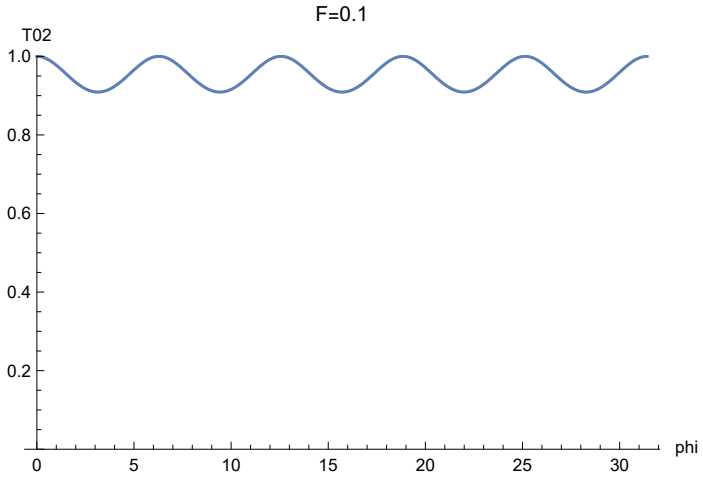
Plots of Ttot for Various F's

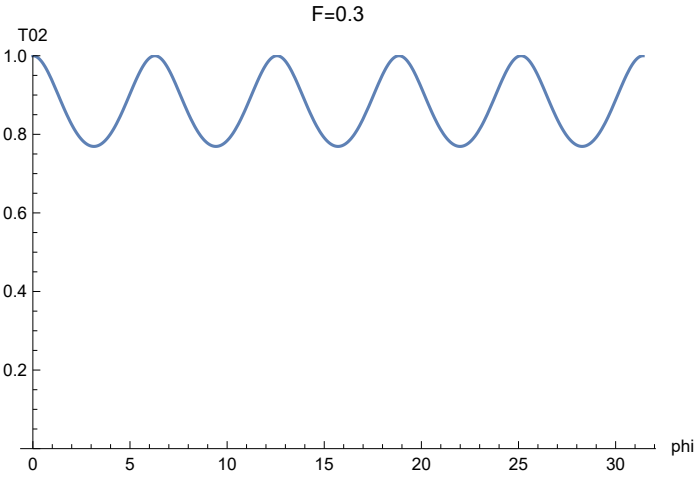
by Dr. Colton, Physics 471 (last updated: 1 Feb 2024)

In[1]:=
```
(* setting Tmax=1 *)
Ttot[phi_] = 1 / (1 + F Sin[phi / 2]^2)
Plot[Ttot[phi] /. {F → 0.1}, {phi, 0, 10 Pi} ,
 PlotRange → {0, 1}, PlotLabel → "F=0.1", AxesLabel → {"phi", "T02"}]
Plot[Ttot[phi] /. {F → 0.3}, {phi, 0, 10 Pi} ,
 PlotRange → {0, 1}, PlotLabel → "F=0.3", AxesLabel → {"phi", "T02"}]
Plot[Ttot[phi] /. {F → 1}, {phi, 0, 10 Pi} ,
 PlotRange → {0, 1}, PlotLabel → "F=1", AxesLabel → {"phi", "T02"}]
Plot[Ttot[phi] /. {F → 3}, {phi, 0, 10 Pi} ,
 PlotRange → {0, 1}, PlotLabel → "F=3", AxesLabel → {"phi", "T02"}]
Plot[Ttot[phi] /. {F → 10}, {phi, 0, 10 Pi} ,
 PlotRange → {0, 1}, PlotLabel → "F=10", AxesLabel → {"phi", "T02"}]
Plot[Ttot[phi] /. {F → 30}, {phi, 0, 10 Pi} ,
 PlotRange → {0, 1}, PlotLabel → "F=30", AxesLabel → {"phi", "T02"}]
Plot[Ttot[phi] /. {F → 100}, {phi, 0, 10 Pi} ,
 PlotRange → {0, 1}, PlotLabel → "F=100", AxesLabel → {"phi", "T02"}]
Plot[Ttot[phi] /. {F → 300}, {phi, 0, 10 Pi} ,
 PlotRange → {0, 1}, PlotLabel → "F=300", AxesLabel → {"phi", "T02"}]
Plot[Ttot[phi] /. {F → 1000}, {phi, 0, 10 Pi} ,
 PlotRange → {0, 1}, PlotLabel → "F=1000", AxesLabel → {"phi", "T02"}]
```

