T-mon Calculations

April 11, 2016

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In [11]: %pylab inline
         from scipy.constants import h, hbar, e, epsilon_0
         from scipy.special import ellipk

Populating the interactive namespace from numpy and matplotlib

WARNING: pylab import has clobbered these variables: ['e']
`%matplotlib` prevents importing * from pylab and numpy

In [28]: def g(cg, cs, wr):
             beta = cg/cs

             return beta * sqrt(50*e**2 / (2*hbar)) * wr

         class tmon:
             def __init__(self, t, h, s, w):
                 self.t = t*1e-6 #um
                 self.h = h*1e-6 #um
                 self.s = s*1e-6 #um
                 self.w = w*1e-6 #um

             def k(self):
                 return self.s/(self.s+2*self.w)

             def kp(self):
                 return sqrt(1-self.k()**2)

             def Cq(self):
                 return 8*11.6*(epsilon_0+1) * ellipk(self.k()) * (self.t + self.h) / ellipk(self.kp())

In [15]: g(1, 10, 5e9)

Out[15]: 39004285.069788992

In [8]: sqrt(50*e**2/(2*hbar))

Out[8]: 0.078008570139577987

In [16]: .1/(5*.078)

Out[16]: 0.25641025641025644

In [36]: x = tmon(260, 260, 6, 10)
         x.Cq()

Out[36]: 0.025207789009539856
```

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In [30]: x.k()

Out[30]: 0.375

In [31]: epsilon_0

Out[31]: 8.854187817620389e-12

In [35]:

          File "<ipython-input-35-15257208d123>", line 1
        tmon()?
              ^
    SyntaxError: invalid syntax


In [ ]:
```