The Damped, Driven Pendulum as a Test Case for Algorithms to Control Low Dimensional Chaos[1] LUCAS HILL, THOMAS OLSEN, Lewis & Clark College, Portland, OR, RICHARD WIENER, Pacific University, Forest Grove, OR — Previously, we have employed the Recursive Proportional Feedback algorithm[2] to achieve control of the chaotic formation of Taylor-Vortex pairs in Modified Taylor-Couette flow with hourglass geometry[3]. We have developed analogous algorithms and seek to test them in a more easily accessible system to test them prior to implementation in the Taylor-Couette system. To this end we have implemented a damped driven mechanical pendulum[4]. We report on the measures of chaos and the application of control algorithms.

[2]Rollins *et al*, Phys. Rev. E **47**, R780 (1993).
[3]Wiener *et al*, Phys. Rev. Lett. **83**, 2340 (1999).
[4]J. A. Blackburn *et al*, Rev. Sci. Instr. **60**, 422 (1989).

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