

Objectives

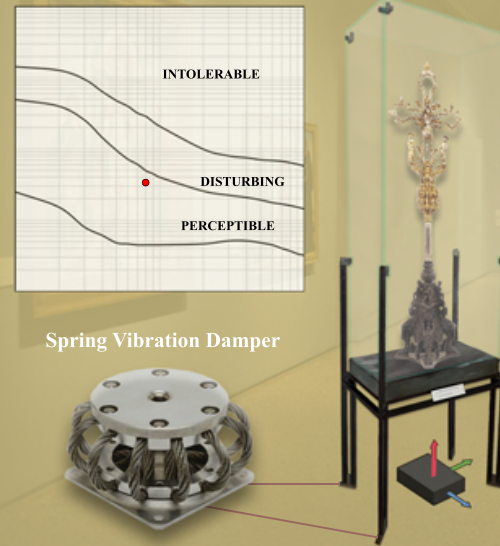
- ★ Classification of human-induced vibrations' sources
- ★ Achieving results using non-invasive methods
- ★ Filling the lack of proper guidelines
- ★ Setting values of acceptable human-induced vibration levels

Research steps

1. Classification of human-induced vibrations' sources



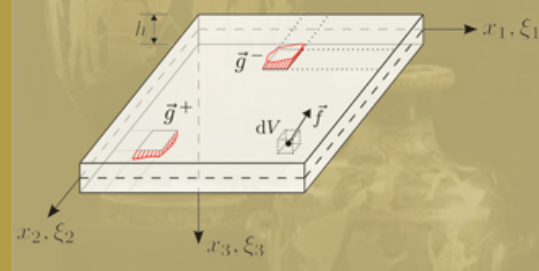
2. Experimental set-up n.1: accelerometers on the floor



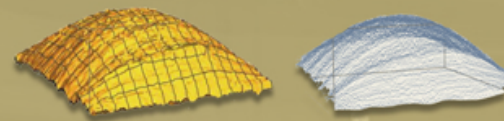
3. Experimental set-up n.2: acoustic laser vibrometry



4. Analytical Modeling using the plate theory



Calculation of strains and deformations under dynamic loads



Conclusions

Mitigation solutions

Class	OS-RMS _{eq}		Usage of the floor structure								
	Lower limit	Upper limit	Critical areas	Hospitals, surgeries	Schools, training centers	Residential buildings	Office buildings	Meeting rooms	Senior citizens' Residential building	Hotels	Industrial Workshops
A	0.0	0.1									
B	0.1	0.2									
C	0.2	0.8									
D	0.8	3.2									
E	3.2	12.8			⊗						
F	12.8	51.2									

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Results obtained through acoustic vibrometric technique



The effects of human-induced vibrations on museum artifacts