Creating the graph for the driven harmonic oscillator (Section 2.1)

[1]:
```
import numpy as np
import matplotlib.pyplot as plt

%config InlineBackend.figure_format = 'retina'
# the lines below set a number of parameters for plotting, such as label font␣
 ↪size,
# title font size, which you may find useful
plt.rcParams.update({'font.size': 12,
                     'axes.titlesize': 16,
                     'axes.labelsize': 16,
                     'axes.labelpad': 14,
                     'lines.linewidth': 1,
                     'lines.markersize': 10,
                     'xtick.labelsize' : 16,
                     'ytick.labelsize' : 16,
                     'xtick.top' : True,
                     'xtick.direction' : 'in',
                     'ytick.right' : True,
                     'ytick.direction' : 'in',})
```

[2]:
```
def x(w, m, p, f):
    return(f/(m*(p**2 - w**2)))
```

[9]:
```
w1 = np.linspace(0., 2. , 500)
#p1 = np.arange(0., 5., .2)

plt.figure(figsize=(6,4))
plt.plot(w1, x(w1, 1, 1, 1), 'b-o',alpha=0.2,ms=5)
plt.axhline(y=0,ls='--')
plt.xlim(0., 2.)
plt.ylim(-5,5)
plt.xlabel('$\omega$ [a.u.]')
plt.ylabel('$x_0$ [a.u.]')
plt.tight_layout()
plt.savefig('driven_harmonic_oscillator_graph.pdf')
plt.show()
```