Scientific Data Visualization

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1 Import libraries

```python
import matplotlib as mpl
import matplotlib.pyplot as plt
import numpy as np

plt.rcParams["font.family"] = "Helvetica"
%matplotlib inline
%config InlineBackend.figure_format = 'svg'
```

In[1]:

2 For one-column paper

In[2]:
```python
X = np.linspace(0,10*np.pi, 1000)
Y = np.cos(X)
X[::100], Y[::100],
```

Out[2]:
```
(array([ 0.        ,  3.14473739,  6.28947478,  9.43421217, 12.57894956,
        15.72368695, 18.86842435, 22.01316174, 25.15789913, 28.30263652]),
 array([ 1.        , -0.99999506,  0.99998022, -0.9999555 ,  0.99992089,
        -0.99987639,  0.999822  , -0.99975772,  0.99968356, -0.99959951]))
```

In[3]:
```python
fig_size = tuple(np.array([15, 5])/2.54)

fig, ax = plt.subplots(1, 1, figsize=fig_size)
ax.plot(X, Y, color='b')
ax.set_xlim([np.min(X), np.max(X)])
ax.set_ylim([np.min(Y), np.max(Y)])
ax.set_xlabel(f'Frequency ($\omega a/2\pi c$)')
ax.set_ylabel(f'Transmission (T)')

fig.tight_layout()
fig.savefig('./figs/one_column_py.pdf')
```
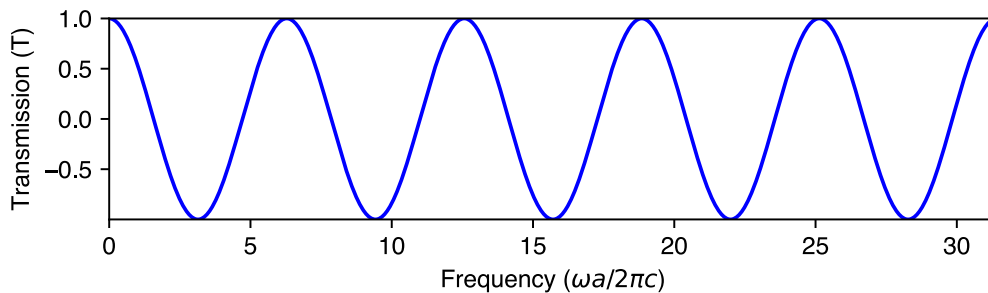

3 For two-column paper

Exercise for you!