

Abstract Submitted
for the SES21 Meeting of
The American Physical Society

Experimental Observation of Bifurcations in a Driven Damped Pendulum PHILIP WAYMEYER, DOUG HARPER, IVAN NOVIKOV, Western Kentucky University — To observe and study chaotic motion, the PASCO Driven Damped Harmonic Oscillations Experiment EX-5522A apparatus was used. The setup was extensively studied (see, Robert DeSerio, American Journal of Physics 71, 250 (2003)). The goal of our study was to experimentally observe bifurcations using available PASCO apparatus which was upgraded using Rotary Motion Sensor CI-6538, which measures angles to a resolution of 0.09 degrees. Using obtained experimental data, bifurcations were analyzed to observe a clearer image of the patterns of periodicity and chaos within the system.

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Date submitted: 30 Sep 2021

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