Using Matplotlib for pretty plots

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Creating plots

- Want to visualize and analyze our data
- Use the package `matplotlib.pyplot` for plotting
- Many functions and options - read the documentation

Example

```
import matplotlib.pyplot as plt
import numpy as np
time = np.linspace(0, 2 * np.pi, 1000)
curve = np.sin(time)
plt.plot(time, curve)
plt.ylabel('Response')
plt.xlabel('Time')
plt.title('Response Curve')
plt.show()
```

3D Example

```
import matplotlib as mpl
from mpl_toolkits.mplot3d import Axes3D
import numpy as np
import matplotlib.pyplot as plt

mpl.rcParams['legend.fontsize'] = 10

fig = plt.figure()
ax = fig.gca(projection='3d')
theta = np.linspace(-4 * np.pi, 4 * np.pi, 100)
z = np.linspace(-2, 2, 100)
r = z**2 + 1
x = r * np.sin(theta)
y = r * np.cos(theta)
ax.plot(x, y, z, label='parametric curve')
ax.legend()

plt.show()
```