DESCRIPTION: The supplementary file contains two video files and one PDF file.

VisualVibrometry.mov - Video describing the ideas and techniques from our paper. Please turn on your volume to hear the video's narration. In the video the spatial phase visualization for a fabric (Wool, Stiffness: 0.05 Area Weight: 9.46) exposed only to ambient forces in the room is shown. The phase visualization is shown for each of the specified frequencies. Visualizing the modes of fabric helps to verify that our model is picking out relevant features in the power spectra. The visible modes of the fabric lay in the low frequency region, the same regions that our model find to be the most predictive of fabric material properties.

suppdoc.pdf - Contains additional results and visualizations not provided in the paper including:
* Estimated Young's modulus for each rod video
* Spatial phase visualizations for each of the 4 recovered resonant frequencies for each rod video
* Power spectra for each rod video with labeled recovered resonant frequencies
* Error propagation for density and Young's modulus calculations
* Plots and tables comparing PLSR and PCR regression models for prediction of fabric properties
* Correlation as a function of feature dimensionality
* Average estimated fabric stiffness and area weight for each fabric

motionMagRods.mov - Motion magnified videos of the aluminum and brass 22-inch rod. Although we have not used motion magnification in our work, magnifying the videos around the recovered resonant frequencies helps to verify that the rod's motion at our algorithm's recovered frequencies corresponds with the theoretical mode motion of a clamped rod. Videos were magnified using techniques presented in:

Neal Wadhwa, Michael Rubinstein, Frédo Durand, William T. Freeman
Riesz Pyramids for Fast Phase-Based Video Magnification
International Conference on Computational Photography (ICCP), 2014.

SIZE: The total size of the file is 24.7 MB

PLAYER INFORMATION: Any video player that supports .mov format; Adobe Reader

PACKING LIST:
VisualVibrometry.mov
motionMagRods.mov
suppdoc.pdf

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