

Abstract Submitted
for the OSS19 Meeting of
The American Physical Society

Spectral Stability of Gravitationally Interacting Rods¹ CARLOS OWUSU-ANSAH, JOHN LINDER, College of Wooster — We investigate the spectral stability of equilibrium configurations of two line-masses (slashes or rods) interacting via gravity. The Euler-Lagrange formalism provides the equations of motion. We determine the positions, orientations and angular velocities of the slashes at their equilibrium configurations. All equilibrium solutions are checked using the equations of motion. The spectral stability of each equilibrium configuration is determined by linearizing the equations of motion about the equilibrium configurations and analyzing the path of the slashes when they are perturbed. We illustrate the parameter values that cause equilibrium configurations to be spectrally stable.

¹College of Wooster

Carlos Owusu-Ansah
College of Wooster

Date submitted: 11 Mar 2019

Electronic form version 1.4