



```

1  import numpy as np
2  import matplotlib.pyplot as plt
3  from math import pi
4
5  Lambda = 0.5
6  d = 30
7  a = 15
8  n = 10
9  sintheta = np.linspace(-0.06, 0.06, 12000)
10 alpha = pi*a*sintheta/Lambda
11 beta = pi*d*sintheta/Lambda
12 id = (np.sin(alpha)/alpha)**2
13 id = id/max(id)
14 ii = (np.sin(n*beta)/np.sin(beta))**2
15 ii = ii/max(ii)
16 i = id*ii
17
18 plt.plot(sintheta, id, label="$I_d$")
19 plt.plot(sintheta, i, label="$I$")
20 plt.xlabel("$\sin{\theta}$")
21 plt.ylabel("$I/I_0$")
22 plt.title("Light-strength distribution")
23 plt.legend()
24 plt.show()

```