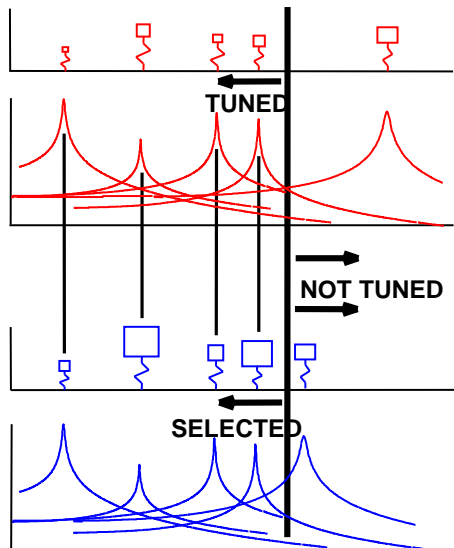


### Modally Enhanced Dynamic Absorber - MEDA

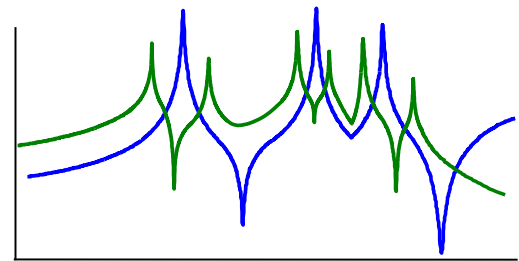
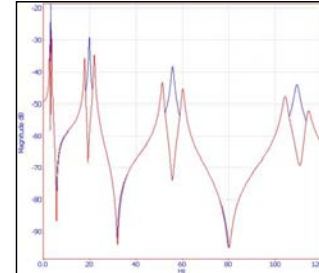
*De-tuning substructure is "designed" to have the same target modes as the main structure*



MEDA SUBSTRUCTURE

$$\frac{x_2 k_1}{F_0} = \frac{\left[ 1 - \left( \frac{\omega}{\omega_2} \right)^2 \right]}{\left[ 1 + \frac{k_2}{k_1} - \left( \frac{\omega}{\omega_1} \right)^2 \right] \left[ 1 - \left( \frac{\omega}{\omega_2} \right)^2 \right] - \frac{k_2}{k_1}}$$

MAIN STRUCTURE



COMBINED STRUCTURE

*MEDA substructure is "optimized" using main structure modes as "targets" for optimization procedures*

Tuned absorbers are used for the “detuning” of troublesome modes. The Modally Enhanced Dynamic Absorber (MEDA) utilizes detuning of multiple modes simultaneously through the design of an appendage structure that is optimized to address multiple modes simultaneously.