

System Requirements

- MATLAB R2014b or later

The package was tested on MATLAB R2021b that is installed on Windows 10 Home, version 21H2.

Installation Guide

- 1- Download the files from <https://github.com/aminfno/Metamaterial>
- 2- Make sure all downloaded files ('Metamaterial.m', 'Metamaterial.fig', 'Metamaterial_results.m', 'Metamaterial_results.fig', 'data.mat') are in the same folder.

Instructions and Demo

- 1- Run 'Metamaterial.m' on MATLAB, Metamaterial window opens.
- 2- Change parameter values based on your design.
- 3- To run the simulation, press 'Click here to run the simulation' and wait until Metamaterial_results window opens.
 - a. Output: This window contains the animation of your design sinusoidally loaded in addition to the Strain and Poisson's ratio vs time plot.
 - b. Run time: Typical run time with the preset values is about a minute. This may vary based on the parameters you choose for your design specially 'Accuracy' value.
- 4- To save the results as a GIF file, press 'Click to save as .gif file'.
- 5- To return to the main window and make a new design, press 'Go back to redesign'.

The parameters needed to reproduce the results are in the main manuscript, Tables 1-3.