MATH333: Tutorial 5 (10-3-00)

1 Poincare Section

2 Spectrum Analysis

3 Exercise

1. Using the same parameters for chaotic pendulum you obtained in previous exercises, try to show the property of "sensitive to initial conditions" for chaotic system.

2. Obtain the Poincare Section of the chaotic pendulum system using the parameters $q = 4.0, g = 1.5$ and $\omega = 2/3$.

3. Obtain the spectrum of the chaotic pendulum using the above parameters, and compare with that of the periodic motion:

$$f(t) = \cos(t)\,.$$