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1 # -*- coding: utf-8 -*-
2 """
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4
5 @author: bob
6
7 A class to visually check the solutions of the differential equations.
8
9 """
10 import numpy as np
11 import matplotlib.pyplot as plt
12 from scipy.integrate import odeint
13 import system.waveSystem as wave
14 import function.function as func
15
16 # A dummy function for the runge kutta solver.
17 def f(y,t):
18     return vgl.f(t, y)
19 # Values for wsqr
20 Solution = [ 0.1 ]
21 # Parameters of the differential equations
22 sigma = 1
23 Ksqr = 1
24 g = -1
25 # initial condition
26 y0 = [0.,1.]
27 t = np.linspace(0, 1., 1000)
28 # Start the calculation of the ode for the differert values of wsqr
29 for i in Solution:
30     funcP = func.P(Ksqr,sigma,g,i)
31     funcQ = func.Q(Ksqr,sigma,g,i)
32     # create the ODE
33     vgl = wave.WaveSystem(funcP,funcQ)
34     # solve the DEs
35     soln = odeint(f, y0, t)
36     S=soln[:, 0]
37     plt.plot(t,S)
38 # plot results
39 plt.plot(t,S)
40 plt.show()
41
42
43
44
45
46
```