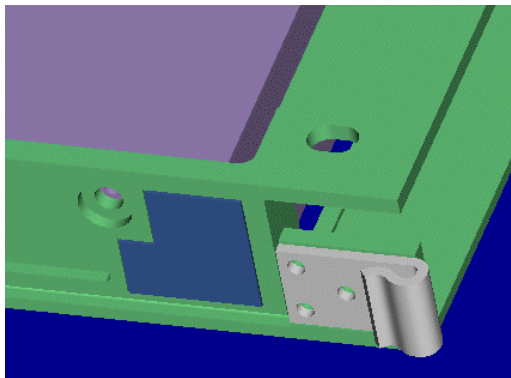


Dock/Wrapper Design  
Improvements  
Using Experimental Modal  
Analysis Results

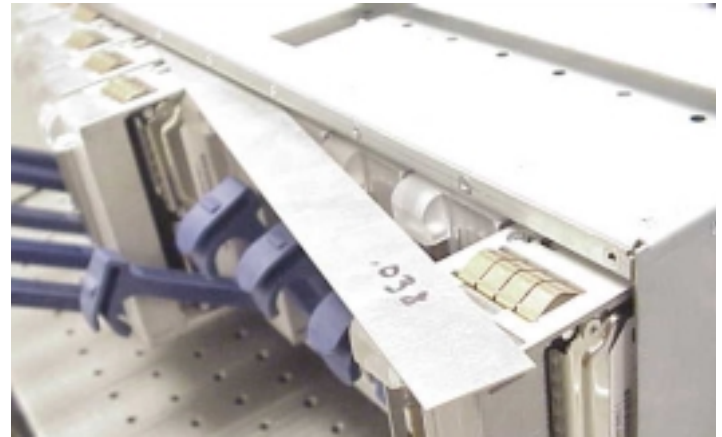
# Design Optimization

- Optimize Rotational Vibration spring clip
- Optimize location of additional stiffener for dock sheetmetal
  - Optimized with respect to minimization of drive rotational and linear displacement

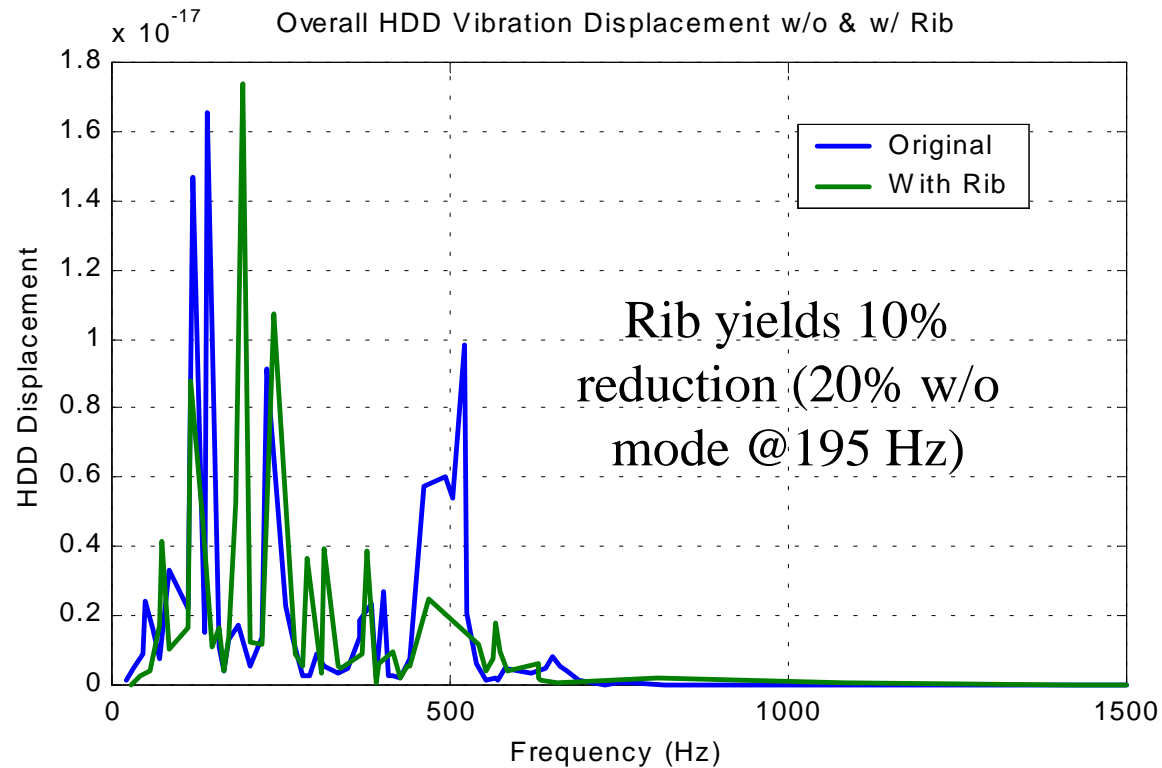


# Evaluation Method

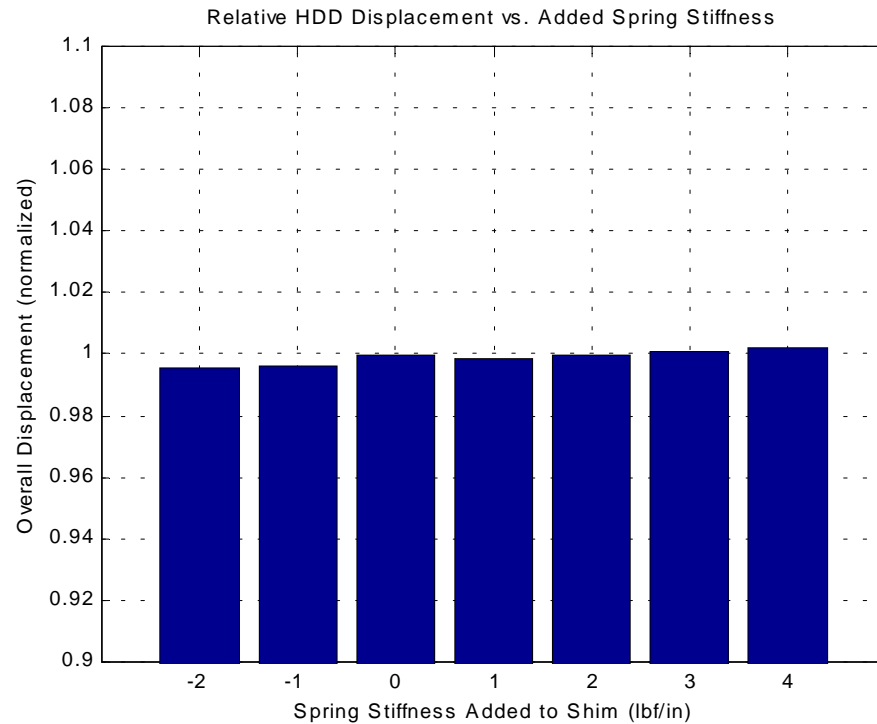
- Modal model
  - dock with 1.6" drives
  - 0.038" shim
  - hammer input
- For each *mode*, the *mode shape* shows relative motion for each point
- Motion corrected for frequency, HDD servo, random seek excitation



# With/without Rib Stiffener



# HDD Displacement vs. Added Stiffness



Modified stiffness

