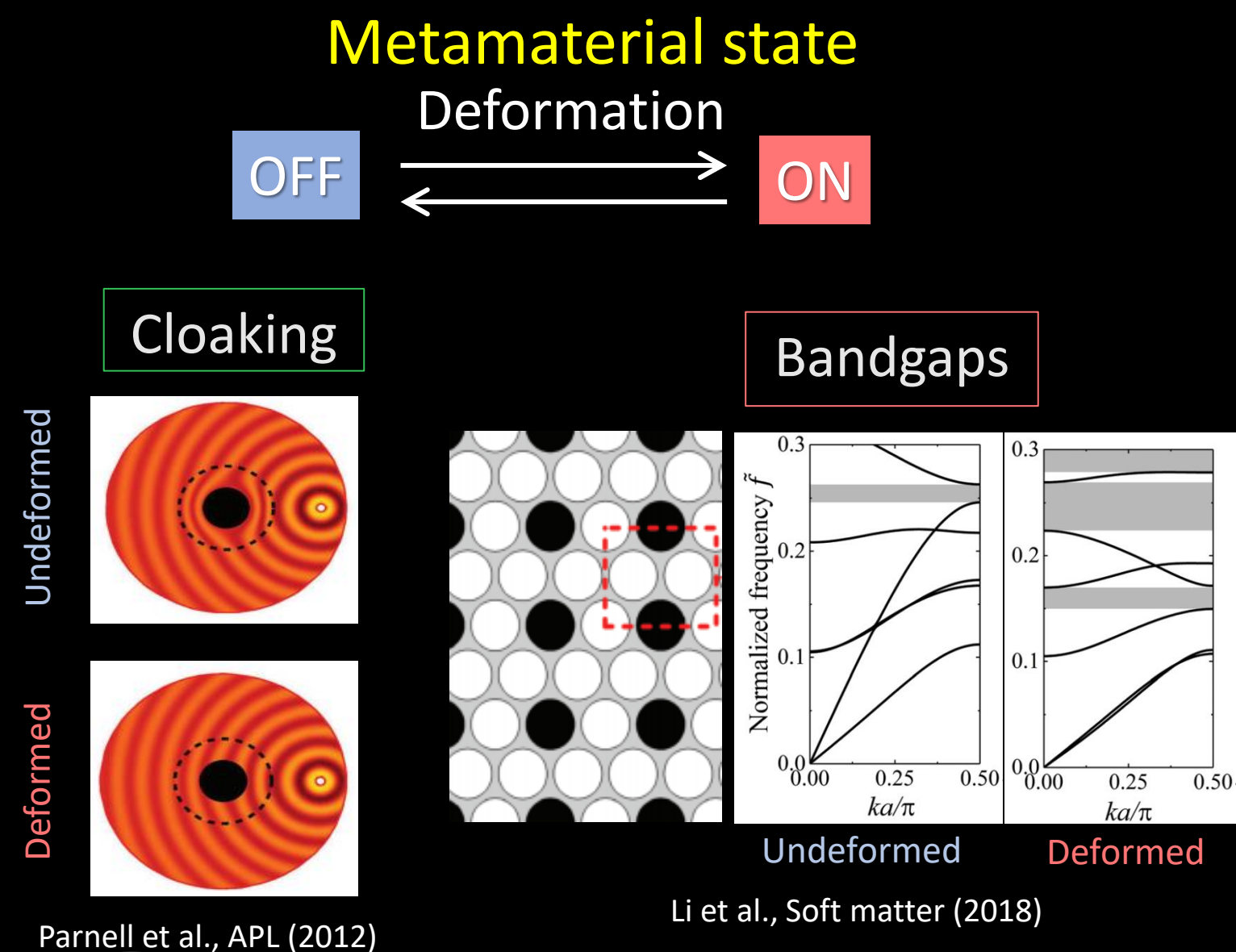


# Negative group velocity state in soft composites triggered via applied deformation

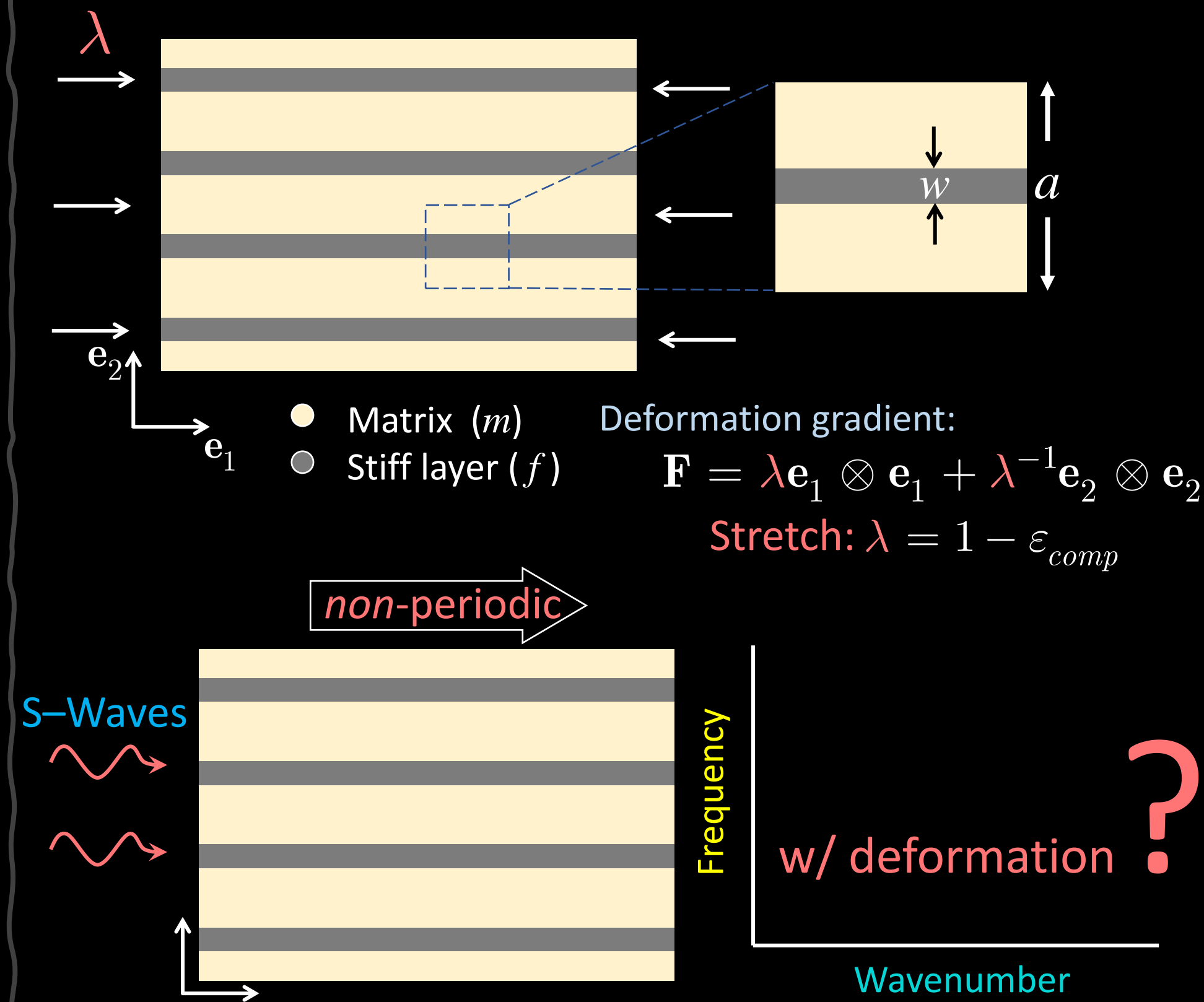
Nitesh Arora<sup>1</sup>, Q. Yao<sup>1</sup>, V. Slesarenko<sup>2</sup>, J. Li<sup>3</sup>, P. Galich<sup>4</sup>, S. Rudykh<sup>1</sup>

<sup>1</sup>University of Wisconsin – Madison <sup>2</sup>Lavrentyev Institute of Hydrodynamics <sup>3</sup>Massachusetts Institute of Technology <sup>4</sup>Technion – Israel Institute of Technology

