

closely approximate experimental conditions, we

study triangle wave forcing and Fourier

approximations to this force.

Triangle Wave

The qualitative behavior does not change as terms are added to the Fourier series. The location of the bifurcation varies slightly.



n = 1, n = 3, n = 5 partial sums of Fourier series Acknowledgements This project was supported by the NSF grants #1745583, #1851843, #2244427 and the Georgia Institute of Technology College of Sciences. We would also like to thank Dr. Christina Athanasouli and Dr. Rahul Kumar.

and intermediate Fourier approximations to this force is

qualitatively similar to the behavior under harmonic forcing.

The range of stable solutions tends to be larger for 1:1 motion,

while the opposite tends to be true for 2:1 motion. We will

continue to analyze similar behavior under varying parameters

such as the angle of inclination and the restitution coefficient.