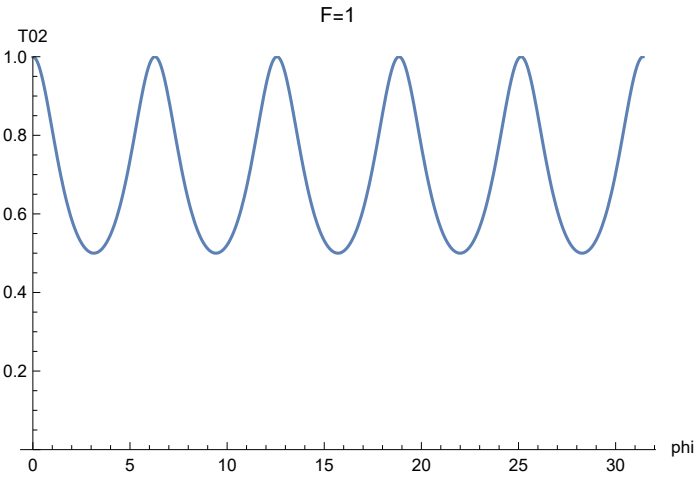
Out[1]=
$$\frac{1}{1 + F \, \text{Sin}\left[\frac{\text{phi}}{2}\right]^2}$$

Out[2]=


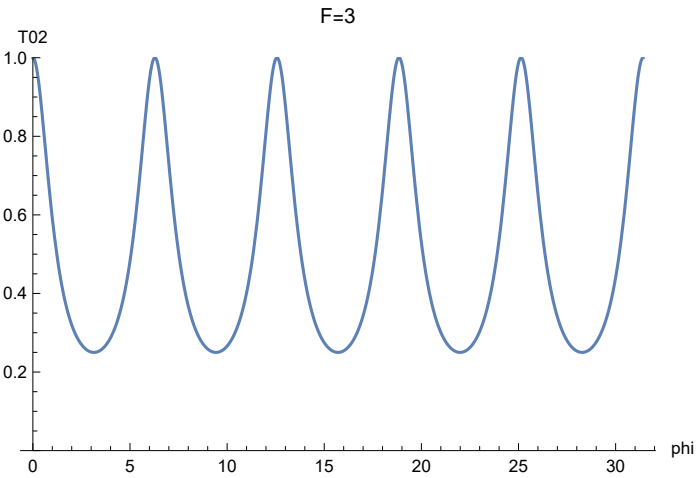
Out[3]=



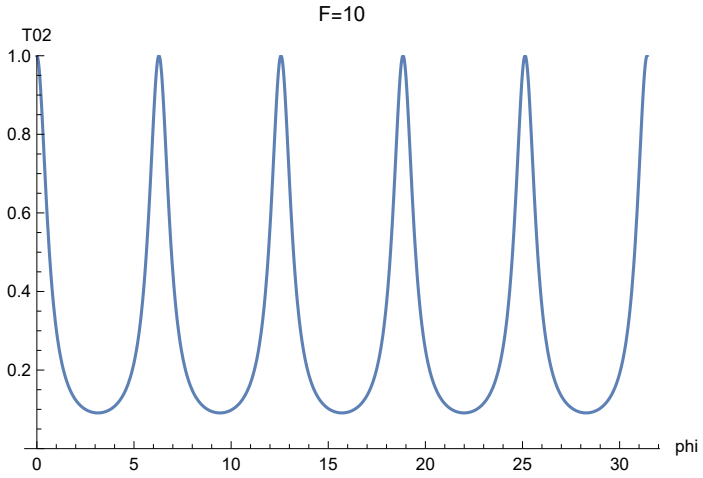
Out[4]=



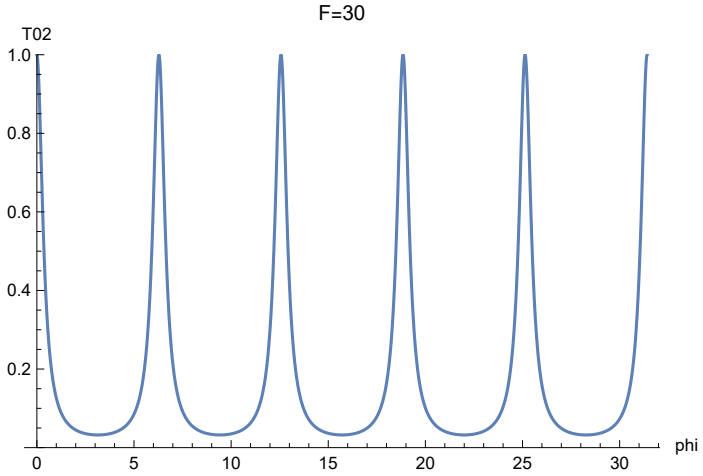
Out[5]=



