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'''
Created on 08 Nov 2014

@author: bob
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from workers.worker import Worker as worker
import scipy

GUESS_W = 10
MAX_TOL = 0.000001

class workerSimple(worker):
    '''
    A class to represent a worker to find the eigenmodes as
    a function of K^2, sigma and g
    '''
    def __init__(self, Ksqr=[1],sigma=[1],g=[1],y0=[0.,1.],n=3,t0=0,tend=1
        '''
        The constructor to set up the right parameters and to create
        the ode's
        '''
        super(workerSimple, self).__init__(Ksqr, sigma, g, y0, n, t0, tend
        self.f = open(filename, 'w')
        self.filename = filename
        self.name = name
    def search(self,Ksqrnum,sigmanum,gnum,n):
        guess = GUESS_W/0.9
        self.tempKsqrnum = Ksqrnum
        self.tempsigmanum = sigmanum
        self.tempgnum = gnum
        endP = self.endPoint(guess)
        while endP<0:
            guess = guess*10
            endP = self.endPoint(guess)
        guesses = scipy.zeros(n)
        positiveGuess = guess
        for i in range(n):
            teken = (-1)**i
            endP = self.endPoint(guess)
            shrinksize = 0.9
            overCount = 1
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49              while scipy.absolute(endP)>MAX_TOL:
50                  previous = guess
51                  guess = previous * shrinksize
52                  endP = self.endPoint(guess)
53
54                  if (scipy.absolute(endP)<MAX_TOL):
55                      break
56                  if (teken*endP<0):
57                      overCount = overCount +1
58                      shrinksize = shrinksize + 9./(10**overCount)
59                      guess = positiveGuess
60                      guess = guess/shrinksize
61                  elif (teken*endP>0):
62                      positiveGuess = guess
63              guesses[i] = guess
64              while (scipy.absolute(endP)<MAX_TOL ):
65                  guess = positiveGuess
66                  guess = guess/shrinksize
67                  endP = self.endPoint(guess)
68                  pass
69          return guesses
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