

1116-34-1271 **Taoufik Meklachi*** (tmeklachi@gmail.com), 4822 Regent st. 3rd fl, Philadelphia, PA , and
Daniel Onofrei. *Vibration Cloaking and suppression model.*

In an effort to understand active and passive SONAR acoustic cloaking, we study the vibration suppression questions in the context of a 1D coupled spring-mass system. The longitudinal motion of the latter is considered to be a discretization of acoustic systems, where the stiffness of the springs represents the compressibility and the masses represent the density of the medium. We study systems, with and without damping, of an arbitrary number of masses N . We propose discrete models for Active as well as Passive SONAR and describe explicitly the necessary controls for the desired cloaking effects. (Received September 18, 2015)