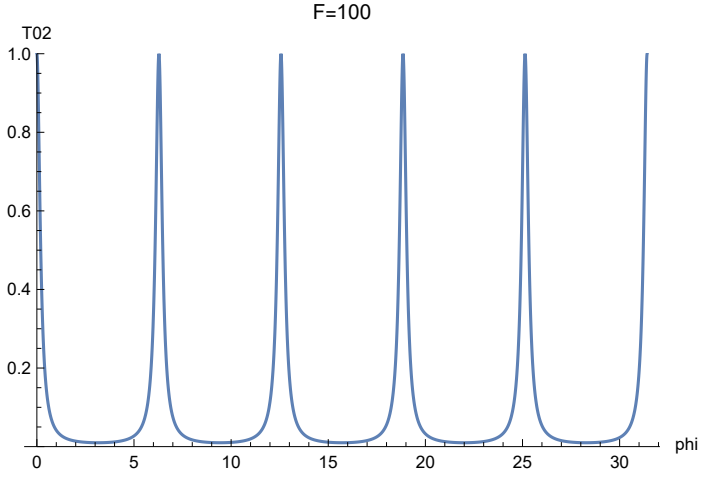
Out[6]=



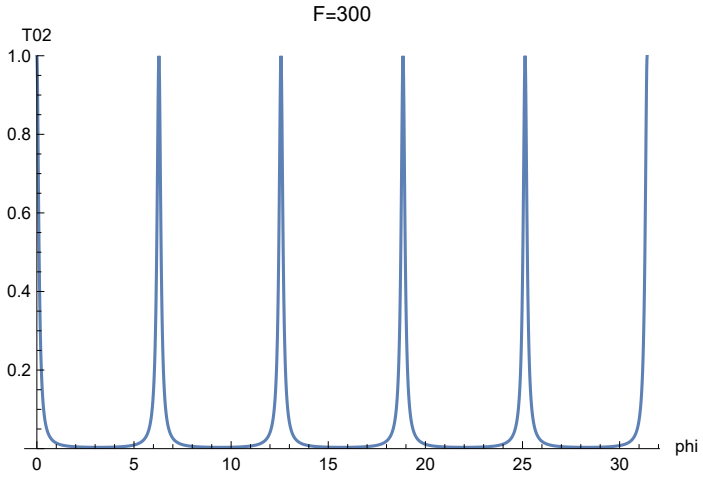
Out[7]=



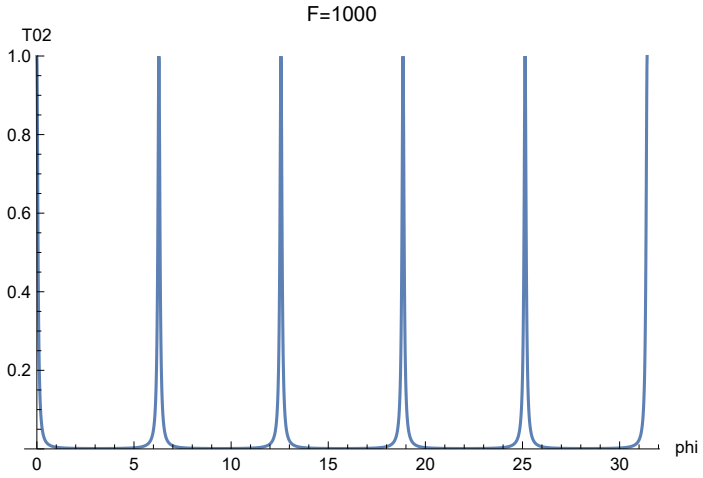
Out[8]=



Out[9]=


F=300
T02
1.0
0.8
0.6
0.4
0.2
0
5
10
15
20
25
30
phi

Out[10]=


F=1000
T02
1.0
0.8
0.6
0.4
0.2
0
5
10
15
20
25
30
phi