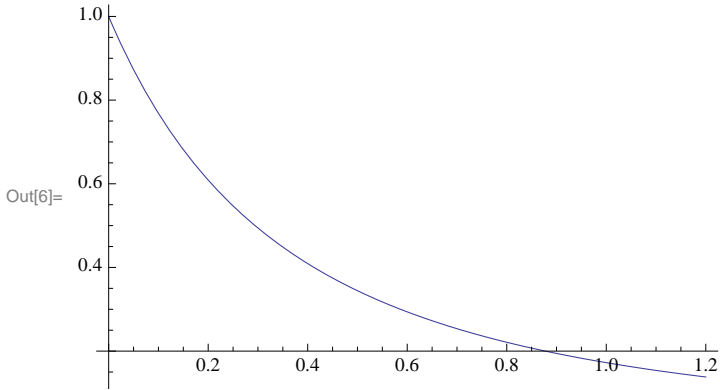


$$\text{In[1]:= GDipole}[Q2\_]:= \frac{1}{\left(1 + \frac{\text{Abs}[Q2]}{0.71}\right)^2}$$

$$\begin{aligned} \text{In[2]:= GEp}[Q2\_]&:= \text{GDipole}[Q2] \\ \text{Gmp}[Q2\_]&:= 2.79 \text{GDipole}[Q2] \\ \text{Gmn}[Q2\_]&:= -1.91 \text{GDipole}[Q2] \end{aligned}$$

$$\text{GEn}[Q2\_ , \tau\_]:= \frac{1.91 \tau}{1 + 5.6 \tau} \text{GDipole}[Q2]$$

In[6]:= Show[Plot[GEp[Q2], {Q2, 0, 1.2}, PlotRange -> All]]



In[183]:=

In[17]:= ProtonAsymmetry[Q2\_, MTg\_, the\_, thestar\_, phistar\_] := Module[{Pp = -0.027,

$$fp = \frac{2}{3},$$

$$\tau = -\frac{Q2}{4 \text{MTg}^2};$$

$$vL = \frac{1}{(1 + \tau)^2};$$

$$vT = \frac{1}{2} \frac{1}{(1 + \tau)} + \text{Tan}\left[\frac{\theta e}{2}\right]^2;$$

$$vTb = \text{Tan}\left[\frac{\theta e}{2}\right] \sqrt{\frac{1}{(1 + \tau)} + \text{Tan}\left[\frac{\theta e}{2}\right]^2};$$

$$vTLb = -\frac{1}{\sqrt{2}} \frac{1}{(1 + \tau)} \text{Tan}\left[\frac{\theta e}{2}\right];$$

Ap =

$$-\frac{\text{Cos}[\theta star] vTb^2 \tau \text{Gmp}[Q2]^2 + \text{Sin}[\theta star] \text{Cos}[\phi star] vTLb^2 \sqrt{2 \tau (1 + \tau)} \text{GEp}[Q2] \text{Gmp}[Q2]}{vL (1 + \tau) \text{GEp}[Q2]^2 + vT^2 \tau \text{Gmp}[Q2]^2};$$

Ap3He = Pp Ap fp

]

In[38]:= ProtonAsymmetry[-0.35, 0.93827, 14.5  $\frac{\pi}{180}$ ,  $\frac{\pi}{2}$ , 0]

Out[38]= -0.00234497

```

In[37]= Show[Plot[ProtonAsymmetry[-x, 0.93827, 14.5  $\frac{\pi}{180}$ ,  $\frac{\pi}{2}$ , 0],
  {x, 0.001, 1.2}, PlotRange -> All, PlotStyle -> {Thickness[0.01], Hue[0.]}],
  Plot[ProtonAsymmetry[-x, 0.93827, 14.5  $\frac{\pi}{180}$ , 0, 0], {x, 0.001, 1.2}, PlotRange -> All,
  PlotStyle -> {Thickness[0.01], Hue[0.7]}], AxesLabel -> {"|Q2|", "Ax', Az'"}]

```