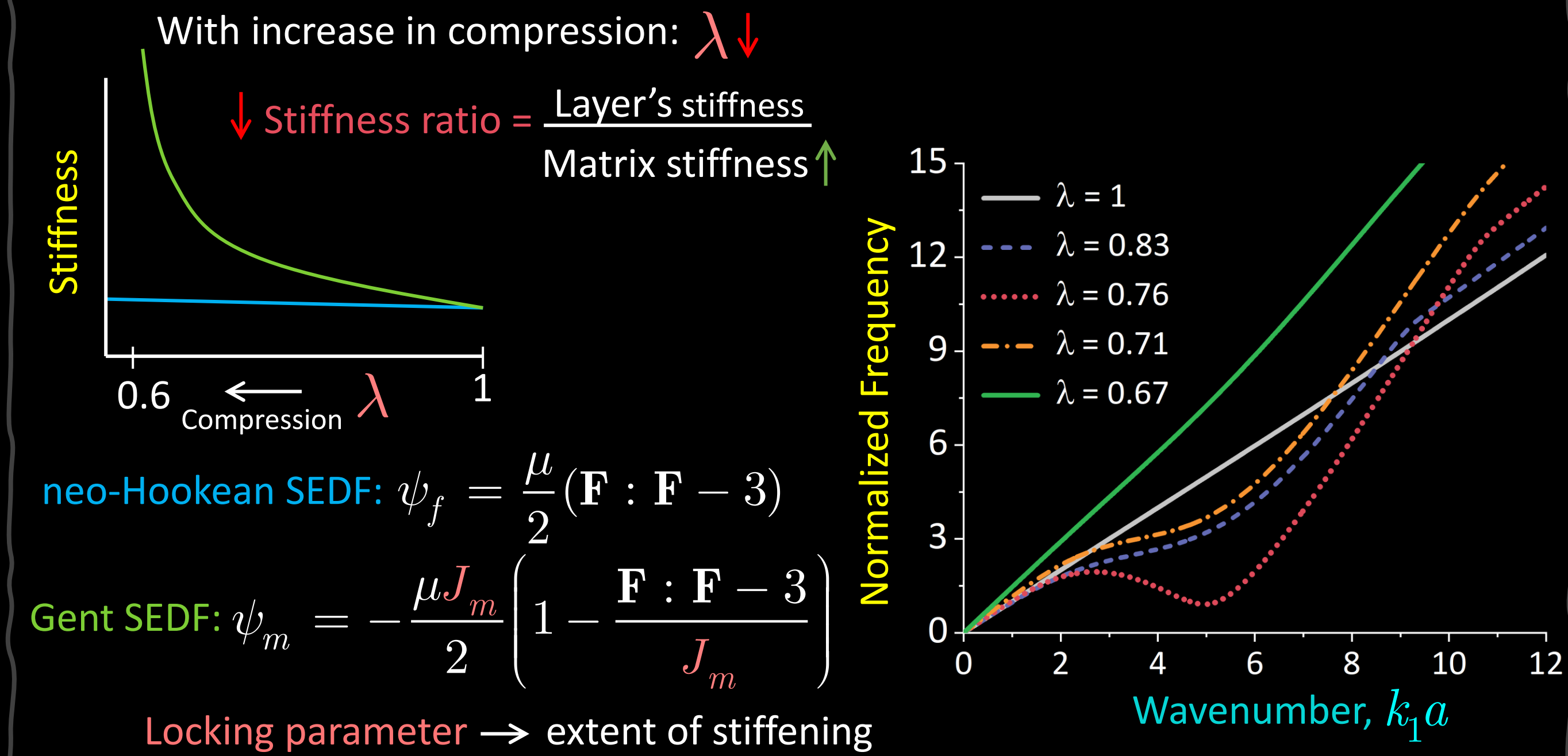
## Soft-Acoustic Metamaterials



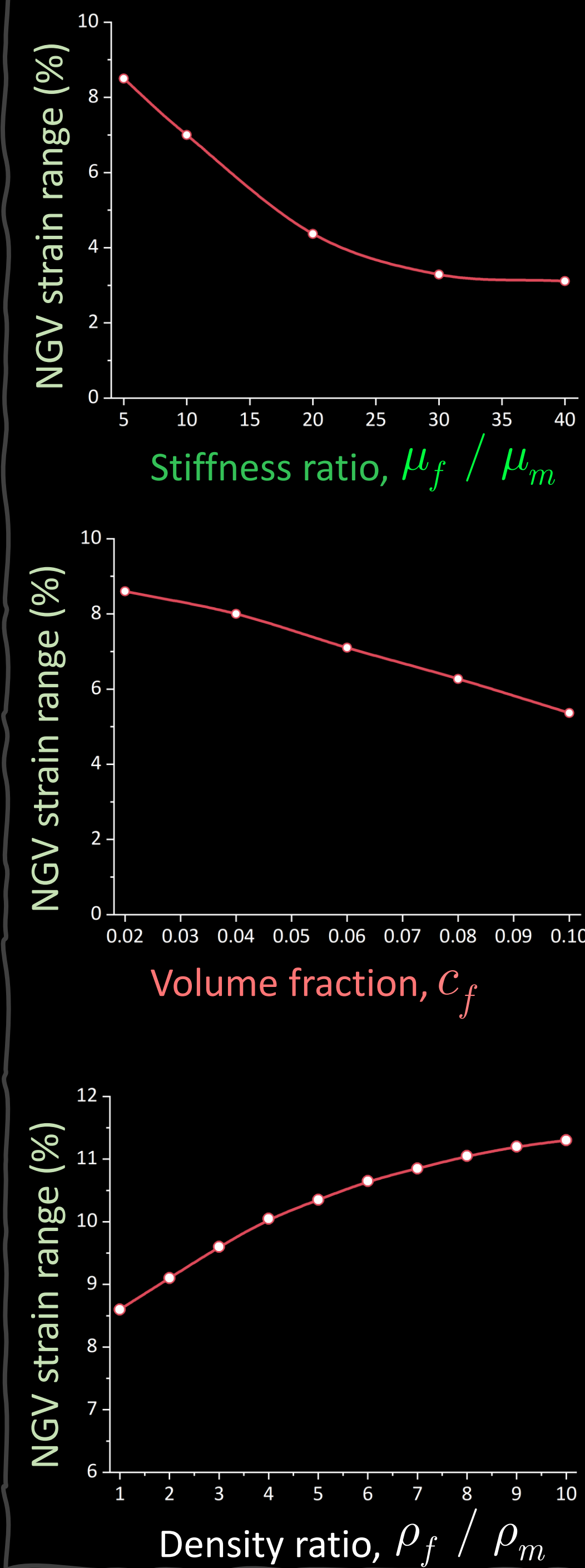
