Gyroscope Nutation

Gyro with intrinsic precession frequency \( \omega_p = M g l / L \) and nutation frequency \( \omega_n = L / I_p \) in the equatorial plane. Variables are the horizontal and vertical angular velocities: \( \omega_h \) & \( \omega_v \).

Set \( \omega_h \) 0, \( \omega_v \) 0 for nutation as when gyro is initially at rest, and then try \( \omega_h \) \( \omega_p \) for precession without nutation. Plots two nutation cycles.
In[129]:= 
Show[curve, plotarray];