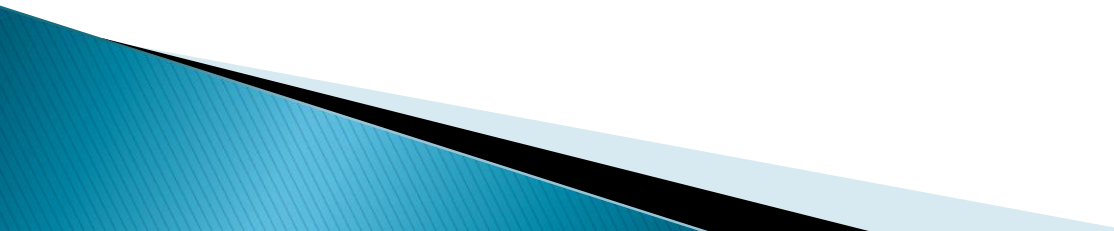


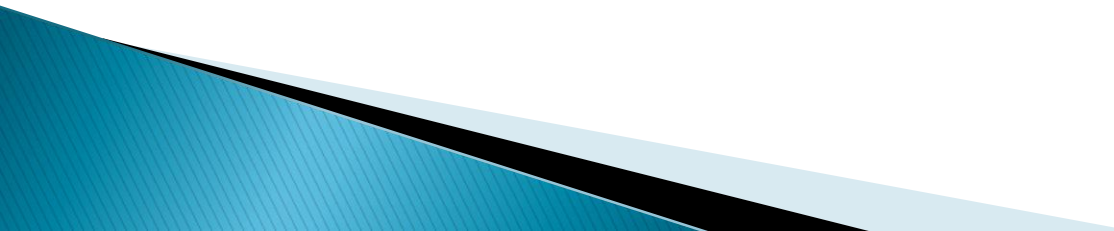
Pendulum with vibrating pivot

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PHYS305

Introduction

- ▶ Pendulum with gravity, linear drag force, and vibrating force
 - ▶ It exhibits chaotic behavior
 - ▶ bifurcation
 - ▶ Angular velocity vs. amplitude of vibrating force
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Methods

- ▶ Evolve the equation with time using Runge–Kutta method
 - ▶ When angle changes its sign, record instantaneous angular velocity
 - ▶ Repeat the process for different amplitude of vibrating force
 - ▶ Plot angular velocity vs. amplitude of vibrating force using any software.
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Bifurcation image