## Our system



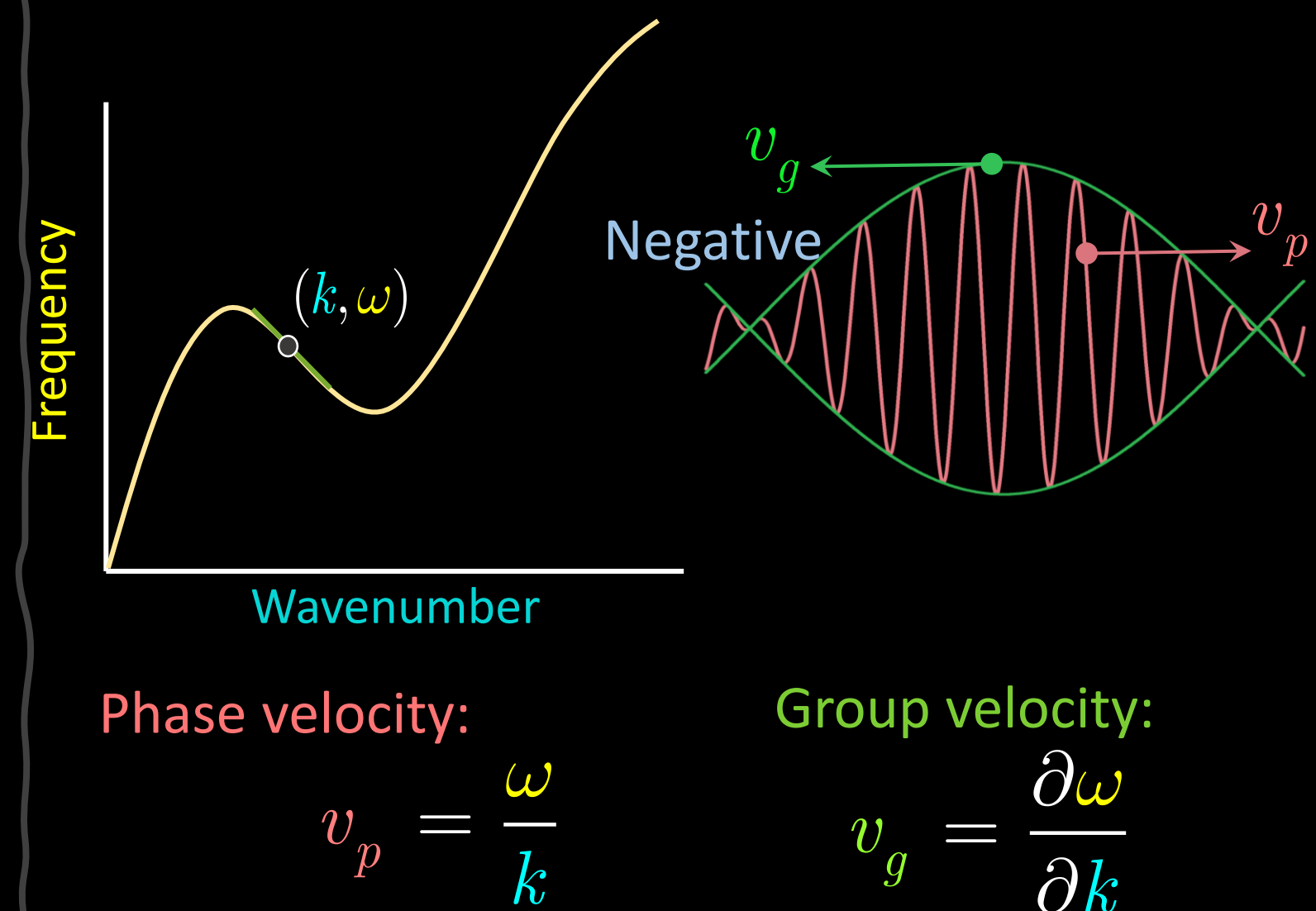
## Material selection



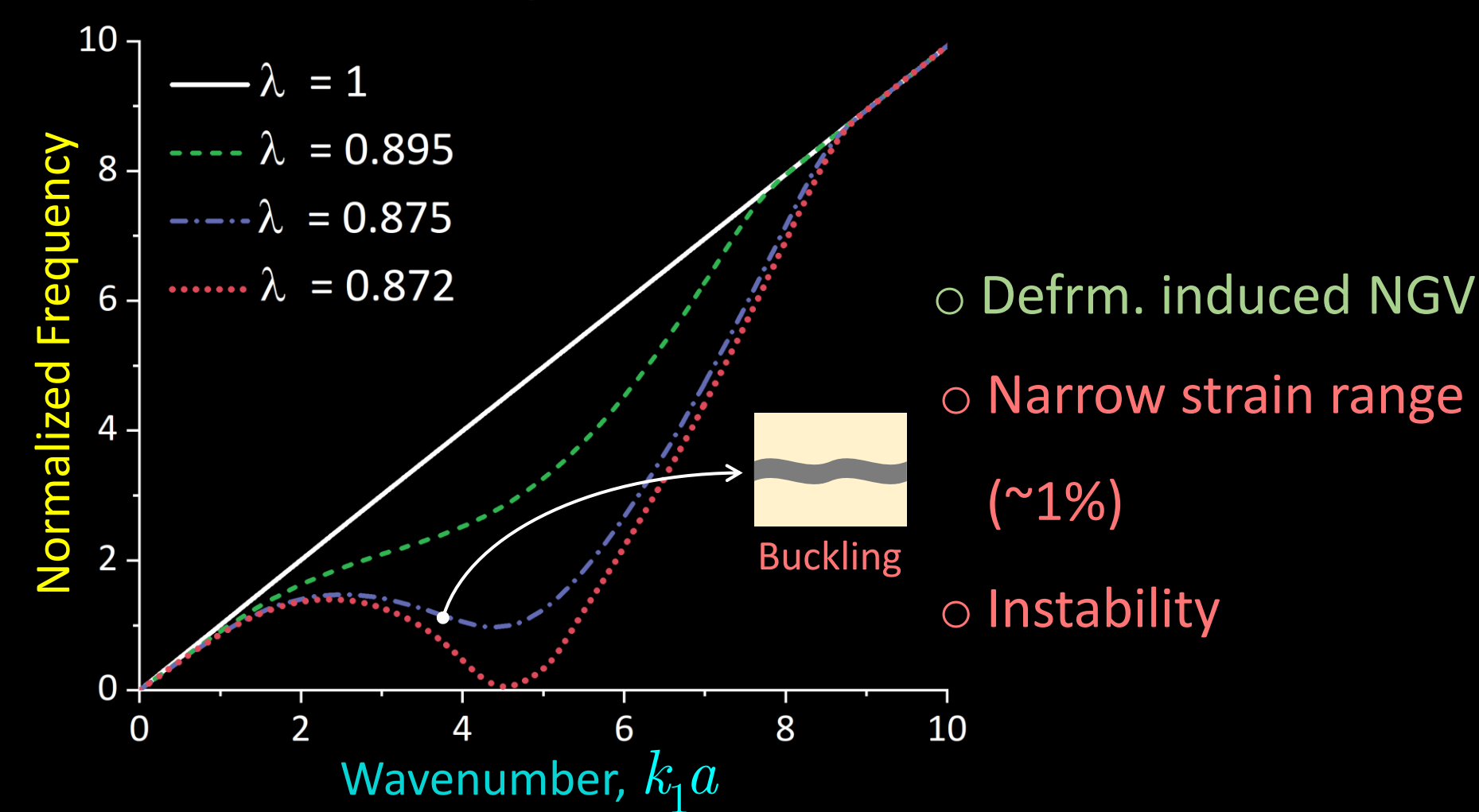
## NGV strain range



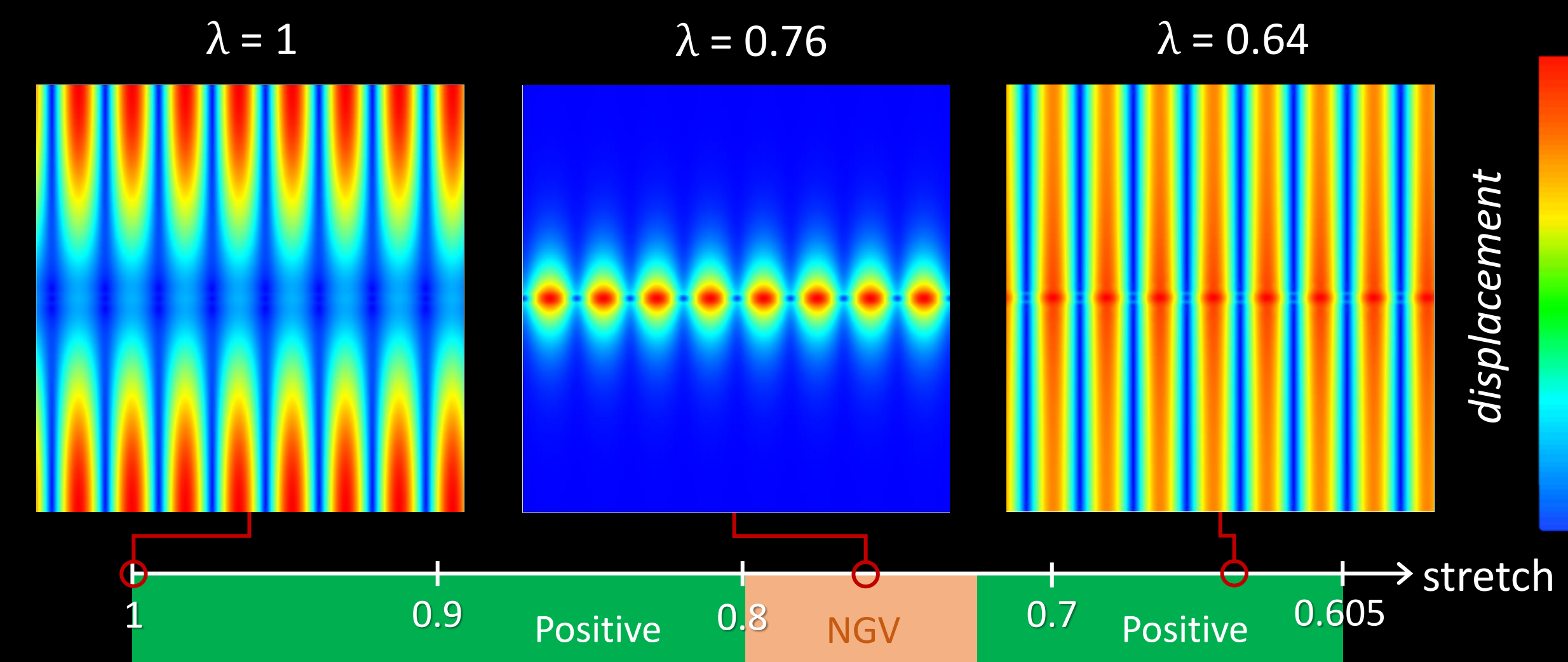
## Negative Group velocity



## Dispersion with deformation



## Eigen modes



Can we design medium with active control on the metamaterial state?

